

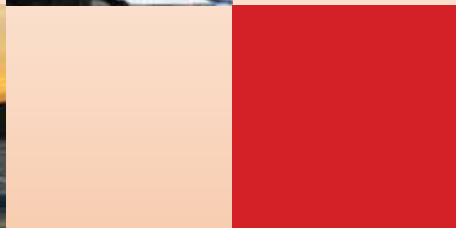
Experimental  
Biology

2012®

# 2012 Experimental Biology

April 21 – 25, San Diego Convention Center, San Diego, CA

## Program



[www.experimentalbiology.org](http://www.experimentalbiology.org)

### SPONSORS:

American Association of Anatomists (AAA)

The American Physiological Society (APS)

**CELEBRATING  
125 YEARS!**

American Society for Biochemistry and  
Molecular Biology (ASBMB)

American Society for Investigative Pathology (ASIP)

American Society for Nutrition (ASN)

American Society for Pharmacology and  
Experimental Therapeutics (ASPET)

# EXPERIMENTAL BIOLOGY 2012

Translating Science for Tomorrow's Health

San Diego Convention Center, San Diego, CA

April 21 – 25, 2012

## AN ANNUAL MEETING OF PROFESSIONAL RESEARCH SCIENTISTS

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### SPONSORING SOCIETIES

American Association of Anatomists (AAA)

The American Physiological Society (APS)

American Society for Biochemistry and Molecular Biology (ASBMB)

American Society for Investigative Pathology (ASIP)

American Society for Nutrition (ASN)

American Society for Pharmacology and Experimental Therapeutics (ASPET)

### Guest Societies

#### AAA

Brazilian Society of Anatomy (SBA)

Chinese Society of Anatomical Sciences (CSAS)

#### APS

American Federation for Medical Research (AFMR)

Association of Latin American Physiological

Societies (ALACF)

Association of Physiologists and Pharmacologists of  
India (APPI)

Austrian Physiological Society (APS)

Biomedical Engineering Society (BMES)

Brazilian Society of Physiology (SBFis)

Hungarian Physiological Society (MET)

Kazakh Physiological Society (KPS)

The Microcirculatory Society (MCS)

Physiological Society of India (PSI)

The Physiological Society – UK (TPS)

Sociedad Mexicana de Ciencias Fisiologicas (SMCF)

Société de Physiologie – France (SP)

Society of Experimental Biology and Medicine  
(SEBM)

Turkish Society of Physiological Science (TFBD)

#### ASBMB

Division of Biological Chemistry – American  
Chemical Society

#### ASIP

American College of Veterinary Pathologists

American Society for Matrix Biology

International Society for Analytical and Molecular  
Morphology

International Society for Biological and  
Environmental Repositories

Società Italiana di Patologia/Italian Pathology  
Society

Society for Cardiovascular Pathology

#### ASN

American Dietetic Association

American Society of Animal Science

ILSI North America

Korean Nutrition Society

Plant Phenolic and Human Health Research Interest  
Group (PhenHRIG)

#### ASPET

Behavioral Pharmacology Society

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Phone: 301-634-7010; Fax: 301-634-7014; Email: [eb@faseb.org](mailto:eb@faseb.org); Web: [www.experimentalbiology.org](http://www.experimentalbiology.org)

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## SPONSORING SOCIETY OFFICERS

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# 2012 EB COMMITTEES

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## EXPERIMENTAL BIOLOGY BOARD

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L. Justement, AAI  
R. M. Lynch, APS  
D. Raben, ASBMB  
M. B. Furie, ASIP  
J. Courtney, ASN  
P. F. Hollenberg, ASPET

## MANAGEMENT COMMITTEE

C. K. Carrico, ASPET, *Chair*  
A. Pendleton, AAA  
M. Frank, APS  
B. Gordon, ASBMB  
M. E. Sobel, ASIP  
J. Courtney, ASN

## EXHIBITS ADVISORY COMMITTEE

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C. Locke, Drummond Scientific  
R. Sweeney, International Scientific Communications, Inc.  
Helena Santos, Scientific Industries, Inc.  
J. Zacka, Worthington Biochemical Corp.  
M. Jackson, *Director*, FASEB OSMC  
J. Kearney, *Exhibits Manager*, FASEB OSMC

# OFFICE LOCATIONS \* HOURS \* TELEPHONE NUMBERS

**AAA..... 619-525-6220**

**San Diego Convention Center, Room 10**

Saturday – Tuesday, 7:30 AM – 5:00 PM

Wednesday, 8:00 AM – 12:00 PM

**APS..... 619-645-6940/6941**

**San Diego Marriott Marquis & Marina, La Jolla/La Mesa**

Saturday – Tuesday, 8:00 AM – 5:00 PM

Wednesday, 8:00 AM – 3:30 PM

**ASBMB..... 619-525-6226**

**San Diego Convention Center, Lobby 6A**

Sunday – Wednesday, 8:00 AM – 5:00 PM

**ASIP..... 619-525-6222**

**San Diego Convention Center, Room 18**

Saturday – Tuesday, 8:00 AM – 5:00 PM

Wednesday, 8:00 AM – 12:00 PM

**ASN..... 619-321-6513**

**San Diego Hilton Bayfront, Room 302**

Saturday – Tuesday, 9:00 AM – 1:00 PM; 3:00 PM – 6:00 PM

Wednesday, 8:00 AM – 11:00 AM

**ASPET..... 619-645-6988**

**San Diego Marriott Marquis & Marina, Rancho Sante Fe 3**

Saturday, 12:00 PM – 4:00 PM

Sunday – Tuesday, 7:00 AM – 6:00 PM

Wednesday, 7:00 AM – 12:00 PM

**AV HEADQUARTER OFFICE..... 619-525-6215**

**San Diego Convention Center, Room 19**

Friday, 7:00 AM – 5:00 PM

Saturday – Wednesday, 6:00 AM – 6:00 PM

## CAREER RESOURCES

**San Diego Convention Center, Hall D**

Saturday – Tuesday, 8:00 AM – 5:00 PM

Wednesday, 8:00 AM – 12:00 PM

**CHILD CARE..... 619-525-6209**

**San Diego Convention Center, Hall E**

Saturday, 8:00 AM – 6:00 PM

Sunday – Tuesday, 7:00 AM – 7:00 PM

Wednesday, 7:00 AM – 6:00 PM

**EXHIBIT MANAGEMENT..... 619-525-6201**

**San Diego Convention Center, Hall A**

Thursday – Tuesday, 8:00 AM – 5:00 PM

**EXHIBITOR REGISTRATION..... 619-525-6200**

**San Diego Convention Center, Lobby B**

Friday – Tuesday, 8:00 AM – 4:00 PM

**HOUSING DESK..... 619-525-6211**

**San Diego Convention Center, Lobby B**

Friday, 1:00 PM – 6:00 PM

Saturday, 7:00 AM – 6:00 PM

Sunday, 7:00 AM – 5:00 PM

**INFORMATION DESK..... 619-525-6211**

**San Diego Convention Center, Lobby B**

Saturday – Wednesday, 9:00 AM – 6:00 PM

## INFORMATION

**Marriott Hall Registration Desk (North Tower)... 619-645-6950**

**Marina Registration Desk (South Tower)..... 619-645-6921**

**Meeting Management Desk, Marriott Hall**

Saturday – Wednesday, 8:00 AM – 5:00 PM

**INFORMATION..... 619-321- 6552**

**San Diego Hilton Bayfront, Room 502**

**Meeting Management Desk,**

Saturday – Wednesday, 8:00 AM – 5:00 PM

**LOST AND FOUND..... 619-525-6204**

**Meeting Management Office**

**San Diego Convention Center, Lobby D**

**MEETING MANAGEMENT OFFICE..... 619-525-6204**

**San Diego Convention Center, Lobby D**

Thursday, 7:30 AM – 5:00 PM

Friday – Saturday, 7:30 AM – 6:00 PM

Sunday – Tuesday, 7:30 AM – 5:00 PM

Wednesday, 7:30 AM – 3:00 PM

**PRESS ROOM..... 619-525-6213**

**San Diego Convention Center, Hall E**

Saturday, 10:00 AM – 4:00 PM

Sunday – Tuesday, 7:30 AM – 5:00 PM

Wednesday, 7:30 AM – 12:00 PM

**REGISTRATION INFORMATION..... 619-525-6610**

**San Diego Convention Center, Lobby D**

Friday, 1:00 PM – 6:00 PM

Saturday, 7:00 AM – 6:00 PM

Sunday – Tuesday, 7:00 AM – 5:00 PM

Wednesday, 7:00 AM – 3:00 PM

## SPECIAL FUNCTION/COMMITTEE

**MEETING INFORMATION..... 619-525-6204**

**Meeting Management Office, Lobby D**

**SPECIAL NEEDS/ADA..... 619-525-6204**

**Meeting Management Office, Lobby D**

## SPEAKER PRACTICE ROOMS

**San Diego Convention Center, Room 11B..... 619-525-6216**

Saturday – Wednesday, 7:00 AM – 6:00 PM

**San Diego Convention Center, Room 21..... 619-525-6217**

Saturday – Wednesday, 7:00 AM – 6:00 PM

## SAN DIEGO CONVENTION CENTER

111 West Harbor Drive, San Diego, CA 92101

Main #: 619-525-5000

## SAN DIEGO MARRIOTT MARQUIS & MARINA

333 West Harbor Drive, San Diego, CA 92101

Main #: 619-234-1500

## SAN DIEGO HILTON BAYFRONT

1 Park Boulevard, San Diego, CA 92101

Main #: 619-564-3333

See last page of program for hotel map and telephone numbers for overflow hotels.

# GENERAL INFORMATION

## REGISTRATION

San Diego Convention Center, Lobby D

### Hours

Friday, 1:00 PM – 6:00 PM

Saturday, 7:00 AM – 6:00 PM

Sunday – Wednesday, 7:00 AM – 5:00 PM

## SATELLITE REGISTRATION

San Diego Marriott Marquis & Marina, Marriott Hall – Registration Desk

### Hours

Friday, 1:00 PM – 6:00 PM

Saturday, 7:00 AM – 6:00 PM

Sunday, 7:00 AM – 5:00 PM

### Fees

Sponsoring/ Participating Society Member	\$425
Retired Society Member	\$135
Nonmember	\$575
Graduate Student Member	\$85*
Graduate Student Nonmember	\$105*
Undergraduate/High School Student	Free**
High School Teacher	Free**

*One day registration is not available.*

### Categories

**\*Graduate Student (including all Society student members)**

Students must have a department head or research advisor certify student eligibility. If registering at the meeting, bring a student ID card or a letter signed by your department head. “Student” will be indicated on your badge. *Postdoctoral fellows, hospital residents, interns, and laboratory technicians do not qualify as students and must pay the full member or nonmember rate.*

**\*\*Undergraduate Students, High School Students and High School Teachers**

Participants **must register on-site**. For eligibility, bring a student or teacher ID or a letter signed by your supervisor (e.g., department head, research advisor, principal or teacher).

### Guest Registration

Spouses and other non-scientist family members who wish to see a family member’s presentation may pick

up a guest pass at a participating Society office or the Meeting Management Office. The guest pass only allows admittance to the one session where the family member is speaking. *The guest pass does not include admission to the exhibits, scientific sessions, or social activities.*

### Cancellation and Refund Policy

To cancel and receive a refund for registration, the badge, receipt and a cancellation letter requesting a refund of the registration fee **must have been received by March 23, 2012**. After March 23, 2012 there are no refunds.

### Exhibitor Registration

Company representatives and guests of exhibitors may register at the Exhibitor Registration Desk in Lobby B of the San Diego Convention Center. Registration will be open Friday – Tuesday.

### Press Registration

Press badges will be issued from the EB Press Office, located in the San Diego Convention Center, Hall E, to members of the working press and freelance writers bearing a letter of assignment from an editor. Representatives from allied fields (public relations, public information, public affairs, etc.) may register in the registration area as nonmembers. Contact Suzanne Price for information at [media@faseb.org](mailto:media@faseb.org).

## SOCIETY TICKETED EVENTS

The following special Society activities have been planned and may require a **fee in addition** to the Experimental Biology 2012 registration fee.

### AAA Social Event

**20th Annual AAA Awards Banquet & Reception – Tuesday, April 24, 2012**

The American Association of Anatomists cordially requests the pleasure of your company at the 20th Annual AAA Awards Banquet on Tuesday, April 24, 2012. The Banquet—from 7:00 PM to 10:00 PM at the Marriott Hotel—will feature a cocktail reception, dinner, & presentation of AAA awards. Tickets are \$66 and will be available for purchase online via the AAA website ([www.anatomy.org](http://www.anatomy.org)). Tickets will not be sold on-site at the meeting.

### **APS Social Event**

The American Physiological Society will be celebrating its 125th Anniversary during the Experimental Biology 2012 meeting. As part of the celebration, APS will be holding a number of social events in conjunction with the meeting. APS registrants are encouraged to participate in these social events. EB attendees expressing interest in physiology are also invited to attend.

*The Opening Ceremony and Walter B. Cannon Lecture* on Saturday, April 21 at 5:30 PM is free of charge. However, there is a charge for the following events: (1) APS 125th Anniversary Beach Party on the North Embarcadero on Saturday, April 21, 7:00 PM – 10:00 PM and (2) APS 125th Anniversary Closing Party on Wednesday, April 25, 6:30 PM – 10:00 PM.

Please sign up for these events when registering for the meeting by checking the boxes on the registration form. The charge for each event will be \$15.00 in advance/\$25.00 on-site.

### **ASN Social Event**

#### **Luncheon for ASN Fellows and 50-Year Members**

Join ASN in celebrating the accomplishments and achievements of our past and present Fellows and 50-Year Members over lunch at the Annual Meeting. This luncheon will follow a presentation honoring the newly inducted 2012 ASN Fellows. All members are invited to attend; guests are permitted. Ticket fees are as follows: \$45.00 for members and \$35.00 for non-members. All newly inducted Fellows will receive free registration. Additional details will be posted at [www.nutrition.org](http://www.nutrition.org).

### **ASBMB Social Event**

Attendees interested in the following ASBMB organized activities may sign up while registering for the EB2012 meeting. Fees are noted below and event registration will close when fully subscribed. Details of these and other ASBMB events will be posted at [www.asbmb.org/meeting2012](http://www.asbmb.org/meeting2012).

#### **ASBMB Graduate/Postdoctoral Professional Development Program – Saturday, April 21**

This program will be held on Saturday, April 21, 9:00 AM – 3:30 PM. Event registration includes lunch: \$25 ASBMB members; \$35 all other EB registrants. ASBMB Travel Award recipients do not have to register for this event.

#### **Professional Development Workshop for Students, Postdocs and Junior Faculty, sponsored by the ASBMB – Tuesday, April 24**

This workshop will be held on Tuesday, April 24, 12:30 PM – 1:30 PM. Event registration includes lunch: no cost for ASBMB members; \$20 all other EB registrants.

#### **ASBMB 5K Fun Run and Walk – Sunday, April 22**

Fun Run/Walk will be held rain or shine on Sunday, April 22 at 7:00 AM. The entry fee includes a T-shirt: \$25 for ASBMB members; \$35 for all other EB registrants.

### **BADGE PICK UP**

**Badges were not mailed in advance.** Badges and programs may be picked up on-site at the registration counters located in the San Diego Convention Center, Lobby D. Lost or forgotten badges can be replaced at the Replacement Badge Counter in the Convention Center Registration Lobby for \$5. In addition, the program was not mailed in advance and can be picked up on-site at the Publications Counter located in the San Diego Convention Center, Lobby D.

**NOTE:** Badges must be worn at all times in the San Diego Convention Center. You will not be allowed access into the Exhibit Hall or scientific sessions without a badge. Children under the age of 16 are not required to wear a badge but must be accompanied by a registered attendee.

### **CHILD CARE/CAMP EB, Hall E**



Camp EB welcomes children ages 6 months – 17 years. Children participate in age-appropriate activities including arts and crafts, active games and much more in a safe, nurturing environment. Meals are not included in the camp fees. Parents can send or bring lunch to the center. **NOTE:** For the safety and security of your child(ren), EB/ACCENT has the right to refuse care to any child based on space availability and appropriateness. EB/ACCENT also has the right to refuse care to any child unable to adapt to group situations or whose presence or behavior may disrupt the program or endanger the health or safety of other children. **ACCENT staff does not administer medication. Any child who is ill will not be admitted to the center.**



## **COAT CHECK/LUGGAGE STORAGE**

### **San Diego Convention Center, Hall E**

Facilities for luggage storage and coat check will be available Friday through Wednesday. The coat check can store your bag(s) and coat(s) for the day for \$2 per item. Please do not bring luggage to the meeting rooms.

## **CONFERENCE PHOTO CONSENT**

When you registered for Experimental Biology 2012, you affirmed agreement to allow the official Experimental Biology photographers to record your participation and reproduce your likeness in publications, online, etc.

## **DRINKING POLICY**

A number of social activities have been planned where alcoholic beverages will be offered. The Experimental Biology participating Societies, the San Diego Convention Center, San Diego Marriot Marquis & Marina, and the San Diego Hilton Bayfront, encourage responsible drinking of alcohol. Alcohol will not be served to anyone under the age of 21. Please be prepared to show photo identification. Alcoholic beverages are allowed only in specific areas and must not be taken out of those immediate areas.

## **E-POSTERS AND POSTER PICK UP**

### **San Diego Convention Center, Lobby D**

Please visit the Mira Digital Publishing desk in Lobby D to upload your PDF poster file. If you ordered your poster for on-site delivery by Mira Digital Publishing, your poster can be picked up in Lobby D. Following the meeting, all registered attendees will be able to access the posters online through the e-poster link on [www.experimentalbiology.org](http://www.experimentalbiology.org).

## **EXHIBITS**

### **San Diego Convention Center, Exhibit Halls A-D**

Exhibits will be open 9:00 AM–4:00 PM, Sunday–Tuesday. See pages 425–493 for the complete list of exhibiting companies and products. Your visit to the exhibits may be customized by building an itinerary online at [www.experimentalbiology.org/](http://www.experimentalbiology.org/content/exhibits.aspx)

[content/exhibits.aspx](http://www.experimentalbiology.org/content/exhibits.aspx). Click on the Exhibit Floor Plan and login as a guest. *Admission to the Exhibits is by official badge only.* Children under the age of 16 accompanied by a registered adult are permitted access to the Exhibit Hall without a badge during show hours. Children are not permitted in the Exhibit Hall during setup or dismantling hours.

## **EXHIBITOR WORKSHOPS**

Exhibitor Workshops provide exhibiting companies the opportunity to talk about new product lines and services in an educational format, much like a session, and offer audience interaction and informal discussion beyond the Exhibit Hall. Exhibitor Workshop descriptions, times and locations are listed on pages 494–497.

## **FAMILY ROOM/WOMEN SCIENTISTS’**

### **LOUNGE**

#### **San Diego Convention Center, Hall E**

The family room and women scientists’ lounge will be open during registration hours. The lounge will have tables, chairs and a private area. The lounge is intended to provide a quiet environment where babies may be nursed, and where children can be taken for a break.

## **FOOD AND BEVERAGE**

Concessions will be open in the Exhibit Hall during exhibit hours, Sunday – Tuesday and in the Sails Pavilion Sunday – Wednesday. The food service offers continental breakfast, hot foods, sandwiches, salads, light snacks and beverages. A number of concessions will also be open on Saturday – Wednesday offering a variety of “grab and go” foods.

## **HOUSING INQUIRIES**

### **San Diego Convention Center, Lobby B**

A San Diego housing bureau representative will be located in the registration area Friday–Sunday to manage hotel questions and concerns. After Sunday, please refer your questions to the Meeting Management Office located in Lobby D.

## INTERNET ACCESS

### EB Lounge

#### San Diego Convention Center, Exhibit Halls A-D

Internet kiosks will be provided for checking email.

### Wireless Access

#### San Diego Convention Center, Sails Pavilion and Lobby A - H

Wireless internet access will be available in the San Diego Convention Center Sails Pavilion and Lobby A - H, courtesy of EB, to all registered attendees. The free service will only be available in these areas. Attendees who wish to use the service should bring their own laptop computer (with a wireless 802.11/a, g, or n network card installed). To access the Internet, open your browser and access the SSID (wireless network identified) to "EB2012". You will need to set your network card to use the DHCP. Technical support will not be provided at the meeting. Please configure your wireless connection before coming to the meeting. Remember to consider the security implications of using the wireless network and protect your laptop accordingly. For assistance, please call ext. 5500 from any house phone.

## MESSAGE CENTER/LITERATURE TABLES

### San Diego Convention Center, Lobby C

The message center and literature tables will be located in **Registration Lobby**. Registrants can check for messages and post fliers advertising social events or upcoming meetings. **Exhibitors are not permitted to display materials on the literature tables.**

## POSTER PRESENTATIONS

### San Diego Convention Center, Exhibit Halls A-D

Poster viewing and display hours are Sunday and Monday, 7:30 AM – 6:00 PM and Tuesday, 7:30 AM – 4:00 PM. Presentation times for each author are listed at the beginning of the session in the daily program. **Your poster board number is the alpha/numerical listing next to your abstract number.**

### San Diego Convention Center, Sails Pavilion

Poster viewing and display hours for Wednesday are 7:30 AM – 5:30 PM. Presentation times for each author are listed in the EB2012 Daily Program and the Late-Breaking Program.

## Poster Presentation Policy

Presenters must hang their posters no later than 7:30 AM on their day of presentation.

Presenters are expected to be at their poster boards during the assigned session presentation time, as designated by each society.

Posters must remain on display *all day*.

Posters that do not remain on display all day during their assigned day may, at the discretion of the programming society, be ineligible for awards.

Recording (photographing, audio taping or videotaping) any presentation/session is **PROHIBITED**, except by an EB-authorized agent or by first authors who want to photograph their poster presentation.

*Please do not leave belongings, poster containers, or any materials under the poster boards or in the poster area. EB is not responsible for articles left in the poster area.*

## PRESS ROOM

### San Diego Convention Center, Hall E

The EB Press Room will be open to members of the working press and freelance reporters with credentials. Upon registration, press members will receive all meeting materials as well as a press kit. The EB Press Room will be open Saturday, 10:00 AM – 4:00 PM, Sunday – Tuesday, 7:30 AM – 5:00 PM and Wednesday, 7:30 AM – 12:00 PM. The EB Press Room will include press information from all six sponsoring societies. To reach the Press Room on site, please call 619-525-6214.

## PUBLICATIONS

### San Diego Convention Center, Lobby D

#### Program

The program was not mailed in advance to U.S. or International registrants. It can be picked up on-site at the Publications Counter located in the San Diego Convention Center, Lobby D.

#### Late-Breaking Abstracts and Program Addendum

Registrants will receive a copy of the *Late-Breaking Abstract Program* and the *Program Addendum* at the meeting. All late-breaking abstracts are available

online at [www.miracd.com/EB2012/Itinerary](http://www.miracd.com/EB2012/Itinerary) and as part of the online version of *The FASEB Journal* at [www.fasebj.org](http://www.fasebj.org). Additional copies of the Program may be purchased at the Publications Counter in Lobby D.

## RECORDING

Photographing, audio taping, videotaping any presentation (*oral or poster*) or exhibit display is prohibited, except by an Experimental Biology authorized agent for official purposes, or by first authors who want to photograph their own poster presentation. You will be asked to leave the session room or exhibit hall if this policy is violated.

## RESTAURANT RESERVATIONS AND CITY INFORMATION

### San Diego Convention Center, Lobby B

Participants may obtain information about local restaurants and things to do in San Diego at the Visitors and Convention Bureau's Information counter located in Lobby B.

## SPEAKER PRACTICE ROOMS AND SPEAKER INFORMATION

### San Diego Convention Center, Room 11B and Room 21

#### Speakers are not required to bring a laptop!

All session rooms will be equipped with a data projector and computer. Bring your presentation on a Windows-readable USB flash drive or CD. We recommend that you bring a back-up presentation format. Please visit our website under general information for instructions on preparing your presentation [www.experimentalbiology.org/content/OralPresentationInstructions.aspx](http://www.experimentalbiology.org/content/OralPresentationInstructions.aspx).

Speakers should visit the Speaker Practice Room to review and check the compatibility of their presentation at least 4 hours prior to their session. Speakers must arrive in the session room one half hour prior to the scheduled start of the session to allow the technician time to load the presentation onto the computer. Additional audio visual equipment must be requested in advance of the meeting via email at [eb@faseb.org](mailto:eb@faseb.org) or by contacting the Society that programmed your abstract or invited talk.

The Speaker Practice Rooms will be open during the following times:

### Room 11B, Phone: 619-525-6216

Saturday – Wednesday, 7:00 AM – 6:00 PM

### Room 21, Phone: 619-525-6217

Saturday–Wednesday, 7:00 AM – 6:00 PM



## SPECIAL NEEDS

Registrants with special needs are advised to contact the EB Meeting Management Office at [eb@faseb.org](mailto:eb@faseb.org) prior to the meeting. For on-site inquiries, please contact the Meeting Management Office in Lobby D of the San Diego Convention Center. For specific information on the San Diego Convention Center's accessibility, contact the Guest Services Department at **619-525-5000**. The San Diego Convention & Visitors Bureau staff the Concierge Desk in Lobby B of the San Diego Convention Center. The Bureau is able to provide accessibility information for the local area attractions. For information on San Diego area attractions, contact San Diego Convention & Visitors Bureau at 619-236-1212 or [www.visitsandiego.org](http://www.visitsandiego.org).

## TRANSPORTATION

San Diego International Airport is conveniently located ten minutes from downtown San Diego. It is serviced by 22 major and commuter airlines and receives more than 16 million passengers a year.

### Airport Shuttle Service

#### San Diego International Airport (SAN)

Super Shuttle offers service to/from SAN at \$8 per person. Please refer to Experimental Biology 2012 when making your advance reservation. Make your reservation online at [www.supershuttle.com](http://www.supershuttle.com), Discount Code **SXVQN** or call 800-258-3826.

### Taxi Service

The taxi rate from the San Diego Airport to the San Diego Convention Center area is approximately \$15.

### Trolley

The San Diego trolley serves the San Diego metropolitan area with convenient locations marked with a sign and the trolley image. The San Diego Convention Center is on the Orange Line at the Convention Center stop. To obtain schedules and other public transportation information, call Metropolitan Transit System at 619-744-5920 or visit [www.sdmts.com](http://www.sdmts.com).

## **YOUNG EXPERIMENTAL SCIENTISTS**

### **(Y.E.S.) MIXER**

**San Diego Marriott Marquis & Marina, Marriott Hall Salon 3**

The Y.E.S. Mixer is open to all EB registrants and is scheduled Monday, April 23, 9:00 PM–11:30 PM. You must wear your badge to gain admittance. Dance, relax, network while enjoying complimentary snacks and soft drinks. The EB sponsoring societies encourage responsible drinking for those drinking alcohol. Alcohol will not be served to anyone under the age of 21. Be prepared to present identification.

**Experimental Biology exhibitors offer the best tools and resources available in research today!**

**Join the exhibitors at 10:00 AM for coffee and 2:00 PM for snacks and learn the latest and greatest from more than 400 companies.**

## EB-SPONSORED SPECIAL PROGRAMS

### EB-SPONSORED SESSION

#### NATIONAL INSTITUTES OF HEALTH: PROGRAMS AND POLICIES UPDATE FROM INSTITUTES

TUE. 2:00 PM – SAN DIEGO CONVENTION CENTER, ROOM 1A

*Chairs:* J. Chatham and S. Barman

### TEACHING POSTER SESSIONS

SUN.–MON., SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

Special poster sessions have been scheduled related to teaching and the use of computers in research and teaching. The posters will be displayed Sunday–Monday from 7:30 AM to 6:00 PM. The poster sessions will cover two areas: 1) Teaching, Learning and Testing in the Biological and Biomedical Sciences; and 2) Computers in Research and Teaching. For further information, see the daily listing pages 141 and 215.

### NIH GRANTS SEMINAR WORKSHOP SERIES

CONVENTION CENTER, CAREER CENTER AREA, HALL D

The FASEB Office of MARC and Professional Development Programs in association with the Experimental Biology 2012 (EB2012) Management Committee will sponsor career development seminars and a 3-part NIH Grants Seminar Workshop Series in the EB2012/FASEB Career Center located in Hall D of the Washington Convention Center. There is no fee or pre-registration associated with the workshops and seminars; however, **EB2012 meeting registration is required to participate in all seminars/sessions.** Handouts and resource materials will be provided onsite. Advance seating reservations are **not** required.

**Critiquing of CV/resumes** and the career coaching/counseling sessions are by appointment and starts at 9:00 AM on Saturday and continues until 12:00 PM on Wednesday. You may sign-up onsite in the EB2012/

FASEB Career Center located in Hall D through Tuesday at 5:00 PM.

#### NIH Career Development (K) Awards (Sunday and Monday)

SUN. – MON 8:30 AM – 9:45 AM, CAREER CENTER, HALL D

This presentation will focus on the NIH's Career Development Awards (K) including the most recent K99/00 Pathways to Independence Award (for postdoctoral scientists) and other K awards targeted to individuals with research doctoral degrees (Ph.D. and equivalent) and clinical doctoral degrees (M.D. and equivalent). Among the K awards discussed will be the K01 Mentored Research Scientist Development Award, the K02 Independent Scientist Award, the K22 Career Transition Award, the K08 Mentored Clinical Scientist Development Award, the K23 Mentored Patient Oriented Career Development Award, the K24 Mid-Career patient Oriented Career Award, and K25 Mentored Quantitative Scientist Career Development Award.

The interactive discussion will give attendees an opportunity to ask questions of and obtain insight from an NIH representative on these and other awards available for beginning investigators.

#### Scientific Peer Review of NIH Grants: Grantmanship Part I

SUN. – MON. 10:00 AM – 11:30 AM, CAREER CENTER, HALL D

Presented by Anthony Coelho. Learn what is important to know and understanding about a sponsoring agency's peer review process. Learn why this understanding peer review can enhance your chances of being funded. This presentation uses the scientific peer review at NIH as an example of what you need to know about peer review at any funding agency and how to use this information in preparation of your grant applications and competing successfully for funding. (Concurrent session.)

**Grant Writing for Success: Grantsmanship Part II**  
SUN. – MON. 2:00 PM – 3:30 PM, CAREER CENTER, HALL D

Presented by Anthony Coelho. This presentation focuses on the principles of successful grant writing including the most common reasons that grant applications fail or succeed. Learn how to make an application meet the needs of the reviewers and the funding agency. Learn how to avoid the need for resubmission. Learn about sponsored agency resources and how to use them in the preparation of your application. (Concurrent session.)

**CAREER DEVELOPMENT SEMINARS &  
WORKSHOPS**

CONVENTION CENTER, CAREER CENTER AREA, HALL D

The following Seminars and Workshops will be held in the EB2012/FASEB Career Center. There is no fee or pre-registration associated with the workshops and seminars; just walk in and sit down! Critiquing of Resumes is by appointment and starts at 9:00 AM on Saturday and continues until 12:00 PM on Wednesday. Sign up on-site in the EB2012/FASEB Career Center, Hall D. Please note that on Wednesday, April 25<sup>th</sup>, the Critiquing of Resumes will be conducted between 9:00 AM and 12:00 PM in the Sails Pavilion of the San Diego Convention Center.

**Saturday**

9:00 AM – **Networking: A Required Life Skill**; presented by Howard Adams. To succeed in today's competitive world of work, who you know can be as critical as what you know. Successfully networking, to develop contacts, is a required skill. Networking involves 1) making contacts, 2) establishing cordial relationships, and 3) ultimately bonding to mutually support each other and share information. This seminar explores skills and techniques germane to successful networking. During the session, Dr. Howard Adams will cover the following key topics: 1) Dimensions of Networking; 2) Networking to enhance one's career/professional development; 3) Networking concerns: How? When? Where? Why?; 4) Tips for Successful Networking; 5) Do's and Don'ts of Networking. (Concurrent session.)

9:00 AM – **Workplace Dynamics I/II Workshop: Gaining Self-Awareness and Communication Skills**; presented by Sharon Milgram and Lori Conlan. This experiential and engaging course, rooted in psychological type and the Myers-Briggs Type Indicator assessment, explores themes of self-awareness and self-management. Through exercises, lecture, and small group discussions, you learn about and validate your own type preferences and work and communication styles. We will also focus on the particular challenges of communication, different learning and teaching styles, and the different influencing and interaction styles you encounter in any research group or workgroup.

Understanding yourself and how you deal with people is an important skill that most scientists are not taught. This daylong workshop series provides leadership and self-management skills with examples based in typical lab environments. You can attend one or all of the sessions. *Attendees for the entire day will earn a certificate of completion from the NIH Office of Intramural Training and Education.*

10:00 AM – **Postdocs: What Should You be Looking For and How to Find Them**; presented by Andrew Green. Many PhDs just kind of fall into a postdoc, rather than thinking about it from a strategic perspective. Your postdoc is never an end in itself; rather it's a means to another end whether that goal is a faculty position at a research university, at a small college, or perhaps an industry job. Learn how to find postdoc opportunities that will best prepare you for that next step, and how to use your postdoc experience to facilitate the transition to your next position. (Concurrent session.)

10:00 AM – **Talking About Yourself: Interviewing Well**; presented by Naledi Saul. In this session, we will help you learn how to interview successfully, by looking at the interview process from employer's perspective. We will discuss the overall hiring process and the all-day interview format, as well as the steps to prepare for an interview, effectively use the different types of interview questions to both present your skills and experience, and assess the employer's needs, and criteria to ultimately determine if the position is a good fit for you. (Concurrent session.)

10:30 AM – **Goal Setting, Prioritizing, Time Management**; presented by Howard Adams. Advancing through one career and life depends on that person's ability to turn dreams, desires and wishes into tangible goals, objectives and milestones. Each individual has the power and responsibility to be both a dreamer and a doer. Success depends on both. This seminar is designed to guide participants through a process that frames dreams, wishes and desires in the context of career and life GOALS. Participants will be guided through critical career and life planning strategies involving time management and setting/prioritizing goals. (Concurrent session.)

11:00 AM – **Beyond the Bench... Preparing for Your Career Transition in the Life Sciences**; presented by Joe Tringali. Is there a way to move your skills from the bench to a related career? There is, assuming one is focused and willing to invest some time in making the switch. We will explore different paths to alternative scientific careers.

1:00 PM – **Workplace Dynamics I/II Workshop: Conflict and Feedback**; presented by Sharon Milgram and Lori Conlan. Rooted in the Thomas and Kilmann Conflict Grid, this interactive workshop provides an accessible framework for conflict management and giving and receiving personal feedback. In small group exercises, participants learn how to have — and even get some practice having — difficult conversations often associated with conflict within the NIH, like leadership struggles and authorship questions.

1:00 PM – **Ten Ways to Get Lucky in the Job Search**; presented by Philip Clifford and John Lombardo. Although it is important to have a plan for your career progression, it is just as important to take advantage of unexpected events along the way. This seminar will suggest specific ways to foster chance occurrences that may influence your job search. We will examine ten practical suggestions to prepare you to make happenstance work positively for you. (Concurrent session.)

1:00 PM – **Professional Development for PhDs**; presented by Andrew Green. Learn to use graduate school to qualify for multiple career paths and to maximize your employability outside of academia. This workshop is most useful to those at least one year from their job search. 1st to 4th year students are especially welcome! (Concurrent session.)

1:30 PM – **Negotiation Strategies for Scientists**; presented by Debra Behrens. The session topics include: The basics of successful negotiation, contexts of gender and culture, leveraging your strengths, handling multiple offers, and closing the deal. (Concurrent session.)

2:00 PM – **Transforming Your CV**; presented by Naledi Saul. In this session, using a successful industry resume/CV as a case study, you will learn the difference between a CV and resume, what should and should not be included in a document tailored for industry jobs, and the best strategies to tailor your document to highlight your skills and experiences. You will also understand when and why to write a cover letter, including content and appropriate format. Bring a copy of your CV/resume or cover letter to work on during the session if you have one (but it is not required to attend the session). There will also be ample time for Q & A. (Concurrent session.)

2:15 PM – **Job Hunting in the Biotech Industry**; presented by Bill Lindstaedt. In this seminar you will learn how to prepare resumes and cover letters for your industry job search. Also, you will learn about job search strategies necessary for success on the biotech/pharma job market along with some tips for interview success and success at the negotiating table after you receive your job offer. After this seminar you will understand how to conduct the four job hunting techniques that comprise a comprehensive job search in the biotech industry. (Concurrent session.)

3:15 PM – **Workplace Dynamics I/II Workshop: Team Skills**; presented by Sharon Milgram and Lori Conlan. This is an experiential workshop that focuses on team tools and group development insights through the experience of real team and group work. This class is intended for anyone who works on or with teams and wishes to have greater skills in facilitating their effectiveness. All participants experience and practice a process for group learning in this class that they can put to use in their work teams whether they are group leaders or members. Lastly, the workshop focuses on spotting the stages of group development and how to help teams through rough spots, conflict, and growing pains.

3:30 PM - **Economics and Your Job Search**; presented by Joe Tringali. *Job Search Economics* is much more than a discussion of salary and signing bonuses. Knowing how the market place will react to your candidacy **before** you begin your search will help you deliver the best message, negotiate wisely, and make the right decision when you do receive offers. It's all about supply and demand. (Concurrent session.)

4:00 PM - **Developing Your Core Message/"Elevator Pitch"**; presented by John Lombardo. Your personal statement is a brief spoken statement (30-second mini-abstract) about you that lets people know who you are, what you do well, and what you are looking for. It is a well-prepared answer to the question, "Tell me a little bit about yourself." A positive personal statement ("pitch") will enhance your professional presence and stature, boost your self-confidence, and reduce your anxiety. It helps you establish your identity as a professional scientist, and it opens doors for connection and collaboration. This seminar will provide guidance in a safe place to practice and experiment. (Concurrent session.)

4:00 PM - **Global Interview Skills: A Practice Workshop for International Candidates**; presented by Debra Behrens. This session provides practice interview workshop customized for international graduate students. The key topics are: The four central questions in the employment interview, cultural and communication dynamics, the STAR method, and using "small talk" for big results.

### Sunday

8:15 AM - **Revealing Your Character through Your Resume**; presented by Judy Blumenthal. Recruitment into the job world is a billion dollar industry — in terms of risk. The top mistakes made in recruitment are not skills match, but decisions regarding the candidate's integrity, honesty, and work ethics — various dimensions of your character. Even decisions on how you might treat potential co-workers and your clients/customers/patients, both verbally and non-verbally, influence the employer's perception of your character.

In this workshop, you will learn how potential employers define your character and how you can present yourself to encourage the perception to be

positive and, you worthy of working for and with them. (Concurrent session.)

8:30 AM - **Developing Your Core Message/"Elevator Pitch"**; presented by John Lombardo. *See description under Saturday's 4:00 PM listing.* (Concurrent session.)

8:30 AM - **Making the Case for Graduate School**; presented by Howard Adams. Advanced degree level training has emerged as a key requirement for garnering positions of leadership in academia, government, and industry and for careering in today's workplace. Beyond this, and advanced degree signal scholarship, maturity, and the capacity to do rigorous work; all attributes that can provide an edge in the workplace. This seminar explores graduate education in the context of: 1) a career enhancement strategy; 2) graduate study opportunities and options; 3) how to negotiate the graduate school admission and financial aid process, and 4) placing graduate studies in one's overall career plans. Key topics: Making the Case for Graduate School, The Value of an Advanced Degree; The GRE Exam; The Application/Admissions Process; Funding for Graduate Work; Putting the Pieces Together (Concurrent session.)

9:00 AM - **Lab Management**; presented by Sharon Milgram and Lori Conlan. This session will help prepare you to be a better manager. Topics covered will be selected personnel, establishing expectations, communicating feedback and building and maintaining morale. This session is intended for upper level postdocs about to run their own lab.

9:30 AM - **Economics and Your Job Search**; presented by Joe Tringali. *Job Search Economics* is much more than a discussion of salary and signing bonuses. Knowing how the market place will react to your candidacy **before** you begin your search will help you deliver the best message, negotiate wisely, and make the right decision when you do receive offers. It's all about supply and demand. (Concurrent session.)

10:30 AM - **Sometimes It's Who You Know: Winning at Networking**; presented by Judy Blumenthal. Networking is a crucial dimension of a job offer; from developing a resume to interviewing to the job offer. What do I take for granted? How do I communicate the right behaviors for the job? How much of the employer's business do I *really* have to know? To be



at the right place at the right time, sometimes it takes just one person. But who is this person?

In this workshop, you will learn how to identify and approach the right people to help you obtain a job offer. You will learn essential behaviors that promote your case and that can be used quite favorably. (Concurrent session.)

11:00 AM – **Talking about Money: Compensation Negotiation for Scientists Moving into Industry**; presented by Bill Lindstaedt. Scientists moving from academia to industry are often confused by the job offer process. What's the best way to talk about compensation with your future employers? If you ask for more, will they rescind your job offer? In this seminar, you will learn about **WHAT** is reasonable to ask for, and also **HOW** you can approach the compensation negotiation process in a way that produces optimal outcomes for you while maintaining positive relationships. (Concurrent session.)

11:00 AM – **The Academic Job Search in the Life Sciences: Part 1 – Understanding the Search Process from the perspective of Search Committees and Find Job Announcements**; presented by Andrew Green. If you're sending the same materials to Harvard and Haverford or Cal Poly and Caltech, then at least one if not both search committees will be less than impressed. Academic search committees in the sciences and engineering at small, liberal arts colleges and non-R1 universities have a very different perspective than their peers at major research universities on what makes a strong candidate and desirable colleague. (Concurrent session.)

12:00 PM – **Career Skills Blitz**; presented by Sharon Milgram and Lori Conlan. These short sessions are designed to give you an overview of the skills required to mount a successful job search. These will be a fast pace, fun-filled way to spend your lunch. **Each session will be strictly limited to twenty minutes**, and you can choose to come to any of the presentations in the hour. Presenters will give you the highlights of the topics, with ideas on how to follow up with additional resources. You will be able to choose three sessions from the following offerings: 1) **Networking and Informational Interviews**: Learn how to manage your network including finding people, using social media tools and informational interviewing.

2) **Resumes and Cover letters**: There are common things needed and a resume and few simple rules for a cover letter. Make this part of your job package shine. 3) **Interviewing Tips**: Navigate the interview process with ease. 4) **Jobs and Training at the NIH**: Learn about NIH jobs and training opportunities that could enhance your career. 5) **Finding a Career Path**: Your dream job does exist. Come map out a plan to determine your career path. 6) **Non-bench Careers**: Highlights opportunities for PhDs in all sectors; academics, industry, non-profit, and government.

1:00 PM – **The Academic Job Search in the Life Sciences: Part 2 – Creating Your Written Application Materials: CVs, Cover Letters, Teaching Portfolios, Etc.** This two-part workshop is designed to provide an overview of the Academic Job Search process and help you figure out how to present your credentials, on paper and in person, in the strongest possible manner. You need not attend Part I to benefit from Part II. *See description under Sunday's 11:00 AM listing.* (Concurrent session.)

1:00 PM – **Ten Tough Industrial Interview Questions; Ten Good Responses**; presented by Joe Tringali. You've been invited to interview with that drug development company that you've always wanted to work for. You've soaked up the position description, and are confident in your ability to do the job, as well as answer any/all technical questions during the interview process. The day is yours... until that first question catches you by surprise and your confidence begins to wilt. Be prepared for those non-technical questions that you will almost certainly hear at some point, know *why* they are asked, and learn what good (if not *great*) responses to those questions might be in this workshop. (Concurrent session.)

1:30 PM – **Ten Ways to Get Lucky in the Job Search**; presented by Philip Clifford and John Lombardo. *See description under Saturday's 1:00 PM listing.* (Concurrent session.)

1:30 PM – **NIH "How To" Series: How to Get a Job in Science Education & Outreach**; presented by Sharon Milgram and Lori Conlan. Most jobs sectors that PhDs will go into need an understanding of science, a knowledge of the field, communication skills, people and/or management skills and more. We will discuss how employers measure these skill qualifications by

job sector, how to find jobs in these areas, and more job specific information. This session is intended to augment your career informational interviewing with experts in the field. (Concurrent Session.)

2:30 PM – **Managing Up**; presented by Sharon Milgram and Lori Conlan. Participants in this session will learn how to effectively and efficiently communicate their goals and needs to their superiors. Topics include how to have a professional yet frank discussion with your mentor, committee and other superiors, and setting expectations for yourself and your superiors. (Concurrent session.)

3:00 PM – **Achieving Your Goals: Goal Setting Strategies for Scientific and Career Success [Interactive]**; presented by Bill Lindstaedt. Do you ever promise yourself that you'll finish that paper, or improve your presentation skills, then don't quite get around to it? Do you have trouble setting goals...and sticking to them? Survey data has shown that trainees in the biomedical sciences who create and follow a written plan are more likely to reach their research and career goals. In this hands-on workshop we'll get you started on creating your annual Individual Development Plan (IDP) for completing projects and developing professional skills that you'll need for success. Through this process, you will learn principles for how to set achievable goals, and strategies for ensuring that you'll follow through to success. (Concurrent session.)

3:00 PM – **The Job Talk**; presented by Andrew Green. After months of stressful science, the voice on the other end of the phone says, "We'd like to invite you for an on-campus interview." You gleefully discuss schedules, airports, and other arrangements until the voice mentions "and of course we're all looking forward to your Job Talk," and your stomach begins to spasm in new and creative ways. Answers to your questions about how to structure your presentation, how much detail to include, what level to pitch it (small college vs. university,) what are they really looking for from Andrew Green, survivor of the academic job. (Concurrent session.)

3:30 PM – **Negotiation Strategies for Scientists**; presented by Debra Behrens. *See description under Saturday's 1:30 PM listing.* (Concurrent session.)

4:00 PM – **Career Decisions: How to Select a Career Path That's Best for You [Interactive]**; presented by Bill Lindstaedt. Do you want to find a career path that you'll enjoy and find rewarding? Of course! But how do you find such a path? In this interactive workshop you will inventory your skills, interests, and values to consider your current career trajectory. You'll then learn about how to research the many career path options available to life scientists, and what things to consider as you decide which is the best for you. (Concurrent session.)

4:00 PM – **Navigating Graduate Work, Protocol, Milestones, Requirements**; presented by Howard Adams. Success in graduate school starts with goal setting and the formulation of an action plan to achieve the desired results – obtaining the degree sought. The graduate study plan should delineate: 1) what is to be accomplished in terms of expectations, degree requirements, and program milestones; 2) action steps that establish priorities for tasks to be completed; 3) process for implementing action steps; and 4) timeframe for meeting program requirements/milestones. Seminar participants will be guided through exercises and provided with templates for developing a graduate program plan. (Concurrent session.)

4:00 PM – **NIH "How To" Series: How to Get a Job in Science Policy**; presented by Sharon Milgram and Lori Conlan. Most jobs sectors that PhDs will go into need an understanding of science, a knowledge of the field, communication skills, people and/or management skills and more. We will discuss how employers measure these skill qualifications by job sector, how to find jobs in these areas, and more job specific information. This session is intended to augment your career informational interviewing with experts in the field. (Concurrent Session.)

4:15 PM – **Making the Connection: The Relationship between the Resume, the Interview and the Job Offer**; presented by Judy Blumenthal. The bottom line for any employer is, how will this individual behave on the job? This question is used in writing the job description and throughout the recruitment process. It is therefore imperative that applicants exhibit the right behaviors from the beginning: in writing (on their resume) to the interview (whether by phone or in person), to the final job offer.

In this workshop, you will learn what the essential behaviors are that must be communicated from the very beginning of your job search (the resume) to accepting the job. (Concurrent session.)

### **Monday**

8:30 AM – **Successful Behaviors for Winning an Interview**; presented by Judy Blumenthal. Eye contact, arriving on time – these are given behaviors for any interview of any type and everyone knows them. The successful behaviors for winning an interview are those that categorize you as a high risk or low risk for the next recruitment step.

In this workshop, you will learn what behaviors are important to exhibit on an interview, and how employers evaluate these behaviors to determine whether or not you are a low risk and move you on to the next recruitment step, or a high risk and don't. (Concurrent session.)

9:00 AM – **NIH “How To” Series: How to Get a Job in Government: Bench**; presented by Sharon Milgram and Lori Conlan. Most jobs sectors that PhDs will go into need an understanding of science, a knowledge of the field, communication skills, people and/or management skills and more. We will discuss how employers measure these skill qualifications by job sector, how to find jobs in these areas, and more job specific information. This session is intended to augment your career informational interviewing with experts in the field. (Concurrent Session.)

9:00 AM – **Developing Your Core Message/”Elevator Pitch”**; presented by John Lombardo. *See description under Saturday’s 4:00 PM listing.* (Concurrent session.)

9:00 AM – **Ten Tough Industrial Interview Questions; Ten Good Responses**; presented by Joe Tringali. *See description under Sunday’s 1:00 PM listing.* (Concurrent session.)

10:00 AM – **NIH “How To” Series: How to Get a Job in Government: Non-Bench**; presented by Sharon Milgram and Lori Conlan. Most jobs sectors that PhDs will go into need an understanding of science, a knowledge of the field, communication skills, people and/or management skills and more. We will discuss how employers measure these skill qualifications by job sector, how to find jobs in these areas, and more

job specific information. This session is intended to augment your career informational interviewing with experts in the field. (Concurrent Session.)

10:00 AM – **Postdocs: What Should You Be Looking For and How to Find Them**; presented by Andrew Green. *See description under Saturday’s 10:00 AM listing.* (Concurrent session.)

10:00 AM – **Sometimes It’s Who You Know: Winning at Networking**; presented by Judy Blumenthal. *See description under Sunday’s 10:30 AM listing.* (Concurrent session.)

10:15 AM – **Making the Grade: Job Talk/Chalk Talk**; presented by Debra Behrens. Participants learn how to plan, structure and deliver a job talk. The session covers the key elements of the chalk talk, and present a talk that captures the interest of a diverse (faculty, administrators, students) audience. (Concurrent session.)

11:00 AM – **Talking about Money: Compensation Negotiation for Scientists Moving into Industry**; presented by Bill Lindstaedt. *See description under Sunday’s 11:00 AM listing.* (Concurrent session.)

12:00 PM – **Career Skills Blitz**; presented by Sharon Milgram and Lori Conlan. *See description under Sunday’s 12:00 PM listing.* (Concurrent session.)

1:00 PM – **The Industrial Hiring Process: Learn the Nuances, Get the Offer**; presented by Joe Tringali. This session will include a discussion of the hiring process for the biotechnology and pharmaceutical industries and how it differs from the academic hiring process. Know your audience, what they want to hear, and give yourself the edge. (Concurrent session.)

1:00 PM – **The Right Attitude and Behaviors While Job Searching from the Resume to the Job Offer**; presented by Judy Blumenthal. Every person carries within them thoughts, feelings, and emotions that influence the way we are perceived by others, and the way we behave. This interaction (perceptions of others and our behavior) is so very complex, and happens so quickly, that perceptions are not necessarily at a conscious level and therefore opinions about you can be formed before you even have a chance to make any corrections to your attitude or behavior. This is

a serious consequence during the job search, and a consequence we want to do without.

Dr. Blumenthal will teach you how to present yourself in your resume, on the interview, and subsequent follow ups, including the job offer. She will teach you what goes on behind the scenes regarding attitudes and behaviors so that you have more leverage on your side. The end result is a positive consequence increasing the likelihood of job interviews and a job offer. (Concurrent session.)

1:15 PM – **Utilizing LinkedIn in the PhD Job Search**; presented by Andrew Green. Networking has never been more important in making a successful transition from academia to industry, but most PhDs believe they have limited contacts and feel ill-equipped to utilize this valuable resource. Learn how to use LinkedIn to expand your network and how to best take advantage of the informational interviews that result. (Concurrent session.)

1:30 PM – **NIH “How To” Series: How to Continue Your Training at NIH**; presented by Sharon Milgram and Lori Conlan. Most jobs sectors that PhDs will go into need an understanding of science, a knowledge of the field, communication skills, people and/or management skills and more. We will discuss how employers measure these skill qualifications by job sector, how to find jobs in these areas, and more job specific information. This session is intended to augment your career informational interviewing with experts in the field. (Concurrent Session.)

2:00 PM – **Achieving Your Goals: Goal Setting Strategies for Scientific and Career Success [Interactive]**; presented by Bill Lindstaedt. *See description under Sunday’s 3:00 PM listing.* (Concurrent session.)

2:00 PM – **Talking about Yourself: Interviewing Well**; presented by Naledi Saul. *See description under Saturday’s 10:00 AM listing.* (Concurrent session.)

2:30 PM – **Becoming a Mentor**; presented by Sharon Milgram and Lori Conlan. As you progress in your scientific career it is likely that you will mentor the next generation of young scientists. Many of you will start with an undergrad or summer intern. This seminar offers tips on how to develop a project for

a novice, how to balance your time between your work and your mentee, and basic supervisory skills so both of you with know what to expect out of the experience. (Concurrent session.)

2:30 PM – **Revealing Your Character through Your Resume**; presented by Judy Blumenthal. *See description under Sunday’s 8:15 AM listing.* (Concurrent session.)

3:00 PM – **Career Decisions: How to Select a Career Path That’s Best for You**; presented by Bill Lindstaedt. *See description under Sunday’s 4:00 PM listing.* (Concurrent session.)

3:45 PM – **CV→Resume**; presented by Andrew Green. Corporate recruiters are looking for very different evidence of soft and hard skills than academic search committees. Learn how to construct an effective resume that will help potential employers recognize the value you have to offer and strengthen your candidacy for science and non-science jobs outside of academia. (Concurrent session.)

4:00 PM – **Fundamentals for Managing the Postdoctoral Experience**; presented by Howard Adams. The postdoc assignment is typically a stepping stone to an independent position in academia, government, or industry. This seminar is designed to provide participants with the basic principles, concepts, and protocol for function as a scholar/researcher during the post-doc experience. Participants will be guided through step-by-step information on: 1) Picking the right post-doc position; 2) Establishing meaningful development and professional goals; 3) Communicating needs and expectations to your mentor/supervisor; 4) Setting clear performance benchmarks and tasks completion timelines; 5) Creating a task flow chart to track and monitor performance and progress; and 6) Taking ownership for your career/personal/professional development. (Concurrent session.)

4:00 PM – **Job Search in Academia & Industry**; presented by Debra Behrens. Are you looking for both academic and nonacademic jobs, but aren’t sure where to start? This workshop provides an overview for successfully navigating the two-track job search. Topics include: Organizing your search, timelines/logistics, researching employers, presenting

your qualifications and criteria for evaluating offers. (Concurrent session.)

4:00 PM – **Successful Behaviors for Winning an Interview**; presented by Judy Blumenthal. *See description under Monday's 8:30 AM listing.* (Concurrent session.)

## **Tuesday**

9:00 AM – **The Job Talk**; presented by Andrew Green. *See description under Sunday's 3:00 PM listing.* (Concurrent session.)

9:15AM – **Making the Connection: The Relationship between the Resume, the Interview and the Job Offer**; presented by Judy Blumenthal. *See description under Sunday's 4:00 PM listing.* (Concurrent session.)

10:00 AM – **Navigating Graduate Work Protocol, Milestones, Requirements**; presented by Howard Adams. *See description under Sunday's 4:00 PM listing.* (Concurrent session.)

10:00 AM – **Academic Job Search: CVs, Letters, Statements and Start-ups**; presented by Bill Lindstaedt. This workshop will present information on how to organize your academic job search, including advice on the various components of an application package. A mock faculty search committee exercise will teach you how to construct or improve a CV. You will then gain tips for writing cover letters, creating statements that will present you in the most positive light possible. Finally, you will learn valuable information about the content and process involved in negotiating for start-up packages. (Concurrent session.)

10:15 AM – **Negotiation Strategies for Scientists**; presented by Debra Behrens. *See description under Saturday's 1:30 PM listing.* (Concurrent session.)

10:30 AM – **Transforming Your CV**; presented by Naledi Saul. *See description under Saturday's 2:00 PM listing.*

11:00 AM – **PhD Negotiation Skills and Strategies: How to Get What You Want and Need**; presented by Andrew Green. Everything is negotiable...most of the time! Do you need to develop or refine your

negotiation skills? This session covers salary, start up packages, and strategies for getting what you need to be successfully launched in your scientific career. (Concurrent session.)

11:30 AM – **Successful Behaviors for Winning an Interview**; presented by Judy Blumenthal. *See description under Monday's 8:30 AM listing.* (Concurrent session.)

1:00 PM – **Developing/Writing the Doctoral Dissertation**; presented by Howard Adams. This workshop focuses on techniques and strategies for developing and writing a doctoral dissertation proposal. It is structured to walk participants through a step-by-step process for understanding the multi-dimensional competencies and skills required to do doctoral research. The session is designed to be interactive as the facilitator helps participants examine specific component of the dissertation proposal. These include: 1) the problem statement; 2) making the case for a specific research area; 3) literature review; 4) the research design and methodology component; and 5) framing expected outcomes and their significance. (Concurrent session.)

1:00 PM – **Making the Grade: Job Talk/Chalk Talk**; presented by Debra Behrens. *See description under Monday's 10:15 AM listing.* (Concurrent session.)

1:00 PM – **Achieving Your Goals: Goal Setting Strategies for Scientific and Career Success [Interactive]**; presented by Bill Lindstaedt. *See description under Sunday's 3:00 PM listing.* (Concurrent session.)

1:30 PM – **CV→Resume**; presented by Andrew Green. *See description under Monday's 3:45 PM listing.* (Concurrent session.)

2:00 PM – **Career Decision: How to Select a Career Path That's Best for You [Interactive]**; presented by Bill Lindstaedt. *See description under Sunday's 4:00 PM listing.* (Concurrent session.)

2:15 PM – **Talking about Yourself: Interviewing Well**; presented by Naledi Saul. *See description under Saturday's 10:00 AM listing.* (Concurrent session.)

2:30 PM – **Beyond the Bench... Preparing for Your Career Transition in the Life Sciences**; presented by Joe Tringali. *See description under Saturday's 11:00 AM listing.* (Concurrent session.)

3:00 PM – **Leadership Principles for Today's Professionals**; presented by Howard Adams. As the workplace continues on the path of globalization and international competitiveness, the demand for effective leadership will grow within all employment sectors - government, academia, industry, and nonprofit. Thus, as one lives and works in the 21st century, having effective leadership skills is essential to success and advancement. This seminar explores "task-performance leadership" as a function of a leader getting people to do what he/she wants them to do. It addresses these five core competencies: leadership attributes, understanding change and resistance to change, cultivating relationships, visioning and goal setting from the position of leader, and leading others to achieve desired outcomes. Key

topics: 1) Terminology of Leadership; 2) Trends that Challenge Leaders; 3) Competencies of an "All-Star" Leader; 4) "Walking the Walk" of a Leader; 5) Getting Work Done Through Others; 6) Creating the Optimal Leadership Environment. (Concurrent session.)

3:15 PM – **The Right Attitude and Behaviors While Job Searching from the Resume to the Job Offer**; presented by Judy Blumenthal. *See description under Sunday's 1:00 PM listing.* (Concurrent session.)

3:30 PM – **Job Hunting in the Biotech Industry**; presented by Bill Lindstaedt. *See description under Saturday's 2:15 PM listing.* (Concurrent session.)

### Wednesday

Only CV/Resume Critiques, Career Coaching and Counseling Services will be provided in the Sails Pavilion location on Wednesday between 9:00 AM and 12:00 PM.

EXPERIMENTAL BIOLOGY

*gratefully acknowledges the generous support of the following sponsors:*



*(Attendee Briefcases)*

*(Locater Signs)*



*(Locater Signs)*

*(Meeting Pens)*



*(Meeting Notepads)*

# SOCIETY HIGHLIGHTS

## ANATOMY (AAA)

### AAA POSTDOCTORAL PLATFORM AWARD SESSION

SAT. 5:00 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 7B

*Chair:* J. Venuti

### AACBNC SOCIALIZER (DEPARTMENT CHAIRS ONLY)

SAT. 5:30 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, MISSION HILLS

### WILEY RECEPTION (INVITATION ONLY)

SAT. 7:00 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, CORONADO

### AAA NEW MEMBER WELCOME BREAKFAST

SUN. 7:00 AM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, CARDIFF

### PLENARY LECTURES

SUN. 8:00 AM – SAN DIEGO CONVENTION CENTER,  
ROOM 8

*Speaker:* B. Olsen

*Title:* Vascular Endothelial Cells as a Source of  
Multipotent Stem-Like Cells

*Speaker:* R.L. Drake

*Title:* Open Minds, Open Opportunities

### AAA YOUNG INVESTIGATOR AWARDS SYMPOSIUM

SUN. 5:00 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 9

*R.R. Bensley Award Lecturer: J. Reiter*

*Title:* Tectonics Form a Transition Zone Complex  
of Ciliopathy Proteins That Regulate Ciliary  
Composition

*C.J. Herrick Award Lecturer: J. Radley*

*Title:* Evidence for a Limbic Cortical HPA-  
Inhibitory Network and Its Role in Chronic  
Stress-Induced HPA Axis Hyperactivity

### PROFESSIONAL DEVELOPMENT WORKSHOP: CONNECTING WITH DIFFERENT AUDIENCES: THE ANATOMY OF COMMUNICATION

SAT. 8:00 AM – SAN DIEGO CONVENTION CENTER,  
ROOM 7B

*Chair:* D. Evans

### PROFESSIONAL DEVELOPMENT WORKSHOP: CLIMBING THE ACADEMIC LADDER: SKILLS NEEDED FOR EACH RUNG

SAT. 10:30 AM – SAN DIEGO CONVENTION CENTER,  
ROOM 7B

*Chairs:* R. Pratt and K. Topp

### MASTER CLASS: NEURAL INNERVATION OF THE HEART AND ITS ROLE IN PATHOPHYSIOLOGY AND TREATMENT

SAT. 1:00 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 8

*Chair:* J. Walker

### LANGMAN GRADUATE STUDENT PLATFORM AWARD SESSION

SAT. 1:30 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 7B

*Chair:* P. Trainor

### EDUCATION RESEARCH PLATFORM AWARD SESSION

SAT. 3:15 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 7B

*Chair:* C. Eckel



**H.W. Mossman Award Lecturer: P. Reddien**

*Title:* The Cellular and Molecular Basis for Planarian Regeneration

**AAA Morphological Sciences Award Lecturer: J. Guttman**

*Title:* Knocking *E. coli* off of Their Pedestals: Understanding the Strategies Microbes Exploit to Generate Morphological Structures during Their Disease Processes

**AAA SOCIALIZER**

*(Sponsored by Wiley)*

SUN. 7:00 PM – SAN DIEGO CONVENTION CENTER, WEST TERRACE

**ANATOMY EDUCATION BREAKFAST ROUNDTABLES**

*(Supported by an educational grant from Elsevier, Inc.)*

MON. 8:00 AM – SAN DIEGO CONVENTION CENTER, ROOM 11A

*Chair:* C. Eckel

**KEYNOTE ADDRESS**

*(Supported by an educational grant from AACBNC)*

MON. 5:00 PM – SAN DIEGO CONVENTION CENTER, ROOM 8

*Speaker:* E. Olson

*Title:* Heart Making and Heart Breaking: The Molecular Circuitry of Cardiac Development, Disease and Regeneration

**AAA BUSINESS MEETING**

MON. 6:00 PM – SAN DIEGO CONVENTION CENTER, ROOM 8

**AAA STUDENT/POSTDOC POSTERS AND RECEPTION**

MON. 7:00 PM – SAN DIEGO CONVENTION CENTER, WEST TERRACE

**AAA AWARDS BANQUET**

TUES. 7:00 PM – SAN DIEGO MARRIOTT MARQUIS & MARINA, MARINA BALLROOM DE

Pick up *pre-purchased* tickets in the AAA Staff Office (Convention Center, Room 10) before 12:00 PM on Tuesday, April 24. Tickets will *not* be sold on-site at the meeting.

**BIOCHEMISTRY AND MOLECULAR BIOLOGY (ASBMB)**

**GRADUATE/POSTDOCTORAL TRAVEL AWARD KEYNOTE LECTURE**

FRI. 5:00 PM – SAN DIEGO MARRIOTT MARQUIS & MARINA, MARRIOTT HALL 4 (NORTH TOWER)

***Invitation only: All ASBMB Graduate/Postdoctoral and Graduate Minority Travel Award recipients must attend.***

*Speaker:* H. E. Hamm, Vanderbilt Univ.

*Title:* Composing a Life

**GRADUATE/POSTDOCTORAL TRAVEL AWARD POSTER SESSION**

FRI. 6:30 PM – SAN DIEGO MARRIOTT MARQUIS & MARINA, MARRIOTT HALL 3 (NORTH TOWER)

***Invitation only: All ASBMB Graduate/Postdoctoral and Graduate Minority Travel Award recipients must attend.***

**FOSTERING PARTNERSHIPS BETWEEN COLLEGES, UNIVERSITIES AND K-12 SCHOOLS WORKSHOP**

SAT. 9:00 AM – SAN DIEGO MARRIOTT MARQUIS & MARINA, SANTA ROSA (SOUTH TOWER)

***Advance registration required.***

**ASBMB GRADUATE AND POSTDOCTORAL  
PROFESSIONAL DEVELOPMENT PROGRAM**

SAT. 9:00 AM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, MARRIOTT HALL 4  
(NORTH TOWER)

*Advance registration required for non-ASBMB  
travel award recipients. All ASBMB Graduate/  
Postdoctoral and Graduate Minority Travel Award  
recipients must attend.*

**POWERING UP! ASBMB ANNUAL MEETING  
ORIENTATION FOR UNDERGRADUATES**

SAT. 11:30 AM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, ATLANTA ROOM  
(NORTH TOWER, NEXT TO  
MARRIOTT HALL 1)

**THE BATTLE! ASBMB 16TH ANNUAL  
UNDERGRADUATE STUDENT RESEARCH  
POSTER COMPETITION**

SAT. 1:00 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, MARRIOTT  
HALL 3 (NORTH TOWER)

*Advance registration required to compete.*

**FIND YOUR SUPER MATCH! CAREER  
SPEED “DATING” FOR UNDERGRADUATES**

SAT. 4:45 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, SAN DIEGO BALLROOM A  
(NORTH TOWER)

**ASBMB OPENING LECTURE: HERBERT  
TABOR/JOURNAL OF BIOLOGICAL  
CHEMISTRY LECTURESHIP**

SAT. 6:00 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, MARRIOTT HALL 4  
(NORTH TOWER)

*Speaker: S. Kornfeld, Washington Univ. in St. Louis*

*Title: Oligosaccharides as Recognition Molecules —  
A Coming of Age*

**ASBMB OPENING RECEPTION**

SAT. – SAN DIEGO MARRIOTT MARQUIS & MARINA,  
MARRIOTT HALL 3  
(NORTH TOWER)

*Immediately follows Opening Lecture*

**ASBMB 5K FUN RUN/WALK**

SUN. – 7:00 AM – EMBARCADERO (BEHIND HARBOR  
HOUSE RESTAURANT, SEAPORT  
VILLAGE)

*Advance registration required. Held rain or shine.*

**BREKKE FOR NEXT GENS:  
UNDERGRADUATES’ BREAKFAST WITH  
KIM ORTH, ASBMB YOUNG INVESTIGATOR  
AWARD LECTURER**

SUN. 7:00 AM – SAN DIEGO CONVENTION CENTER, 11A

*Advance registration required.*

**AVANTI AWARD IN LIPIDS LECTURE**

SUN. 8:30 AM – SAN DIEGO CONVENTION CENTER, 6B

*Speaker: G. M. Carman, Ctr. for Lipid Res. at  
Rutgers Univ.*

*Title: Lipin/Phosphatidic Acid Phosphatase in Lipid  
Metabolism and Cell Physiology*

**ASBMB PLENARY LECTURE**

SUN. 9:05 AM – SAN DIEGO CONVENTION CENTER, 6B

*Speaker: S. L. McKnight, Univ. of Texas  
Southwestern Med. Ctr.*

*Title: Metabolic Specialization of Mouse Embryonic  
Stem Cells*

**ASBMB AWARD FOR EXEMPLARY  
CONTRIBUTIONS TO EDUCATION LECTURE**

SUN. 12:30 PM – SAN DIEGO CONVENTION CENTER, 6B

*Speakers: J. G. Voet, Swarthmore Col. and  
D. Voet, Univ. of Pennsylvania*

*Title: Content in the Educational Era of Process*

**ASBMB UNDERGRADUATE STUDENT  
RESEARCH POSTER COMPETITION  
AWARDS PRESENTATION**

SUN. 12:30 PM – SAN DIEGO CONVENTION CENTER, 6B

*Awards presented during the ASBMB Award for  
Exemplary Contributions to Education Lecture*

**ALICE & C.C. WANG AWARD IN  
MOLECULAR PARASITOLOGY SYMPOSIUM**

SUN. 12:30 PM – SAN DIEGO CONVENTION CENTER, 6C

*Speaker:* E. Ullu, *Yale Univ. Sch. of Med.*

*Title:* The RNA Interference Pathway from a  
Trypanosome Point of View

**WORKSHOP ON LIPID MAPS LIPIDOMICS  
TOOLS**

SUN. 12:30 PM – SAN DIEGO CONVENTION CENTER, 11A

**TEACHING SESSION WITH STUART  
KORNFELD: MODELING THE MOLECULAR  
MACHINERY OF THE PROTEIN  
TRAFFICKING PATHWAY**

SUN. 1:30 PM – SAN DIEGO CONVENTION CENTER, 6B

**ASBMB-MERCK AWARD LECTURE (2011)**

SUN. 2:55 PM – SAN DIEGO CONVENTION CENTER, 6B

*Speaker:* C. Guthrie, *UCSF*

*Title:* The Spliceosome Is a Dynamic RNP Machine

**WILL COMBINED MD-PHD TRAINING  
MAKE ME TWICE AS SUCCESSFUL?**

SUN. 3:45 PM – SAN DIEGO CONVENTION CENTER, 1B

**ASBMB BUSINESS MEETING**

SUN. 6:15 PM – SAN DIEGO CONVENTION CENTER, 11A

**WELCOME NETWORKING MIXER**

*(Sponsored by the ASBMB Minority Affairs Committee)*

SUN. 6:30 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, MARINA BALLROOM D  
(SOUTH TOWER)

**BREKKE FOR NEXT GENS:  
UNDERGRADUATES' BREAKFAST WITH  
MERCK AWARD LECTURER, BETTIE SUE  
MASTERS**

MON. 7:00 AM – SAN DIEGO CONVENTION CENTER, 11A

*Advance registration required.*

**EARL & THRESSA STADTMAN SCHOLAR  
AWARD LECTURE**

MON. 8:30 AM – SAN DIEGO CONVENTION CENTER, 6B

*Speaker:* D. Sabatini, *HHMI/MIT*

*Title:* Control of Growth by the mTOR Pathway

**ASBMB-MERCK AWARD LECTURE (2012)**

MON. 9:05 AM – SAN DIEGO CONVENTION CENTER, 6B

*Speaker:* X. Wang, *Natl. Inst. of Biol. Sci., Beijing*

*Title:* Dissecting Cellular Necrosis Pathways

**AVANTI YOUNG INVESTIGATOR AWARD  
LECTURE**

MON. 9:55 AM – SAN DIEGO CONVENTION CENTER, 6A

*Presented within the symposium, Metabolic  
Branchpoints/Lipid Channeling*

*Speaker:* P. Espenshade, *Johns Hopkins Univ. Sch.  
of Med.*

*Title:* Fungal SREBPs: Hypoxic Transcription  
Factors Required for Pathogenesis

**LIPID DROPLETS: BASIC WORKING  
PRINCIPLES WORKSHOP**

MON. 12:30 PM – SAN DIEGO CONVENTION CENTER, 11A

**EFFECTIVELY COMMUNICATING YOUR  
SCIENCE, ASBMB PUBLIC POLICY SESSION**

MON. 12:30 PM – SAN DIEGO CONVENTION CENTER, 6B

**RUTH KIRSCHSTEIN DIVERSITY IN  
SCIENCE AWARD LECTURE**

MON. 2:55 PM – SAN DIEGO CONVENTION CENTER, 6B

*Speaker:* L. Jones, *Univ. of Texas MD Anderson and  
Univ. of Houston*

*Title:* Changing the Course of America through  
Mentoring

**ASBMB THEMATIC FERMENTATION HOUR**

MON. 6:00 PM – SAN DIEGO CONVENTION CENTER,  
WEST TERRACE (FACING THE BAY)

*A networking happy hour for biochemists and  
molecular biologists.*

### **ASBMB POETRY CONTEST READING**

MON. 7:00 PM – SAN DIEGO CONVENTION CENTER,  
6A LOBBY

### **ASBMB BREWING SCIENCE, “TWEET AND MEET”**

MON. 7:30 PM – MISSION BREWERY, 1441 L STREET

### **DELANO AWARD FOR COMPUTATIONAL BIOSCIENCES LECTURE**

TUE. 8:30 AM – SAN DIEGO CONVENTION CENTER, 6B

*Speaker:* B. Honig, *HHMI/Columbia Univ.*

*Title:* Physical Principles Underlying Cadherin-Mediated Cell-Cell Recognition

### **WILLIAM C. ROSE AWARD LECTURE**

TUE. 9:05 AM – SAN DIEGO CONVENTION CENTER, 6B

*Speaker:* S. Marqusee, *Univ. of California, Berkeley*

*Title:* Touring the Protein Energy Landscape: The View Depends on Where and How You Look

### **WORK LIFE BALANCE: A PROFESSIONAL DEVELOPMENT WORKSHOP FOR STUDENTS, POSTDOCS AND JUNIOR FACULTY**

TUE. 12:30 PM – SAN DIEGO CONVENTION CENTER, 11A

*Advance registration required.*

### **ASBMB YOUNG INVESTIGATOR AWARD LECTURE**

TUE. 2:55 PM – SAN DIEGO CONVENTION CENTER, 6B

*Speaker:* K. Orth, *Univ. of Texas Southwestern Med. Ctr.*

*Title:* Black Spot, Black Death, Black Pearl: The Tales of Bacterial Effectors

### **ASBMB WOMEN SCIENTISTS’ NETWORKING EVENT/RECEPTION**

TUE. 6:00 PM – SAN DIEGO CONVENTION CENTER, 11A

### **HERBERT A. SOBER LECTURESHIP**

WED. 9:00 AM – SAN DIEGO CONVENTION CENTER, 6B

*Speaker:* P. Farnham, *Univ. of Southern California*

*Title:* Using Genomic Technologies to Investigate Transcriptional Regulation in Normal and Cancer Cells

## **NUTRITION (ASN)**

*Please see pages 498-520 for a complete listing of the special functions and ancillary functions.*

### **ASN OFFICE AND MEMBER SERVICES CENTER**

SAN DIEGO HILTON BAYFRONT, 302

SAT. – TUE. 9:00 AM – 1:00 PM; 3:00 PM – 6:00 PM

WED. 8:00 AM – 11:00 AM

### **ASN MEMBER AND ATTENDEE LOUNGE**

SAN DIEGO CONVENTION CENTER, 30E

SAT. – TUE. 7:30 AM – 5:30 PM

*(Supported by Kraft Foods)*

### **ASN BOOKSTORE**

SAN DIEGO CONVENTION CENTER, BETWEEN BALLROOM 20D AND CENTER TERRACE

SAT. – TUE. 7:30 AM – 5:30 PM

### **COUNCIL MEETINGS AND HIGHLIGHTS**

*(Listed in chronological order.)*

#### **Nutritional Sciences Council Business Meeting and Breakfast**

SAT. 7:00 AM – SAN DIEGO HILTON BAYFRONT, 310

#### **Medical Nutrition Council Business Meeting**

SAT. 1:30 PM – SAN DIEGO HILTON BAYFRONT, 313

**International Nutrition Council Business Meeting, Poster Competition and The Kellogg Prize in International Nutrition Research Lecture**

MON. 6:00 PM – SAN DIEGO HILTON BAYFRONT, 306

*Lecturer: J. Haas*

*(Supported by an educational grant from the Kellogg Company)*

**International Nutrition Council Reception**

MON. 8:00 PM – SAN DIEGO HILTON BAYFRONT, 308

**RESEARCH INTEREST SECTIONS (RIS) MEETINGS AND HIGHLIGHTS**

*(Listed in chronological order.)*

**CARIG Annual Symposium**

FRI. 1:00 PM – SAN DIEGO HILTON BAYFRONT, INDIGO BALLROOM C

**CARIG/VARIG Social and Poster Competition**

FRI. 6:30 PM – SAN DIEGO HILTON BAYFRONT, INDIGO BALLROOM B

**RIS Chairs Luncheon *(By invitation only.)***

SAT. 12:00 PM – SAN DIEGO HILTON BAYFRONT, 310

**Nutrition Immunology Business Meeting**

SAT. 4:00 PM – SAN DIEGO HILTON BAYFRONT, 505

**Energy and Macronutrient Metabolism “Hot Topics” Seminar and Business Meeting**

SAT. 5:00 PM – SAN DIEGO HILTON BAYFRONT, 304

**Joint-Reception and Poster Competition: Dietary Bioactive Components, Nutrient-Gene Interactions, and Vitamins and Minerals**

SAT. 5:00 PM – SAN DIEGO CONVENTION CENTER, 20B/C

*After the joint reception, each Research Interest Section will hold an individual business meeting, beginning at 7:00 PM.*

**Community and Public Health Nutrition Business Meeting**

SAT. 5:30 PM – SAN DIEGO CONVENTION CENTER, 33C

**Experimental Animal Nutrition Poster Competition and Business Meeting**

SAT. 6:00 PM – SAN DIEGO CONVENTION CENTER, 24

**Energy and Macronutrient Metabolism Reception and Poster Competition**

SAT. 6:30 PM – SAN DIEGO HILTON BAYFRONT, 306B

**Dietary Bioactive Components Business Meeting**

SAT. 7:00 PM – SAN DIEGO CONVENTION CENTER, 25A

**Nutrient-Gene Interactions Business Meeting**

SAT. 7:00 PM – SAN DIEGO CONVENTION CENTER, 22

**Vitamins and Minerals RIS Business Meeting**

SAT. 7:00 PM – SAN DIEGO CONVENTION CENTER, 25B

**Diet and Cancer Business Meeting, Poster Competition, and Reception**

SUN. 12:00 PM – SAN DIEGO CONVENTION CENTER, 33A

**Obesity Business Meeting and Student Research Poster Competition**

SUN. 12:00 PM – SAN DIEGO CONVENTION CENTER, 33B

**Nutrition Education Professional Development and Mentorship Luncheon**

SUN. 12:30 PM – SAN DIEGO CONVENTION CENTER, 14A

**Nutrition Epidemiology Business Meeting**

MON. 8:30 AM – SAN DIEGO CONVENTION CENTER, 33A

**Nutrition Translation Business Meeting and Networking Mixer**

MON. 12:30 PM – SAN DIEGO CONVENTION CENTER, 33A

**Nutrition Education Business Meeting**

MON. 5:00 PM – SAN DIEGO CONVENTION CENTER, 33C

**Aging and Chronic Disease Business Meeting**

MON. 5:30 PM – SAN DIEGO CONVENTION CENTER, 33A

**Lactation and ISRHML Business Meeting and Luncheon**

TUES. 12:00 PM – SAN DIEGO HILTON BAYFRONT, 310

## SPECIAL SESSIONS AND HIGHLIGHTS

*(Listed in chronological order.)*

### **Industry Forum**

FRI. 5:30 PM – SAN DIEGO HILTON BAYFRONT

*Immediately followed by a reception and dinner off-site.*

### **Reception for Partners and Leaders**

*(By invitation only.)*

FRI. 7:00 PM – SAN DIEGO WINE AND CULINARY  
EVENT CENTER

### **First-time Attendee and New Member Orientation**

SAT. 2:00 PM – SAN DIEGO CONVENTION CENTER, 33C

*(Organized by the Membership Committee)*

### **Reception for Membership and University Mixer**

SAT. 8:00 PM – SAN DIEGO HILTON BAYFRONT,  
SAPPHIRE BALLROOM DHLP

### **Graduate Student Breakfast**

SUN. 6:45 AM – SAN DIEGO HILTON BAYFRONT, 304

*(Supported by an educational grant from the National Dairy Council)*

*(Organized by the Student Interest Group)*

### **Presidential Symposium: Nutrition and the Human Gut Microbiome: Seeking a Global Perspective**

SUN. 10:30 AM – SAN DIEGO CONVENTION CENTER,  
BALLROOM 20D

*(Supported by an educational grant from the Danone Institute International)*

### **Meet the ASN Editors**

SUN. 12:45 PM – SAN DIEGO CONVENTION CENTER, 32B

*Advanced registration required for this event*

### **Awards Ceremony**

SUN. 6:00 PM – SAN DIEGO HILTON BAYFRONT,  
INDIGO BALLROOM A/E

### **Event for Young Professionals and Postdocs**

SUN. 7:00 PM – SAN DIEGO HILTON BAYFRONT, 311

*(Organized by the Young Professional Interest Group)*

### **Department Heads Breakfast**

MON. 7:00 AM – SAN DIEGO HILTON BAYFRONT, 310

*(Supported by an educational grant from the Kellogg Company)*

### **Student Interest Group (SIG) Meet the Fellows**

MON. 10:30 AM – SAN DIEGO HILTON BAYFRONT, 310

### **Fellows, 50-Year Members, and Past Presidents Luncheon *(By ticket only.)***

MON. 11:30 AM – SAN DIEGO HILTON BAYFRONT, 304

### **E. V. McCollum Lecture**

MON. 12:45 PM – SAN DIEGO CONVENTION CENTER,  
BALLROOM 200

*Lecturer: L. H. Allen*

### **Society Annual Business Meeting**

MON. 5:30 PM – SAN DIEGO CONVENTION CENTER, 31

### **Speed Mentoring for Students**

MON. 7:30 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, MARRIOTT HALL 1

*(Organized by the Student Interest Group (SIG) and the Young Professional Interest Group (YPIG))*

### **ASN Journal Reception**

*(By invitation only.)*

MON. 7:30 PM – 9:30 PM – ROY'S RESTAURANT  
333 WEST HARBOR DRIVE  
SAN DIEGO, CA 92101

### **MINORITY AFFAIRS COMMITTEE MARC TRAVEL AWARDEES POSTER SESSION AND NETWORKING BREAKFAST**

TUES. 7:00 AM – SAN DIEGO CONVENTION CENTER, 33A

### **W.O. Atwater Memorial Lecture**

TUES. 12:45 PM – SAN DIEGO CONVENTION CENTER 20D

*Lecturer: J. O. Hill*

***ARS W. O. Atwater Memorial Lecture Reception to follow event at 1:00 PM.***

*(Supported by an educational grant from the USDA, Beltsville)*

### **SATELLITE SYMPOSIA**

*(Listed in chronological order.)*

#### **The Global Nutrition Transition: The Role of Lipid Supplementation**

*(Organized and supported by Herbalife Nutrition Institute)*

FRI. 8:30 AM – SAN DIEGO HILTON BAYFRONT, INDIGO BALLROOM H

#### **What Do We Really Know about Whole Foods Digestibility and Energy Values?**

*(Organized and sponsored by the Almond Board of California)*

FRI. 1:00 PM – SAN DIEGO HILTON BAYFRONT, INDIGO BALLROOM G

#### **Proteins as Beneficial Ingredients in Fortified Blended Foods: What Food Aid Studies Are Needed?**

*(Organized and sponsored by Solae, LLC)*

SAT. 6:30 AM – SAN DIEGO CONVENTION CENTER, 30A/B

### **GUEST SOCIETY HIGHLIGHTS**

*(Listed in chronological order.)*

#### **ASN/ILSI North America Symposium on Energy Balance: A New Paradigm**

Guest Society: ILSI North America

SAT. 8:00 AM – SAN DIEGO CONVENTION CENTER, 20D

#### **PhenHRIG 2012 Symposium: The Human Microbiome and Formation of Bioactive Flavonoid Metabolites**

Guest Society: PhenHRIG

SAT. 1:00 PM – SAN DIEGO CONVENTION CENTER, 30 A/B

#### **Global Synergies for Food and Health: KNS & Foodopolis (Korean National Food Cluster) Presentations**

MON. 6:00 PM – SAN DIEGO HILTON BAYFRONT, 520

#### **KNS Korean Scientists Night**

*(Supported by Foodopolis)*

MON. 7:00 PM – SAN DIEGO HILTON BAYFRONT, 500

#### **Clinical Nutrition Update 2012**

*(Cosponsored by the Academy of Nutrition and Dietetics)*

TUES. 10:30 AM – SAN DIEGO CONVENTION CENTER, 29A/B

## **PATHOLOGY (ASIP)**

#### **BREAST CANCER WORKSHOP: PERSONALIZED MEDICINE & BREAST CANCER**

*(Sponsored by the ASIP Breast Cancer Scientific Interest Group)*

*(Supported by educational grants from Academic Press, California Breast Cancer Research Program and earlier.org-Friends for an Earlier Breast Cancer Test)*

SAT. 8:30 AM – SAN DIEGO CONVENTION CENTER, ROOM 16B

*Chairs: A.G. Rivenbark and W.B. Coleman, Univ. of North Carolina at Chapel Hill*

**COURSE: PATHOBIOLOGY FOR BASIC SCIENTISTS: CELL INJURY AND INFLAMMATION: NEW RIFFS ON A CLASSICAL SCORE**

*(Sponsored by the ASIP Education Committee)*

SAT. 8:30 AM – SAN DIEGO CONVENTION CENTER,  
ROOM 16A

*Chairs:* R.N. Mitchell, *Brigham and Women's Hosp.*  
and Martha B. Furie, *Stony Brook Univ.*

**12TH ANNUAL WORKSHOP ON GRADUATE EDUCATION IN PATHOLOGY: GENOMICS AND PERSONALIZED MEDICINE IN THE GRADUATE CURRICULUM**

*(Sponsored by the ASIP Education Committee)*

SAT. 11:30 AM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, CARDIFF

*Chair:* R.N. Mitchell, *Brigham and Women's Hosp.*

**BREAST CANCER SCIENTIFIC INTEREST GROUP NETWORKING AND POSTER SESSION**

*(Sponsored by the ASIP Breast Cancer Scientific Interest Group)*

SAT. 11:45 AM – SAN DIEGO CONVENTION CENTER,  
ROOM 1B

*Chairs:* A.G. Rivenbark and W.B. Coleman, *Univ. of North Carolina at Chapel Hill*

**HIGHLIGHTS: GRADUATE STUDENT RESEARCH IN PATHOLOGY**

*(Sponsored by the ASIP Committee for Career Development, Women and Minorities)*

SAT. 1:30 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 15B

*Chairs:* D. Bielenberg, *Harvard Med. Sch./Children's Hosp.* and K. Kolegraff, *Emory Univ.*

**ASIP EXCELLENCE IN SCIENCE AWARD LECTURE**

*(Presented during: ASIP Highlights: Graduate Student Research in Pathology – 1:30 PM – 4:00 PM)*

SAT. 3:35 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 15B

*Awardee:* E. B. Lee, *Univ. of Pennsylvania*

*Title:* Mechanisms of TDP-43 Mediated Neurodegeneration in ALS and FTL D

**ASIP TRAINEE WELCOME RECEPTION**

SAT. 4:00 PM – SAN DIEGO CONVENTION CENTER, 15A

**ASIP OUTSTANDING INVESTIGATOR AWARD LECTURE**

SAT. 5:00 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 16A

*Awardee:* K. Elenitoba-Johnson, *Univ. of Michigan*

*Title:* Lost in Ubiquitination, Found by Mass Spectrometry: Identification of E3 Ligase Substrates Controlling Critical Cellular Events and Cancer

**CAREER DEVELOPMENT WORKSHOP AND BREAKFAST: GETTING YOUR DREAM JOB: PREPARING YOUR CV AND MANAGING YOUR INTERVIEW**

*(Sponsored by the ASIP Committee for Career Development, Women and Minorities)*

*(Supported by educational grants from the FASEB Minority Access to Research Careers (MARC) Office and the Intersociety Council for Pathology Information)*

SUN. 7:00 AM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, LAGUNA

*Chairs:* R. Barrios, *Methodist Hosp. Syst.* and T. Sander, *Children's Hosp. of Wisconsin*



**12TH ANNUAL CAREER DEVELOPMENT PROGRAM & LUNCH: FUNDAMENTAL BASICS FOR SUCCESS: HOW TO WRITE AWARD-WINNING GRANTS**

*(Special registration required to attend this event.)*

*(Sponsored by the ASIP Committee for Career Development, Women and Minorities and the American Association of Anatomists)*

*(Supported by an educational grant from the FASEB Minority Access to Research Careers (MARC) Office)*

SUN. 11:45 AM – SAN DIEGO MARRIOTT MARQUIS & MARINA, PRESIDIO 1/2

*Chairs: T.A. Reaves, Med. Univ. of South Carolina  
J.S. Reuben, Univ. of South Carolina Sch. of Med. – Greenville*

**BLOOD VESSEL CLUB: VASCULAR DEVELOPMENT**

SUN. 2:00 PM – SAN DIEGO CONVENTION CENTER, ROOM 16B

*Chair: D.S. Milstone, Brigham and Women's Hosp.*

**ROUS-WHIPPLE AWARD LECTURE**

SAT. 5:00 PM – SAN DIEGO CONVENTION CENTER, ROOM 16B

*Awardee: P. D'Amore, Schepens Eye Res. Inst./ Harvard Med. Sch.*

*Title: The Many Roles of VEGF in the Adult*

**CLUB HEPATOMANIA**

*(Sponsored by the ASIP Liver Pathobiology Scientific Interest Group)*

SUN. 6:30 PM – SAN DIEGO MARRIOTT MARQUIS & MARINA, TORREY PINES 2/3

*Chairs: S. P. Mongan and K. Nejak-Bowen, Univ. of Pittsburgh Sch. of Med.*

**DER SCHADENKLUB – CELL INJURY SCIENTIFIC INTEREST GROUP NETWORKING RECEPTION/POSTER SESSION**

*(Sponsored by the ASIP Cell Injury Scientific Interest Group)*

SUN. 6:30 PM – SAN DIEGO MARRIOTT MARQUIS & MARINA, MARINA BALLROOM – SALON E

*Chairs: C.C. Yates-Binder, Univ. of Pittsburgh Sch. of Med. and M.S. Willis, Univ. of North Carolina at Chapel Hill*

**ASIP COTRAN EARLY CAREER INVESTIGATOR AWARD LECTURE**

MON. 8:30 AM – SAN DIEGO CONVENTION CENTER, ROOM 16A

*Awardee: A. Ivanov, Univ. of Rochester Sch. of Med. and Dent.*

*Title: Molecular Engines that Build and Break Epithelial Barriers*

**STOWELL SYMPOSIUM: TRENDS IN EXPERIMENTAL PATHOLOGY: METABOLISM & CANCER**

*(Cosponsored by the Italian Pathology Society)*

*(Supported by an educational grant from the Robert E. Stowell Endowment Fund)*

MON. 9:30 AM – SAN DIEGO CONVENTION CENTER, ROOM 16A

*Chairs: S. Andò, Univ. degli studi della Calabria  
A. Mantovani, Univ. of Milan*

**LUNCH & LEARN: BEST PRACTICES OF BIOBANKING & SPECIMEN COLLECTION**

*(Sponsored by the ASIP Education Committee)*

MON. 12:45 PM – SAN DIEGO CONVENTION CENTER, ROOM 14A

*Chairs: W. Mars, Univ. of Pittsburgh Sch. of Med.,  
T. Sander, Children's Hosp. of Wisconsin*

**VETERINARY PATHOLOGY SCIENTIFIC  
INTEREST GROUP LUNCH/NETWORKING  
SESSION**

*(Sponsored by the ASIP Veterinary Pathology  
Scientific Interest Group)*

MON. 12:45 PM – SAN DIEGO CONVENTION CENTER,  
SAILS PAVILION

*Chairs:* M. McArthur, *Univ. of Texas MD Anderson  
Cancer Ctr.*  
E. Whitley, *Iowa State Univ.*  
D. Hutto, *Eisai, Inc.*  
E. Galbreath, *Lilly Res. Labs.*

**ASIP PRESIDENTIAL SYMPOSIUM:  
PATHOGEN-HOST INTERACTIONS:  
PROVOKING AND EVADING THE IMMUNE  
RESPONSE**

MON. 2:00 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 16A

*Chair:* M.B. Furie, *Stony Brook Univ.*

**ASIP BUSINESS MEETING AND AWARDS  
PRESENTATION**

MON. 5:00 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 16A

*Chair:* M.B. Furie, *Stony Brook Univ.*

**EXPERIMENTAL PATHOLOGIST-IN-  
TRAINING AWARD**

*Recipient:* R.M. Sumagin, *Emory Univ.*

**EXPERIMENTAL PATHOLOGIST-IN-  
GRADUATE TRAINING AWARD**

*Recipient:* J.D. Jones, *Tuskegee Univ.*

**POSTDOCTORAL MERIT AWARD**

*Recipient:* M.Schnoor, *Max-Planck Inst. for Molec.  
Biomed.*

**PREDOCTORAL MERIT AWARDS**

*Recipients:* D.A. Geem, *Emory Univ. Sch. of Med.*  
P.K. Awuah, *Univ. of Pittsburgh*

**EXCELLENCE IN SCIENCE AWARD**

*Recipient:* E.B. Lee, *Univ. of Pennsylvania*

**OUTSTANDING INVESTIGATOR AWARD**

*Recipient:* K.Elenitoba-Johnson, *Univ. of Michigan*

**COTRAN EARLY CAREER  
INVESTIGATOR AWARD**

*Recipient:* A. Ivanov, *Univ. of Rochester Sch. of  
Med. and Dent.*

**ROUS-WHIPPLE AWARD**

*Recipient:* P.D'Amore, *Schepens Eye Res. Inst./  
Harvard Med. Sch.*

**ROBBINS DISTINGUISHED EDUCATOR  
AWARD**

*Recipient:* P. G. Anderson, *Univ. of Alabama at  
Birmingham Med. Ctr.*

**GOLD-HEADED CANE AWARD**

*Recipient:* Frederick F. Becker, *Univ. of Texas MD  
Anderson Cancer Ctr.*

**ASIP AWARDS RECEPTION**

MON. 6:00 PM – SAN DIEGO CONVENTION CENTER,  
MEZZANINE FOYER

**SCIENTIFIC SLEUTHING OF HUMAN  
DISEASE FOR HIGH SCHOOL TEACHERS**

*(Sponsored by the ASIP Education Committee)*

*(Supported by an educational grant from the  
Intersociety Council for Pathology Information)*

TUE. 8:30 AM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, DEL MAR

*Chairs:* M.B. Furie, *Stony Brook Univ.*  
K. Nejak-Bowen, *Univ. of Pittsburgh Sch.  
of Med.*

**NEUROPATHOLOGY SCIENTIFIC INTEREST  
GROUP LUNCH/NETWORKING SESSION**

*(Sponsored by the ASIP Neuropathology Scientific  
Interest Group)*

TUE. 11:45 AM – SAN DIEGO CONVENTION CENTER,  
ROOM 33A

*Chairs:* C.A.Wiley, *Univ. of Pittsburgh Sch. of Med.*  
C.L. Kolarcik, *Univ. of Pittsburgh*

**ENDOTHELIAL AND EPITHELIAL  
CONTRIBUTIONS TO HOMEOSTASIS AND  
THE INFLAMMATORY RESPONSE**

*(Sponsored by the Inflammation/Immunopathology  
and Mucosal Pathobiology Scientific Interest  
Groups)*

TUE. 5:30 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, DEL MAR

*Chairs:* F.W. Luscinikas, *Brigham and Women's  
Hosp.*

A.S. Neish, *Emory Univ.*

A. Nusrat, *Emory Univ.*

**PHARMACOLOGY  
AND EXPERIMENTAL  
THERAPEUTICS (ASPET)**

**2012 TEACHING INSTITUTE: THE USE  
OF SOCIAL MEDIA IN PHARMACOLOGY  
EDUCATION**

SAT. 12:00 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 3

*Chair:* L. Crespo, *Greenville Hosp. Syst.*

**GRADUATE STUDENT COLLOQUIUM:  
COMMUNICATION**

SAT. 2:45 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 2

*Chairs:* L. Schrott, *LSU Univ. Hlth. Sci. Ctr.,  
Shreveport*

J.S. Fedan, *NIOSH, Morgantown, WV*

M.J. Seminerio, *West Virginia Univ.*

**ASPET BUSINESS MEETING**

SAT. 6:00 PM – SAN DIEGO CONVENTION CENTER,  
BALLROOM 20 D

***Awards to be presented:***

**Julius Axelrod Award**

G. W. Pasternak, *Mem. Sloan-Kettering Cancer Ctr.*

**John J. Abel Award**

J. Zhang, *Johns Hopkins Univ. Sch. of Med.*

**Bernard B. Brodie Award in Drug Metabolism**

Y. Sugiyama, *Univ. of Tokyo*

**P.B. Dews Lifetime Achievement Award for  
Research in Behavioral Pharmacology**

J.E. Barrett, *Drexel Univ. Col. of Med.*

**Goodman & Gilman Award in Receptor  
Pharmacology**

V.C. Jordan, *Georgetown Univ. Med. Ctr.*

**Pharmacia-ASPET Award for Experimental  
Therapeutics**

A.H. Brodie, *Univ. of Maryland Sch. of Med.*

**Robert R. Ruffolo Career Achievement Award**

R.J. Lefkowitz, *Duke Univ. Med. Ctr.*

**PHRMA FOUNDATION AWARDS**

**Award in Excellence in Pharmacology &  
Toxicology**

M.L. Dubocovich, *Univ. at Buffalo*

**Research Starter Grants in Pharmacology &  
Toxicology**

S. Ajit, *Drexel Univ. Col. of Med.*

P. Ronaldson, *Univ. of Arizona*

T. Salisbury, *Marshall Univ. Sch. of Med.*

**Postdoctoral Fellowships in Pharmacology &  
Toxicology**

U. Chu, *Univ. of Wisconsin-Madison*

**Predocctoral Fellowships in Pharmacology &  
Toxicology**

S. Nowinski, *Univ. of Texas at Austion*

J. Park, *Univ. of California, Irvine*

C. Ulrich, *Univ. of Nevada, Reno*

**OPENING AND AWARDS RECEPTION**

SAT. 7:30 PM – SAN DIEGO CONVENTION CENTER,  
CENTER TERRACE

### **WIP INTO SHAPE NETWORKING WALK**

SUN. 7:00 AM – SAN DIEGO MARRIOTT MARQUIS & MARINA, MEET AT THE CONCIERGE DESK

### **DIVERSITY COMMITTEE MENTORING BREAKFAST**

SUN. 7:30 AM – SAN DIEGO MARRIOTT MARQUIS & MARINA, ANAHEIM

### **GRADUATE STUDENT – POSTDOC BEST ABSTRACT COMPETITION**

SUN. 6:30 PM – SAN DIEGO MARRIOTT MARQUIS & MARINA, MARRIOTT HALL 3/4

Presenters should arrive at 5:00 PM.

### **JULIUS AXELROD LECTURE**

SUN. 2:00 PM – SAN DIEGO CONVENTION CENTER, ROOM 2

*Speaker:* E. Sanders-Bush, *Vanderbilt Univ. Sch. of Med.*

*Title:* From Farm to Pharm: A Journey with Serotonin

### **JULIUS AXELROD SYMPOSIUM: NOVEL INSIGHTS INTO THE REGULATION OF SEROTONIN FUNCTION**

SUN. 3:00 PM – SAN DIEGO CONVENTION CENTER, ROOM 2

*Chair:* E. Sanders-Bush, *Vanderbilt Univ. Sch. of Med.*

### **P.B. DEWS LIFETIME ACHIEVEMENT AWARD FOR RESEARCH IN BEHAVIORAL PHARMACOLOGY LECTURE**

MON 2:00 PM – SAN DIEGO CONVENTION CENTER, ROOM 2

*Speaker:* J. Barrett, *Drexel Univ. Sch. of Med.*

*Title:* Drugs of Abuse: Behavioral Determinants of Pharmacological Plasticity

### **BERNARD B. BRODIE AWARD IN DRUG METABOLISM LECTURE**

MON. 2:00 PM – CONVENTION CENTER, ROOM 3

*Speaker:* Y. Sugiyama, *Univ. of Tokyo*

*Title:* Drug Transporters: Roles in New Drug Discovery and Development

### **JOHN J. ABEL LECTURE**

TUE. 8:30 AM – SAN DIEGO CONVENTION CENTER, ROOM 2

*Speaker:* J. Zhang, *Johns Hopkins Univ. Sch. of Med.*

*Title:* Spatiotemporal Regulation of Protein Kinases in Living Cells

### **PAUL M. VANHOUTTE DISTINGUISHED LECTURE IN VASCULAR PHARMACOLOGY**

TUE. 4:30 PM – SAN DIEGO CONVENTION CENTER, ROOM 2

*Speaker:* R.A. Cohen, *Boston Univ. Sch. of Med.*

*Title:* Nitric oxide in Metabolic Cardiovascular Disease

### **DIVISION BUSINESS MEETINGS & MIXERS**

#### **BEHAVIORAL PHARMACOLOGY DIVISION**

##### **Business Meeting**

MON. 5:45 PM – SAN DIEGO CONVENTION CENTER, ROOM 2

##### **No Mixer**

#### **CARDIOVASCULAR PHARMACOLOGY DIVISION**

##### **Business Meeting**

SUN. 5:45 PM – SAN DIEGO CONVENTION CENTER, ROOM 5B

##### **Mixer**

TUE. 6:00 PM – SAN DIEGO MARRIOTT MARQUIS & MARINA, SANTA ROSA

## **DRUG DISCOVERY, DRUG DEVELOPMENT AND REGULATORY AFFAIRS DIVISION**

### **Business Meeting**

MON. 12:15 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 5B

### **Mixer**

MON. 7:00 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, SOLANA

## **DRUG METABOLISM DIVISION**

### **Business Meeting**

MON. 5:45 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 3

### **Mixer**

TUE. 7:00 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, BALBOA

## **INTEGRATIVE SYSTEMS, TRANSLATIONAL AND CLINICAL PHARMACOLOGY DIVISION**

### **Business Meeting**

MON. 5:45 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 5A

### **Mixer**

MON. 7:00 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, SOLANA

## **MOLECULAR PHARMACOLOGY DIVISION**

### **Business Meeting and Mixer**

MON. 7:00 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, PRESIDIO I/II

## **NEUROPHARMACOLOGY DIVISION**

### **Business Meeting**

TUE. 5:45 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 3

### **Mixer**

TUE. 7:00 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, SOLANA

## **PHARMACOLOGY EDUCATION DIVISION**

### **Business Meeting**

MON. 5:45 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 5B

### **Mixer**

MON. 7:00 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, SOLANA

## **TOXICOLOGY DIVISION**

### **Business Meeting**

TUE. 5:45 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 5A

### **Mixer**

TUE. 7:00 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, BALBOA

## **ASPET CLOSING RECEPTION**

WED. 6:00 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, POOLSIDE TERRACE

## **PHYSIOLOGY (APS)**

### **REFRESHER COURSE IN ENDOCRINOLOGY: DIABETIC COMPLICATIONS**

SAT. 8:00 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 24

### **WORKSHOP: OVERCOMING THE FEAR OF MAKING YOUR OWN TRANSGENIC AND KNOCKOUT MICE**

SAT. 1:00 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 27

### **WORKSHOP: TOOLKIT FOR GENOMIC BIOMARKER DISCOVERY BY PHYSIOLOGISTS**

SAT. 3:15 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 27

**PHYSIOLOGY IN PERSPECTIVE—THE  
WALTER B. CANNON MEMORIAL AWARD  
LECTURE**

SAT. 5:30 PM – SAN DIEGO CONVENTION CENTER,  
BALLROOM 20A

*Speaker:* L.G. Navar, *Tulane Univ. Hlth. Sci. Ctr.*

*Title:* *The Wisdom of the Body Revisited: Tribute  
to Walter B. Cannon and His Concept of  
Homeostasis as Applied to Pathophysiology of  
Hypertension*

**HUGH DAVSON DISTINGUISHED  
LECTURESHIP OF THE APS CELL &  
MOLECULAR PHYSIOLOGY SECTION**

SUN. 10:30 AM – SAN DIEGO CONVENTION CENTER,  
BALLROOM 20A

*Speaker:* M. Knepper, *NHLBI/NIH*

*Title:* *After the Interlude: Cell-Level Systems  
Biology in the 21<sup>st</sup> Century*

**CLAUDE BERNARD DISTINGUISHED  
LECTURESHIP OF THE APS TEACHING OF  
PHYSIOLOGY SECTION**

SUN. 10:30 AM – SAN DIEGO CONVENTION CENTER,  
ROOM 27

*Speaker:* W. Galey, *HHMI, Chevy Chase*

*Title:* *Reflections on the Teaching and Learning  
of Science in the Late 20<sup>th</sup> and Early 21<sup>st</sup>  
Centuries*

**ERNEST H. STARLING DISTINGUISHED  
LECTURESHIP OF THE APS WATER &  
ELECTROLYTE HOMEOSTASIS SECTION**

SUN. 3:30 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 24

*Speaker:* K. Sandberg, *Georgetown Univ.*

*Title:* *The Female Paradox: Resistance and  
Vulnerability in Hypertension and Renal  
Vascular Disease*

**THE HENRY PICKERING BOWDITCH  
MEMORIAL AWARD LECTURE**

SUN. 6:00 PM – SAN DIEGO CONVENTION CENTER,  
BALLROOM 20A

*Speaker:* M. Liang, *Med. Col. of Wisconsin*

*Title:* *microRNAs and Systems Molecular Medicine*

**CARL LUDWIG DISTINGUISHED  
LECTURESHIP OF THE APS NEURAL  
CONTROL & AUTONOMIC REGULATION  
SECTION**

MON. 8:00 AM – SAN DIEGO CONVENTION CENTER,  
BALLROOM 20A

*Speaker:* I.H. Zucker, *Univ. of Nebraska Med. Ctr.*

*Title:* *Sympathetic Nerve Activity in Heart Failure:  
A Critical Role for Central Angiotensin II  
Receptors*

**SOLOMON A. BERSON DISTINGUISHED  
LECTURESHIP OF THE APS  
ENDOCRINOLOGY & METABOLISM  
SECTION**

MON. 10:30 AM – SAN DIEGO CONVENTION CENTER,  
BALLROOM 20A

*Speaker:* M.W. Schwartz, *Harborview Med. Ctr.*

*Title:* *Understanding of Obesity as a Disorder of  
Energy Homeostasis*

**HISTORY OF PHYSIOLOGY GROUP  
BUSINESS MEETING AND LECTURE**

MON. 12:25 PM – SAN DIEGO MARRIOTT MARQUIS &  
MARINA, RANCHO LAS PALMAS

*Speaker:* J.A. Dempsey, *Univ. of Wisconsin-  
Madison*

*Title:* *Lessons in Respiratory Physiology from The  
Oxford:Copenhagen Debate and The three  
Danish Musketeers*

**EDWARD F. ADOLPH DISTINGUISHED  
LECTURESHIP OF THE APS  
ENVIRONMENTAL AND EXERCISE  
PHYSIOLOGY SECTION**

MON. 2:00 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 24

*Speaker:* L. Goodyear, *Harvard Med. Sch.*

*Title:* Exercise Only Affects Muscle? Fat Chance

**CARL W. GOTTSCHALK DISTINGUISHED  
LECTURESHIP OF THE APS RENAL  
SECTION**

MON. 3:30 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 24

*Speaker:* M.J. Caplan, *Yale Univ. Sch. of Med.*

*Title:* Playing in Traffic: Sorting and Signaling in  
Renal Epithelial Cells

**JOSEPH ERLANGER DISTINGUISHED  
LECTURESHIP OF THE APS CENTRAL  
NERVOUS SYSTEM SECTION**

MON. 3:30 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 23

*Speaker:* S.C. Woods, *Univ. of Cincinnati*

*Title:* Peptides, Food Intake and Body Weight:  
Problems of Interpretation

**AUGUST KROGH DISTINGUISHED  
LECTURESHIP OF THE APS COMPARATIVE  
AND EVOLUTIONARY PHYSIOLOGY  
SECTION**

*(Supported by the Novo Nordisk Fndn.)*

TUE. 8:00 AM – SAN DIEGO CONVENTION CENTER,  
ROOM 24

*Speaker:* J.E Hicks, *Univ. of California, Irvine*

*Title:* Tales from the Heart: A Comparative and  
Evolutionary Perspective of the Vertebrate  
Circulatory System

**JULIUS H. COMROE, JR. DISTINGUISHED  
LECTURESHIP OF THE APS RESPIRATION  
SECTION**

TUE. 10:30 AM – SAN DIEGO CONVENTION CENTER,  
ROOM 24

*Speaker:* N.R. Prabhakar, *Univ. of Chicago*

*Title:* Sensing Hypoxia: Physiology, Genetics and  
Epigenetics

**ROBERT M. BERNE DISTINGUISHED  
LECTURESHIP OF THE APS  
CARDIOVASCULAR SECTION**

TUE. 2:00 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 24

*Speaker:* R.M. Touyz, *Ottawa Hosp. Res. Inst.,  
Univ. of Ottawa*

*Title:* Molecular Mechanisms of Hypertension:  
Redox Signaling, Lipid Rafts and TRPMs

**HORACE W. DAVENPORT  
DISTINGUISHED LECTURESHIP OF  
THE APS GASTROINTESTINAL & LIVER  
PHYSIOLOGY SECTION**

TUE. 3:30 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 24

*Speaker:* H.M. Said, *Univ of California, Long  
Beach VA Med. Prog.*

*Title:* Mechanism and Regulation of Intestinal  
Absorption of Water-Soluble Vitamins:  
Cellular and Molecular Aspects

**APS BUSINESS MEETING**

TUE. 6:00 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 20A

## ***GUEST SOCIETIES HIGHLIGHTS***

### **THE MICROCIRCULATORY SOCIETY**

#### **MICROCIRCULATORY SOCIETY LANDIS AWARD LECTURE**

SUN. 3:30 PM – SAN DIEGO CONVENTION CENTER,  
ROOM 23

*Speaker:* R. N. Pittman, *Virginia Commonwealth  
Univ.*

*Title:* Tales from the Microcirculation: Oxygen  
Transport and Its Regulation

### **PHYSIOLOGY InFOCUS: PHYSIOLOGY IN MEDICINE**

#### **SYMPOSIUM: PHYSIOLOGY OF OBESITY, CARDIOMETABOLIC DISEASE AND THERAPEUTIC WEIGHT LOSS**

SUN. 3:30 PM – SAN DIEGO CONVENTION CENTER,  
BALLROOM 20A

#### **SYMPOSIUM: USING PHYSIOLOGY TO TRANSLATE CARDIAC REMODELING AND HEART FAILURE**

MON. 3:30 PM – SAN DIEGO CONVENTION CENTER,  
BALLROOM 20A

#### **SYMPOSIUM: HYPERTENSION AND CHRONIC KIDNEY DISEASES**

TUE. 3:30 PM – SAN DIEGO CONVENTION CENTER,  
BALLROOM 20A

#### **NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE LECTURE**

WED. 3:30 PM — SAN DIEGO CONVENTION CENTER,  
BALLROOM 20A

*Speaker:* O. Smithies, *Univ. of North Carolina at  
Chapel Hill*

*Title:* On Being a Bench Scientist for 50 Years



## ***CONTINUING MEDICAL EDUCATION (CME)***

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This activity (“ASIP 2012 Annual Meeting at Experimental Biology 2012”) has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of the Federation of American Societies for Experimental Biology (FASEB) and the American Society for Investigative Pathology (ASIP). FASEB is accredited by the ACCME to provide continuing medical education for physicians.

The Federation designates this live educational activity for a maximum of 38.5 *AMA PRA Category 1 Credit(s)*<sup>™</sup>. Physicians should only claim credit commensurate with the extent of their participation in the activity.

CME workbooks will be available in the ASIP Office and the EB Meeting Management Office located in the San Diego Convention Center, San Diego, CA and online CME application forms will be available beginning April 21, 2012 on the ASIP website (<http://www.asip.org/mtgs/eb12/cme.cfm>). There is a \$50 CME application fee, payable upon submission of the online CME application. The deadline for submitting a CME application is June 30, 2012. Should you have any questions, contact the ASIP Education Office ([cme@asip.org](mailto:cme@asip.org), 301-634-7130) or the FASEB Office of Scientific Meetings and Conferences ([fasebcme@faseb.org](mailto:fasebcme@faseb.org), 301-634-7010), both located at 9650 Rockville Pike, Bethesda, MD 20814-3998.

### **Sessions Eligible for CME**

The only Society educational component of Experimental Biology 2012 that is eligible for CME credit is the ASIP 2012 Annual Meeting. All ASIP sessions that are summarized on pages lxxx–lxxxi of the Experimental Biology Meeting Book are eligible for CME **except**:

- Session 51: Breast Cancer Scientific Interest Group
- Session 57: ASIP Trainee Welcome Reception
- Session 146: Der Schadenklub - Cell Injury Scientific Interest Group Networking Reception/Poster Session
- Session 278: Veterinary Pathology Scientific Interest Group Lunch/Networking Event
- Session 280: ASIP Membership Business Meeting and Awards Presentation
- Session 281: ASIP Awards Reception
- Session 400: Neuropathology Scientific Interest Group Lunch/Networking Session
- Session 401: ISAMM Symposium: “Advances in Ultrasensitive RNA In Situ Hybridization”
- Session 406: Inflammation/Immunopathology and Mucosal Pathobiology Scientific Interest Groups: “Endothelial and Epithelial Contributions to Homeostasis and the Inflammatory Response”
- Session 403: National Institutes of Health: Programs and Policies Update from Institutes
- Poster viewing in the Exhibit Hall

### **Meeting Objective/Target Audience**

The objective of the ASIP 2012 Annual Meeting at Experimental Biology 2012 is to increase basic and applied pathology knowledge and to provide a forum for the exchange of new research by scientists and investigators. The meeting is designed to support participants’ educational needs in the physician competency area of Medical Knowledge, as defined by the Accreditation Council for Graduate Medical Education (ACGME) and the American Board of Medical Specialties (ABMS). At the completion of this meeting, participants should be able to:

- discuss the research underway and/or the current topics relevant to their areas of interest in pathology;
- demonstrate a gained level of knowledge of the methods and techniques being used by researchers and practitioners in this field; and
- utilize information and data that lead to improvements in human health.

This meeting is targeted to graduate students, postdoctoral fellows, research scientists, clinical practitioners, and medical education professionals.

## **DISCLOSURE POLICY**

The Federation has implemented a process where everyone who is in a position to influence and/or control the content of a CME activity must disclose all relevant financial relationships with any commercial interest and any conflicts of interest must be resolved prior to the CME activity. The Federation requires that participants of FASEB-sponsored educational programs be informed of an organizer's and/or a presenter's (speaker, faculty, author, or contributor) academic and professional affiliation and the existence of any relevant financial relationship a presenter has with any proprietary entity producing health care goods or services consumed by, or used on patients, with the exemption of non-profit or government organizations and non-health care related companies. The intent of this disclosure is not to prevent a speaker from making a presentation. This policy allows the listener/attendee to be fully knowledgeable in evaluating the information being presented.

Disclosure includes any relationship that may bias the planning of the CME activity or may bias one's presentation or which, if known, could give the perception of bias. These situations may include, but are not limited to: 1) stock options or bond holdings in a for-profit corporation or self-directed pension plan; 2) research grants; 3) employment (full or part-time); 4) ownership or partnership; 5) consulting fees or other remuneration; 6) non-remunerative positions of influence such as officer, board member, trustee, or public spokesperson; 7) receipt of royalties; 8) speaker's bureau; 9) other. For full-time employees of industry or government, the affiliation listed in the Program will constitute full disclosure.

## **Organizing Committee Disclosures**

The ASIP Program Committee was responsible for organizing the majority of the Annual Meeting program. In addition, the ASIP Meritorious Awards Committee selected award winners who are presenting lectures at the ASIP Annual Meeting. The Education Committee planned the Pathobiology Course for Basic Scientists: Cell Injury and Inflammation, the 12<sup>th</sup> Annual Workshop on Graduate Education in Pathology: Genomics, the Lunch & Learn session: Best Practices of Biobanking and Specimen Collection, and the Special Session: Scientific Sleuthing of Human Diseases for High School Teachers. The ASIP Committee for Career Development, Women and Minorities (CCDWM) planned the Career Development Workshop and Breakfast: Getting Your Dream Job and the 12<sup>th</sup> Annual Career Development Program and Lunch: Fundamental Basics for Success: How to Write Award-Winning Grant Proposals. Several members of these organizing committees indicated a relationship that could be perceived by some as a real or apparent conflict of interest in planning the CME activity. The disclosures have been reviewed and conflicts of interest resolved or managed.

- Elizabeth Galbreath (CCDWM and Meritorious Awards Committees) was an employee of and may receive stock options from Eli Lilly and Company during some of the planning of this meeting and is currently an employee of and may receive stock options from her current employer Amgen.
- Nicholas Lukacs (Program Committee) is the recipient of research grants from Carolus, Centocor, and Johnson & Johnson.
- Satdarshan (Paul) Monga receives consulting fees from ImClone Therapeutics.
- Andrew Neish (Program Committee) received consulting fees from Danone Corporation.
- Jerrold Turner (Meritorious Awards Committee) received consulting fees from Agennix.

## Continuing Medical Education (CME)

### Invited Speaker Disclosures

The following presenters in the ASIP oral sessions have indicated a relationship that, in the context of their presentation, could be perceived by some as a real or apparent conflict of interest but do not consider that it will influence their presentation. The disclosures have been reviewed and conflicts of interest resolved or managed. The number following each company name represents the specific relationship from the list above. If an organizer or a presenter is not listed, then he/she did not disclose a relevant financial relationship.

Bhattacharya, J.; Chromocell - 5

Duncan, S.; Primorigen Biosciences - 7

Galbreath, E.; Amgen - 1, 3; Eli Lilly and Company - 1, 3

Garrett, W.; Groupe Danone - 2

Greenbaum, L.; Johnson & Johnson - 3; 9 (spouse employment)

Hogan, M.; IntegenX - 3, 5; Novartis - 2, 5; Genentech - 5; Merck - 5

Lu, S.; Abbott International - 5, 6

Lukacs, N.; Carolus - 2; Centecor - 2; Johnson & Johnson - 2

Madabhushi, A.; IbRis, Inc. - 1, 4; VacuVis, Inc. - 1, 4; Siemens Corporation Research - 2; GE - 2; Riverside Research Institute - 2

Mantovani, A.; Sigma-Tau - 2

Serhan, C.; Resolvix Pharmaceuticals - 1, 9 (patents); Bayer Health Care - 7, 9 (patents)

Symmans, W.; Nuvera Biosciences, Inc. - 1, 7

Tsongalis, G.; Abbott-Vysis - 2, 5; Primera Dx - 2, 5, 6; Gerson Lehman - 5; Teva Pharmaceutical Industries, Ltd. - 5

Yanik, M.; Entera Pharmaceuticals - 4

### Abstract Author Disclosures

None of the authors of abstracts selected for CME-eligible oral presentations/poster discussions have indicated a relationship that, in the context of their presentation, could be perceived by some as a real or apparent conflict of interest. Please note that the viewing of posters in the Exhibit Hall is not a CME activity.

# ***CAREER DEVELOPMENT SESSIONS (OVERVIEW)***

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## **Across Societies – Experimental Biology**

6. MARC and Professional Development Programs
72. MARC and Professional Development Programs
73. NIH K Awards
74. Formula for Grant Success: Part I - Scientific Peer Review of NIH Grants
75. Formula for Grant Success: Part II - Grant Writing for Success
194. MARC and Professional Development Programs
195. NIH K Awards
196. Formula for Grant Success: Part I - Scientific Peer Review of NIH Grants
197. Formula for Grant Success: Part II - Grant Writing for Success
331. MARC and Professional Development Programs

## **Biochemistry and Molecular Biology**

1. ASBMB Graduate and Postdoctoral Travel Award Keynote Lecture
2. ASBMB Graduate and Postdoctoral Travel Award Poster Session
17. ASBMB Graduate and Postdoctoral Professional Development Program
18. Powering Up! ASBMB Annual Meeting Orientation for Undergraduates
19. The Battle! ASBMB 16th Annual Undergraduate Student Research Poster Competition
20. Find Your Super Match! Career Speed “Dating” for Undergraduates
85. Brekke for Next Gens, Undergraduate Breakfast with Award Scientist, Kim Orth
105. Will Combined MD-PhD Training Make Me Twice As Successful?
108. Welcome Networking Reception, Sponsored by the ASBMB Minority Affairs Committee
213. Brekke for Next Gens, Undergraduate Breakfast with Award Scientist, Bettie Sue Masters
224. Effectively Communicating Your Science, ASBMB Public Policy Session
234. ASBMB Thematic Fermentation Hour
235. ASBMB Inaugural Poetry Competition Reading
351. Work Life Balance: A Professional Development Workshop for Students, Postdocs and Junior Faculty
359. ASBMB Women Scientists’ Networking Event/ Reception

## **Nutrition**

120. Presidential Symposium and 2011 Danone International Prize for Nutrition: Nutrition and the Human Gut Microbiome: Seeking a Global Perspective
123. Zinc Nutrition: From Discovery to Global Health Impact
238. Health Impact of Whole Grains, Bran and Cereal Fiber
249. Utilizing a Stepwise Procedure to Design Effective Nutrition Education
261. Communication Techniques of Effective Speakers
262. A Nurturing Environment Produces Future Legends: Development of Career through Successful Mentor-Mentee Relationships
371. The Future of Nutrition Research
372. Clinical Nutrition Update 2012
384. Scientific Career Advancement for Early Stage Investigators

## **Pathology**

132. Career Development Workshop and Breakfast: Getting Your Dream Job: Preparing Your CV and Managing Your Interview
138. 12th Annual Career Development Program and Lunch: Fundamental Basics for Success: How to Write Award-Winning Grants

## **Physiology**

68. Using Social Media to Communicate about Physiology and You
166. Publishing 101: How to Get Your Work Published in APS Journals and Avoid Minefields along the Way
309. Do I Need Another Degree?
440. National Institutes of Health: Programs and Policies Update from Institutes
492. Conflict Resolution: How to Keep Everyone Happy!
503. E-media Tools for the Professional Scientist

# ***EDUCATION-RELATED SESSIONS (OVERVIEW)***

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## **Across Societies – Experimental Biology**

- 518. Teaching, Learning and Testing in the Biological and Biomedical Sciences I
- 519. Teaching, Learning and Testing in the Biological and Biomedical Sciences II
- 520. Disease Prevention through Education
- 718. Computers in Research and Teaching
- 719. Teaching, Learning and Testing in the Biological and Biomedical Sciences III
- 720. Teaching, Learning and Testing in the Biological and Biomedical Sciences IV

## **Anatomy**

- 9. Master Class—Neural Innervation of the Heart and Its Role in Pathophysiology and Treatment
- 13. Pedagogy
- 78. Gross Anatomy for the Physician Assistant
- 82. Anatomical Education for Allied Health Care Professionals
- 200. Anatomy Education Breakfast Roundtables
- 204. Teaching Innovations in Anatomy I
- 208. Current Trends in the Anatomical Sciences: How Are We Teaching North American Dental Students?
- 340. Refresher Course—The Facts about Formaldehyde: What Every Anatomist Should Know
- 456. Teaching Innovations in Anatomy II

## **Biochemistry/Molecular Biology**

- 16. Fostering Partnerships between Colleges, Universities and K-12 Schools Workshop
- 18. Powering Up! ASBMB Annual Meeting Orientation for Undergraduates
- 94. Maximizing Institutional Effectiveness
- 98. Workshop on LIPID MAPS Lipidomics Tools
- 99. Teaching Session with Stuart Kornfeld: Modeling the Molecular Machinery of the Protein Trafficking Pathway
- 106. Maximizing Teaching Effectiveness
- 223. Maximizing Your Marketability
- 225. Lipid Droplets: Basic Working Principles Workshop
- 233. Maximizing Your Global Outreach
- 350. Promoting Concept Driven Teaching Strategies in BMB through Concept Assessment

## **Nutrition**

- 25. Helpful or Harmful: Soy, Isoflavones, and Cancer Risk
- 26. Clinical Emerging Leaders Award Competition, Supported by the Medical Nutrition Council
- 30. Postdoctoral Research Award Competition, Supported by Solae, LLC
- 38. Graduate Student Research Award Competition, Supported by the Nutritional Sciences Council
- 111. Utilizing a Multilevel Team Approach: Lessons Learned from the Vitamin D DRI-Setting Activity
- 123. Zinc Nutrition: From Discovery to Global Health Impact
- 236. GPEC Forum: Using Interdisciplinary Tools to Evaluate Nutritional Interventions
- 238. Health Impact of Whole Grains, Bran and Cereal Fiber
- 249. Utilizing a Stepwise Procedure to Design Effective Nutrition Education
- 250. Establishing and Evaluating Health Claims for Probiotics
- 262. A Nurturing Environment Produces Future Legends: Development of Career through Successful Mentor-Mentee Relationships
- 362. Food and Nutrition Board Update: Not At All Quiet on the Labeling Front, and Remarques about Sodium
- 372. Clinical Nutrition Update 2012
- 384. Scientific Career Advancement for Early Stage Investigators

## **Pathology**

- 45. Pathobiology for Basic Scientists: Cell Injury and Inflammation: New Riffs on a Classical Score
- 50. 12th Annual Workshop on Graduate Education in Pathology: Genomics and Personalized Medicine in the Graduate Curriculum
- 393. Scientific Sleuthing of Human Disease for High School Teachers

### **Pharmacology and Experimental Therapeutics**

- 60. 2012 Teaching Institute: The Use of Social Media in Pharmacology Education
- 61. Graduate Student Colloquium: Communication
- 294. Pharmacology Education Division Programming: Strategies for Pharmacology in Integrated Medical School Curricula: Best Practices for Enhancing Involvement of Our Discipline

### **Physiology**

- 63. Refresher Course in Endocrinology: Diabetic Complications
- 65. Overcoming the Fear of Making Your Own Transgenic and Knockout Mice
- 69. Toolkit for Genomic Biomarker Discovery by Physiologists
- 164. Innovative Use of Technology for Teaching and Student Assessment in Physiology
- 171. Claude Bernard Distinguished Lectureship of the APS Teaching of Physiology Section
- 189. What Do Competencies Have to Do with My Teaching?
- 295. Assessment of Student Learning and Scientific Teaching

# ***PUBLIC POLICY SESSIONS (OVERVIEW)***

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## **Across Societies—Experimental Biology**

- 332. National Institutes of Health: Programs and Policies Update from Institutes

## **Anatomy**

- 7. Connecting with Different Audiences: The Anatomy of Communication

## **Nutrition**

- 29. Strategic, Global Approaches to Improve Breastfeeding Rates
- 37. Adopting Healthy and Sustainable Food Service Guidelines: Emerging Evidence from Implementation at the United States Federal Government, New York City, Los Angeles County, and Kaiser Permanente
- 111. Utilizing a Multilevel Team Approach: Lessons Learned from the Vitamin D DRI-Setting Activity

- 122. Food Insecurity and Health across the Lifespan
- 236. GPEC Forum: Using Interdisciplinary Tools to Evaluate Nutritional Interventions
- 250. Establishing and Evaluating Health Claims for Probiotics
- 362. Food and Nutrition Board Update: Not At All Quiet on the Labeling Front, and Remarques about Sodium
- 371. The Future of Nutrition Research

## **Pathology**

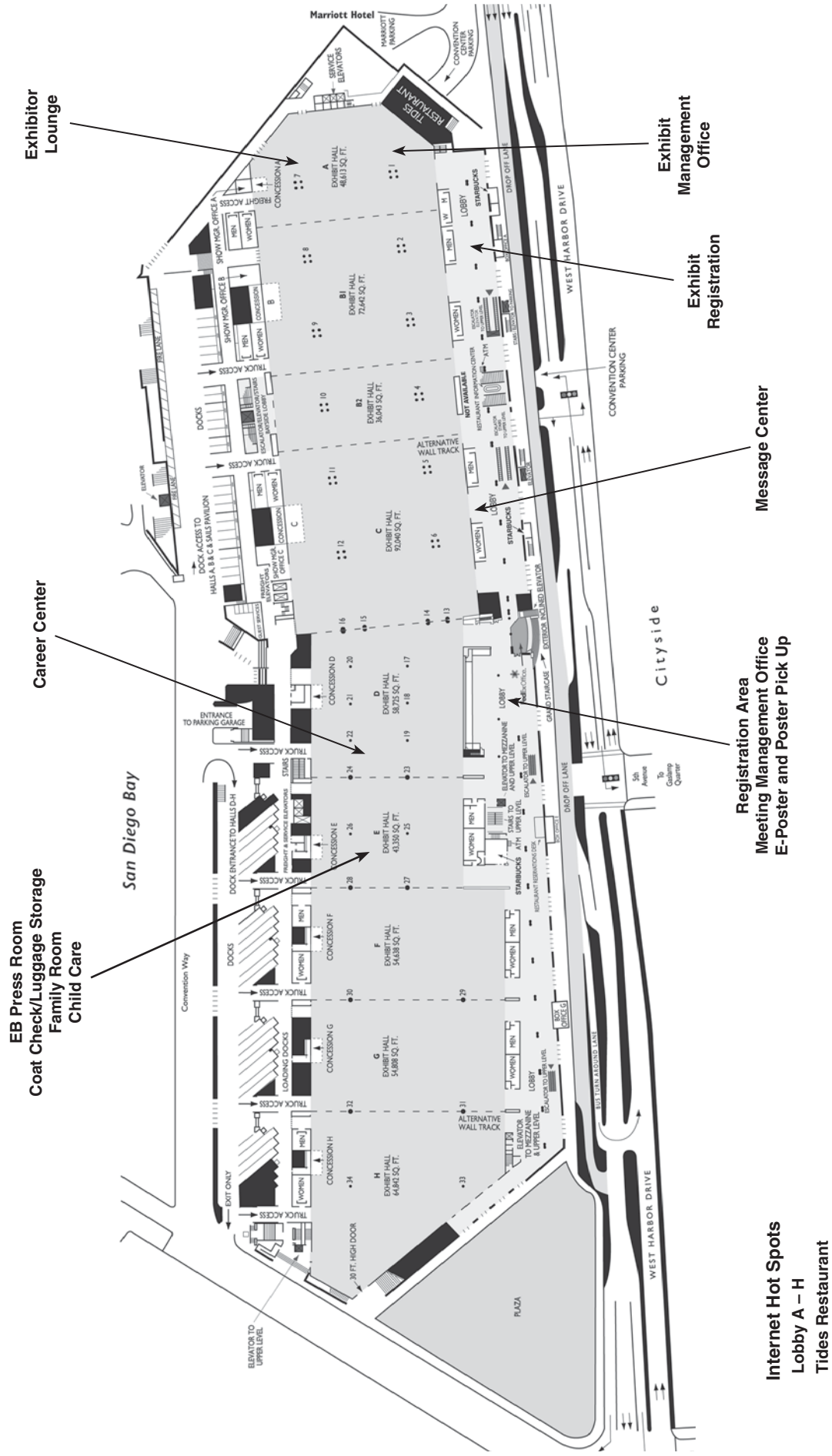
- 403. National Institutes of Health: Programs and Policies Update from Institutes

## **Physiology**

- 66. Public Outreach and Animal Research: Toolkit for Investigators
- 440. National Institutes of Health: Programs and Policies Update from Institutes

# SAN DIEGO CONVENTION CENTER

## Ground Level



Internet Hot Spots  
Lobby A – H  
Tides Restaurant

Registration Area  
Meeting Management Office  
E-Poster and Poster Pick Up

Message Center

Exhibit Registration

Exhibit Management Office

Exhibitor Lounge

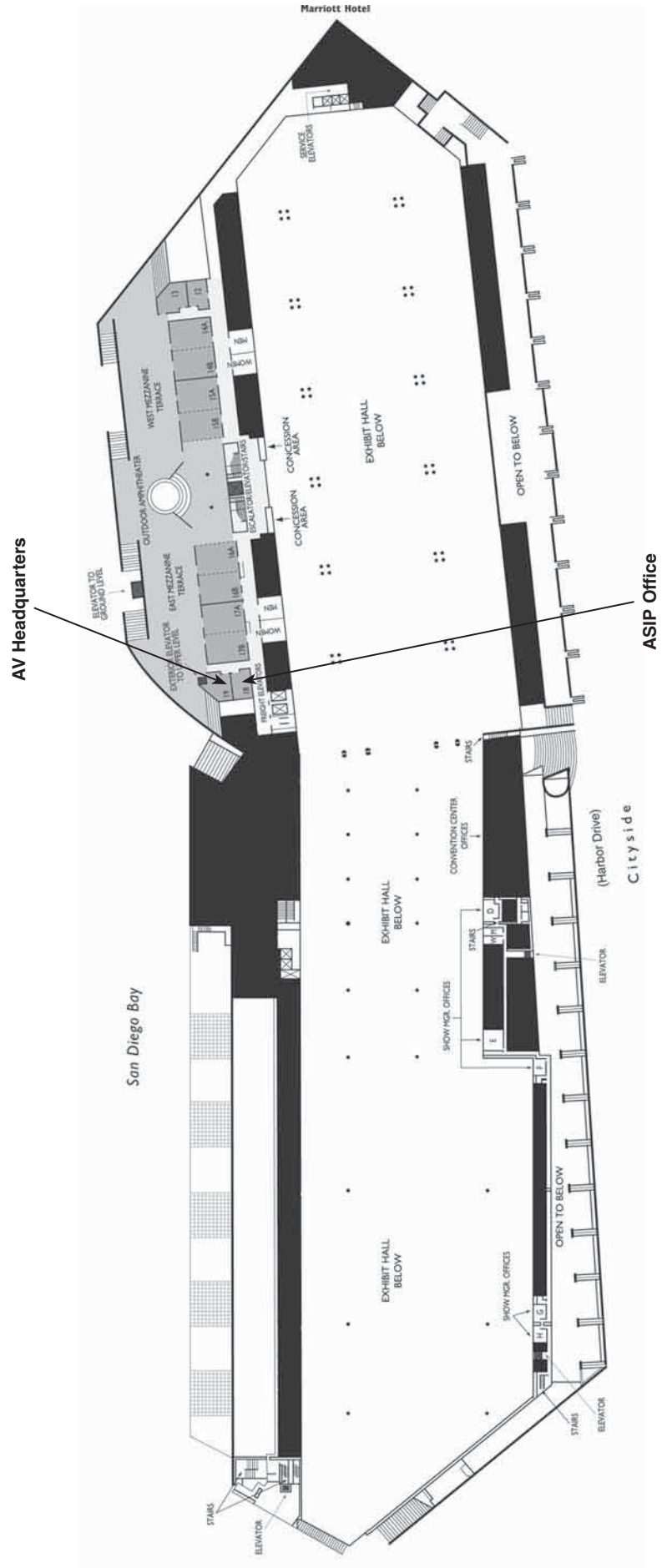
Career Center

EB Press Room  
Coat Check/Luggage Storage  
Family Room  
Child Care



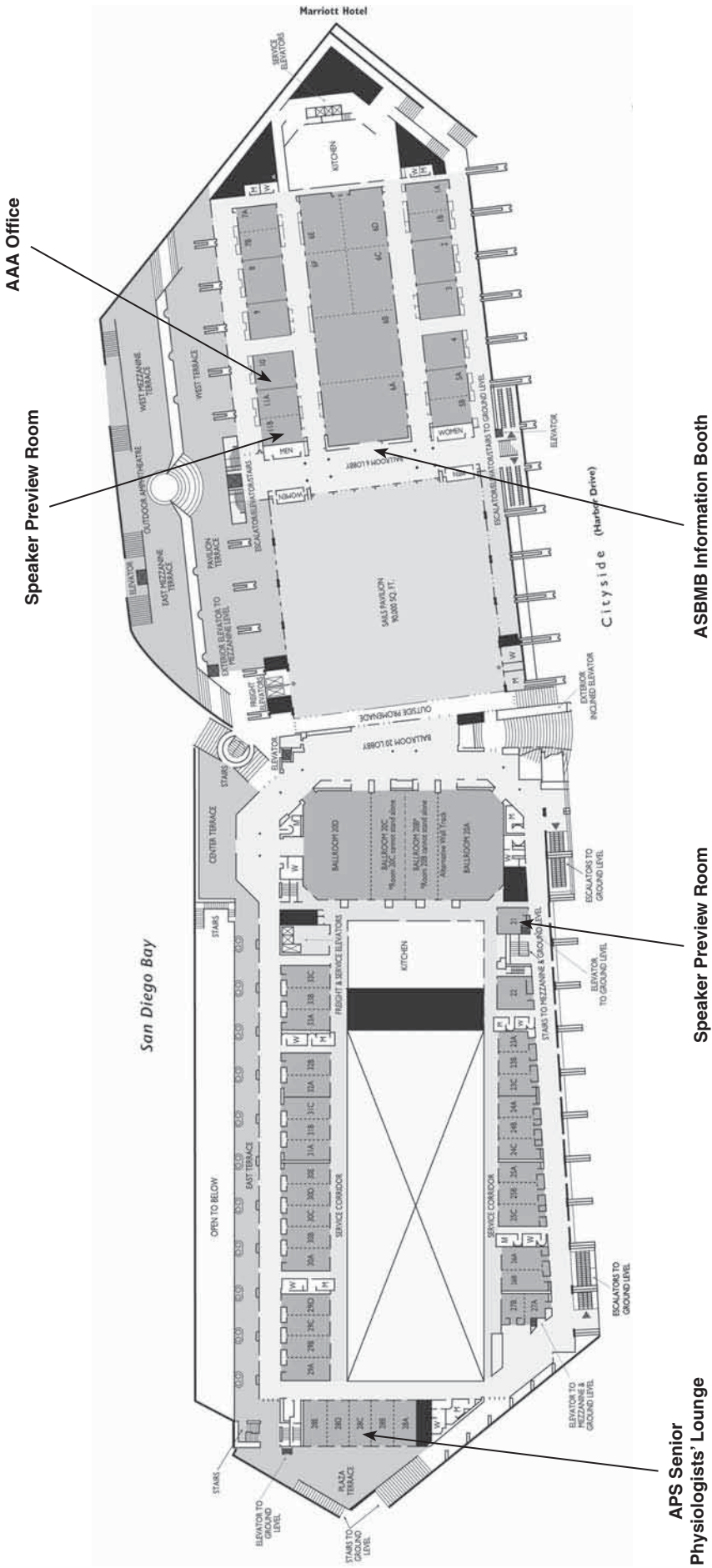
# SAN DIEGO CONVENTION CENTER

## Mezzanine Level



# SAN DIEGO CONVENTION CENTER

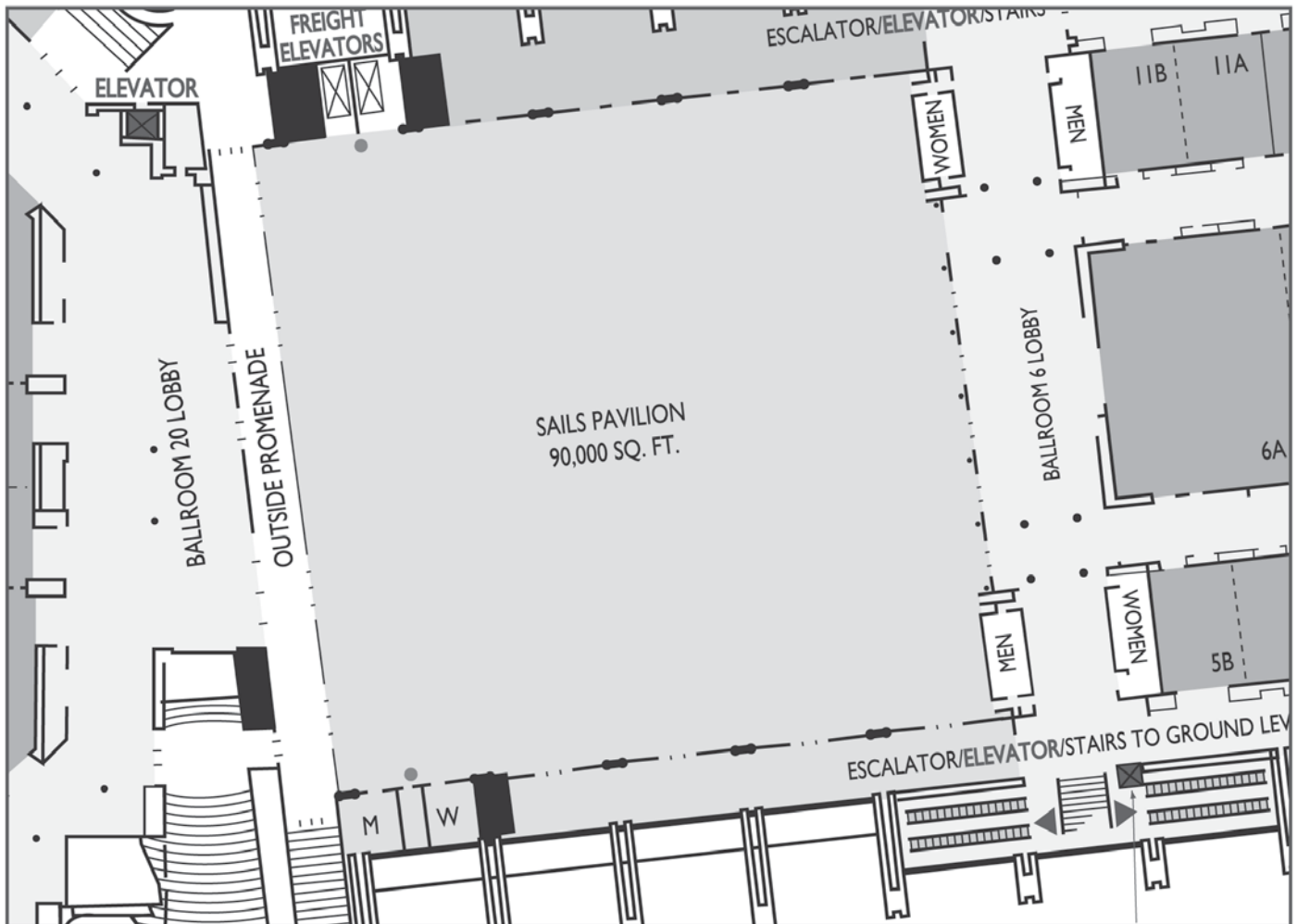
## Upper Level



APS Senior Physiologists' Lounge

# SAN DIEGO CONVENTION CENTER

## Sails Pavilion



Pharmacology and Physiology Posters, Wed., April 25 (see page 380)

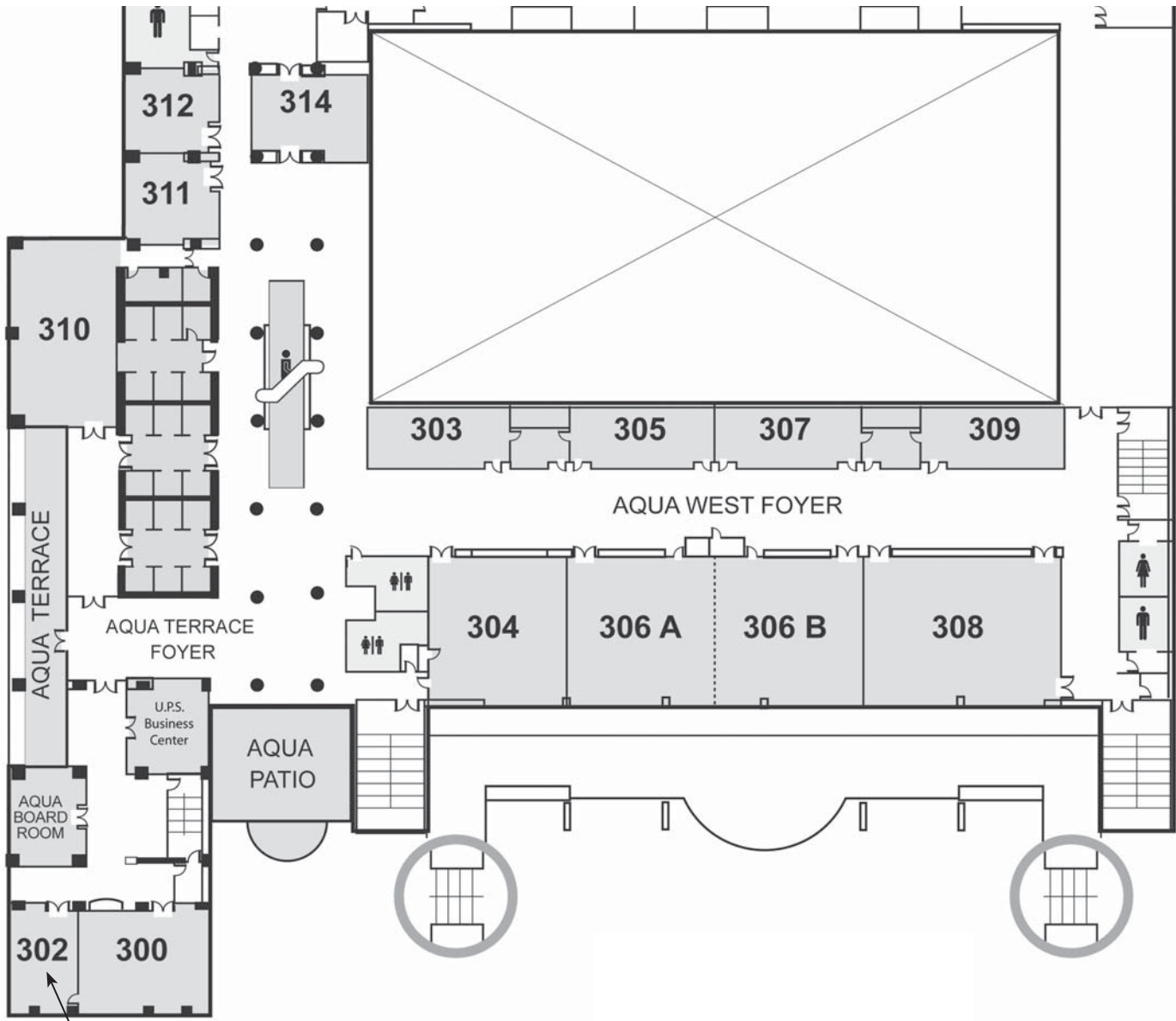
Late-Breaking Posters, Wed., April 25

Complimentary Wireless Access (see page xvii)

Laptop Charging Station

# HILTON SAN DIEGO BAYFRONT

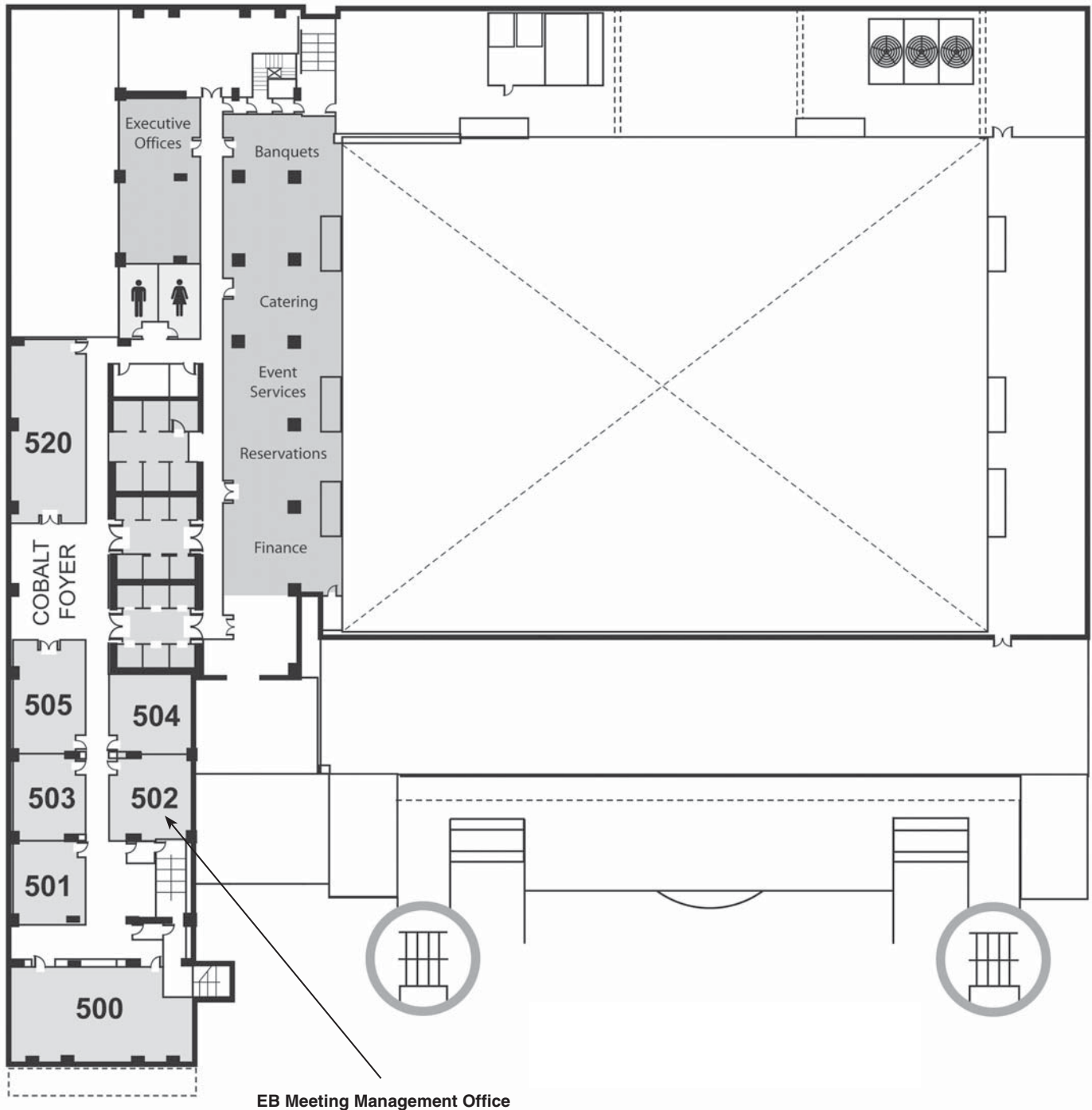
## Aqua Level



ASN Office

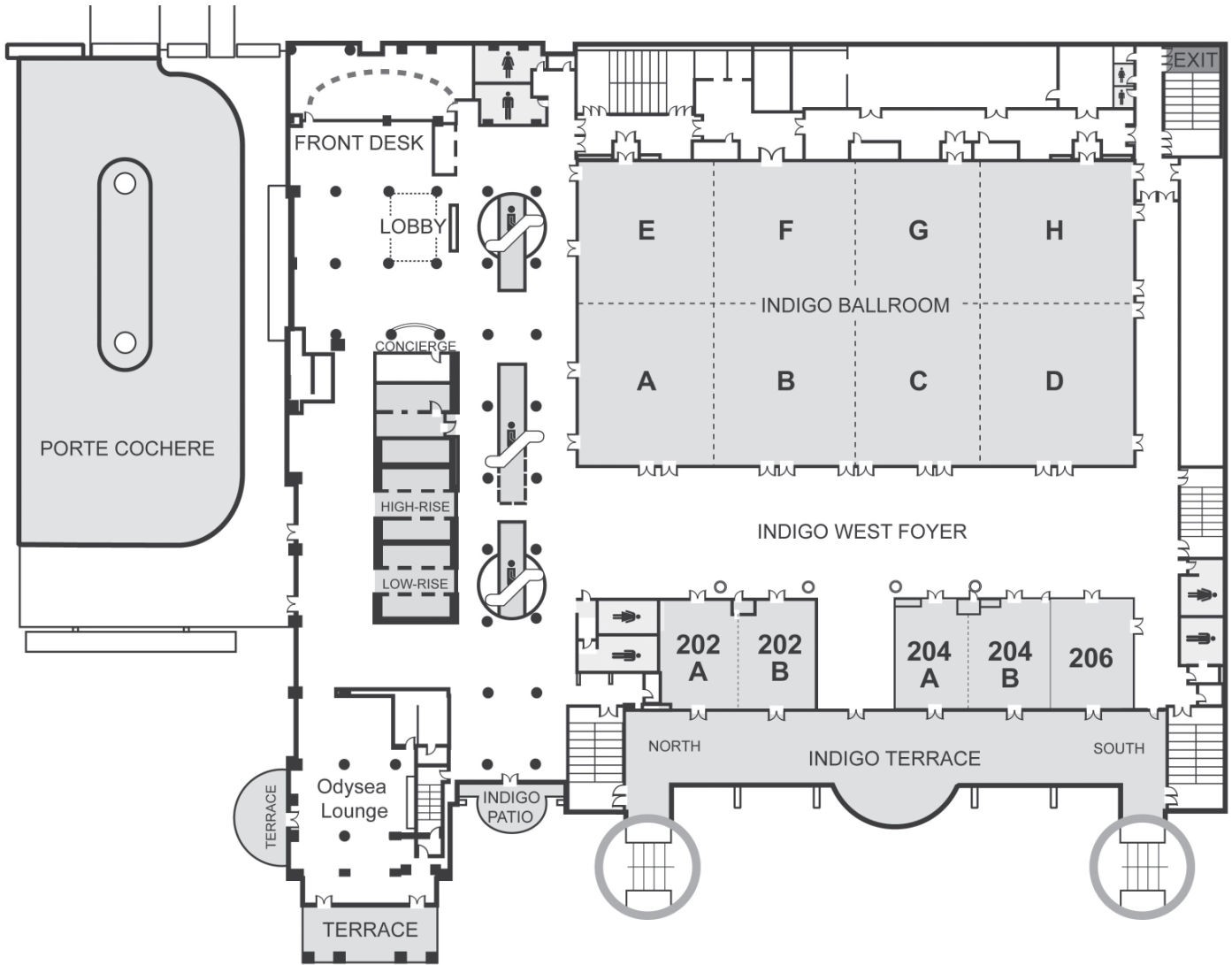
# HILTON SAN DIEGO BAYFRONT

## Cobalt Level



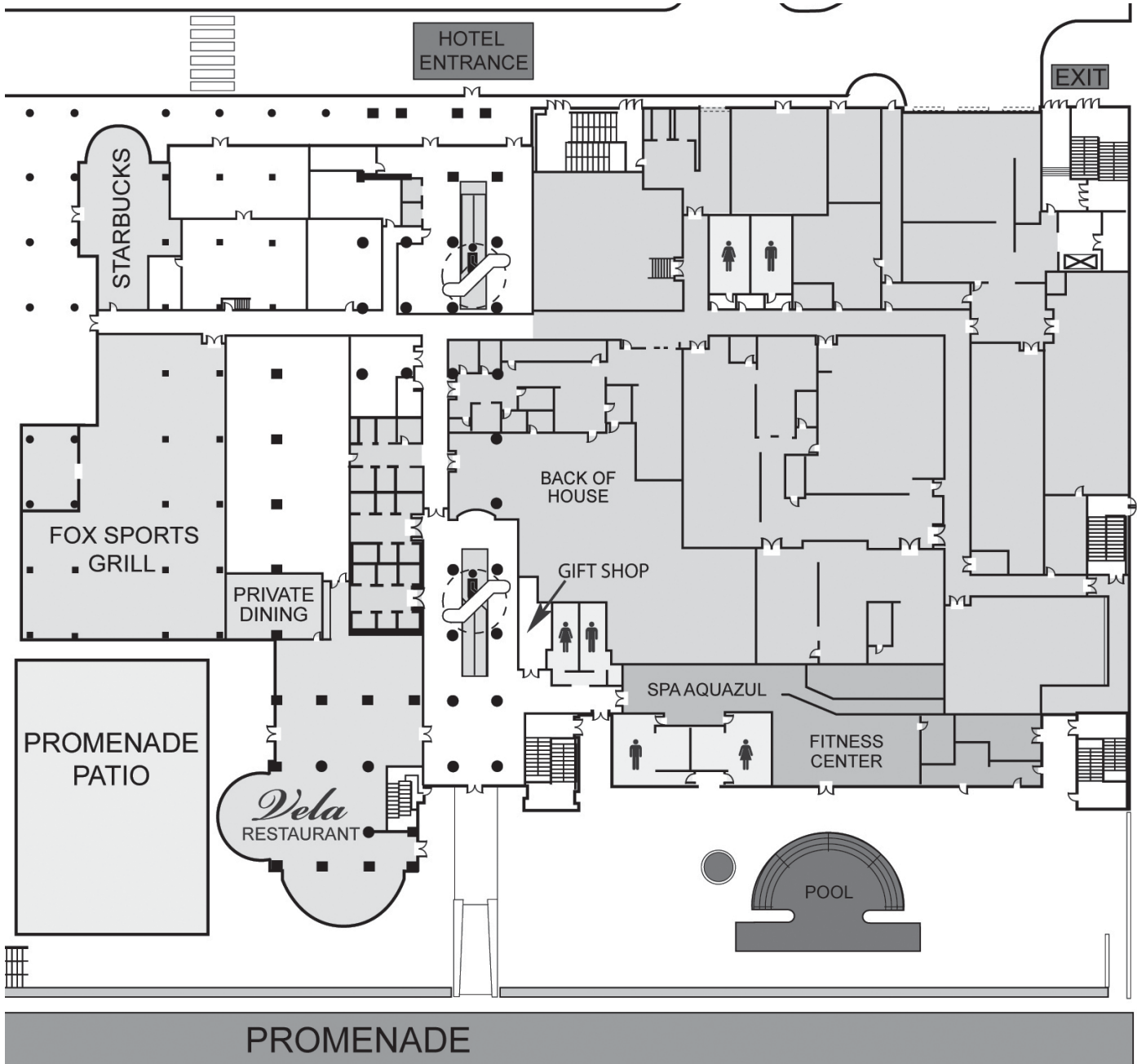
# HILTON SAN DIEGO BAYFRONT

## Indigo Level



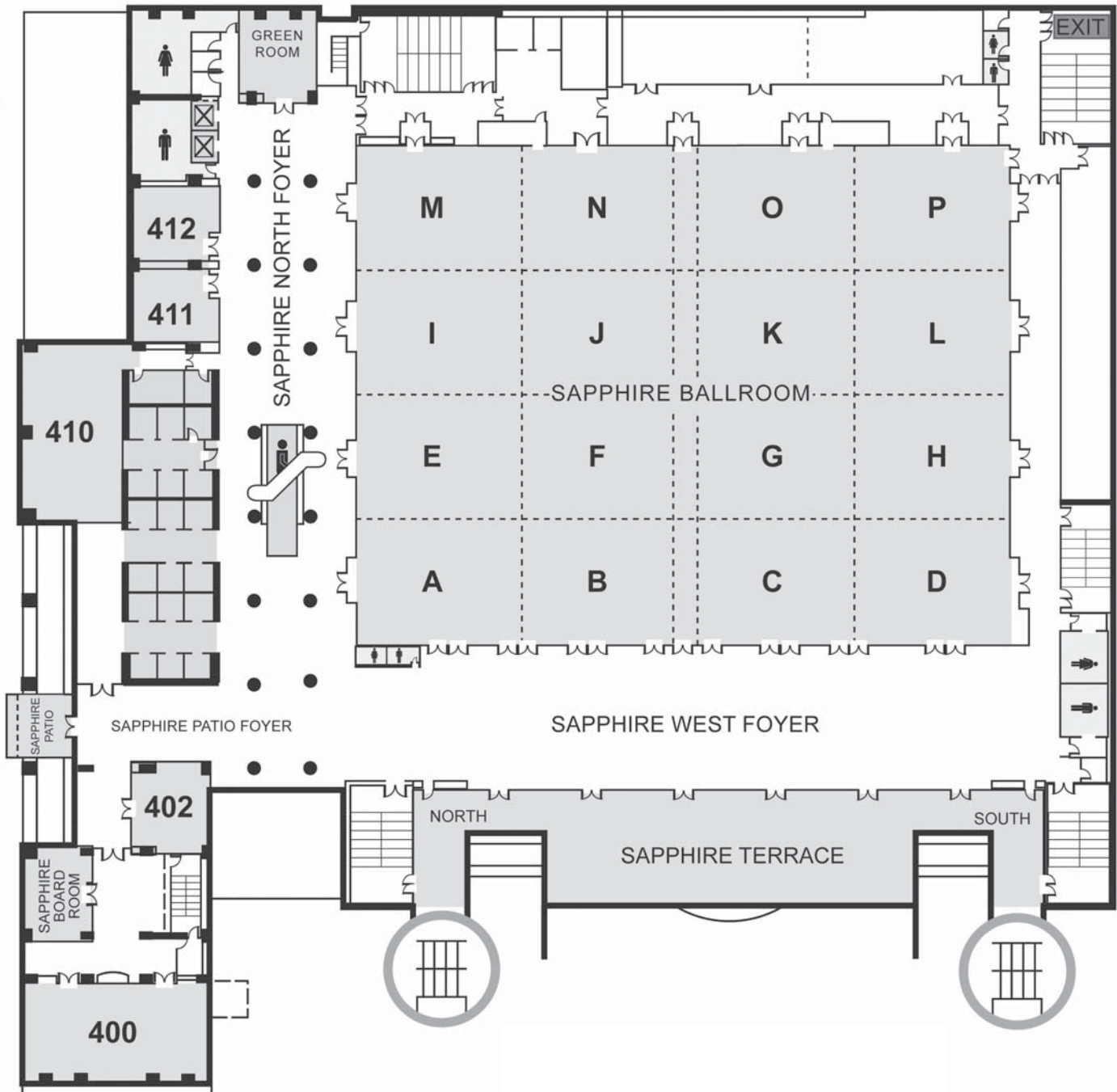
# HILTON SAN DIEGO BAYFRONT

## Promenade Level



# HILTON SAN DIEGO BAYFRONT

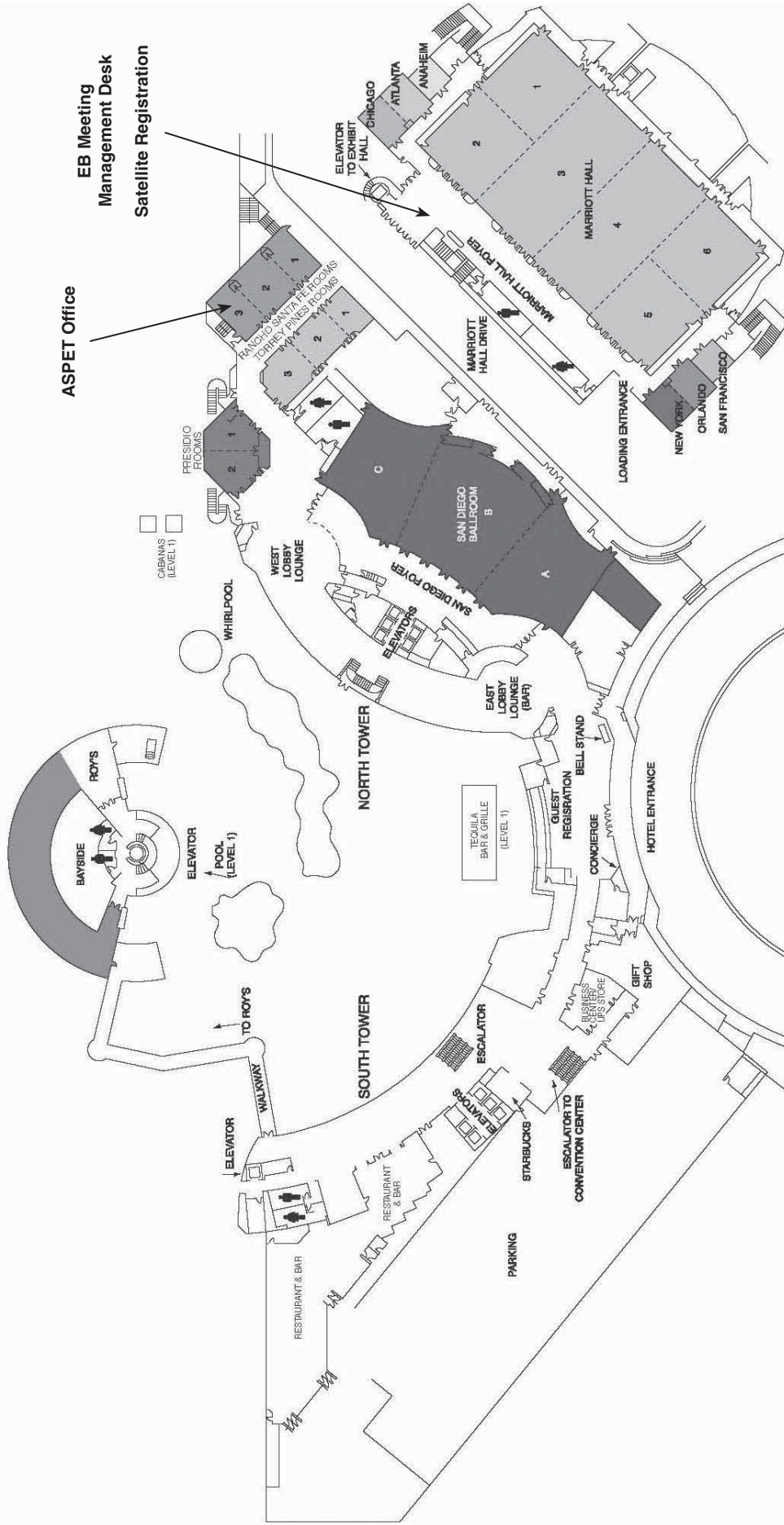
## Sapphire Level





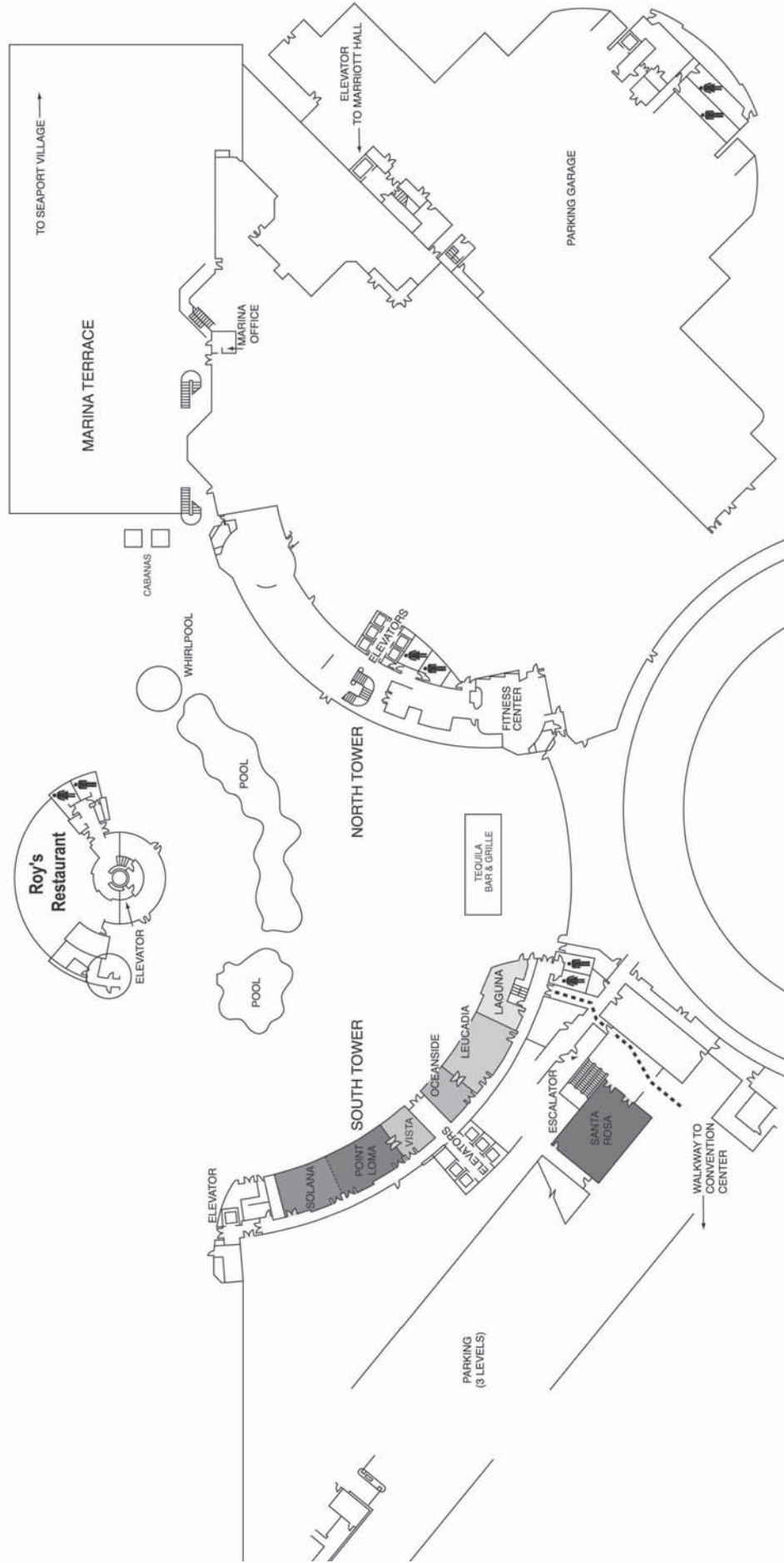
# SAN DIEGO MARRIOTT MARQUIS & MARINA

## Lobby Level



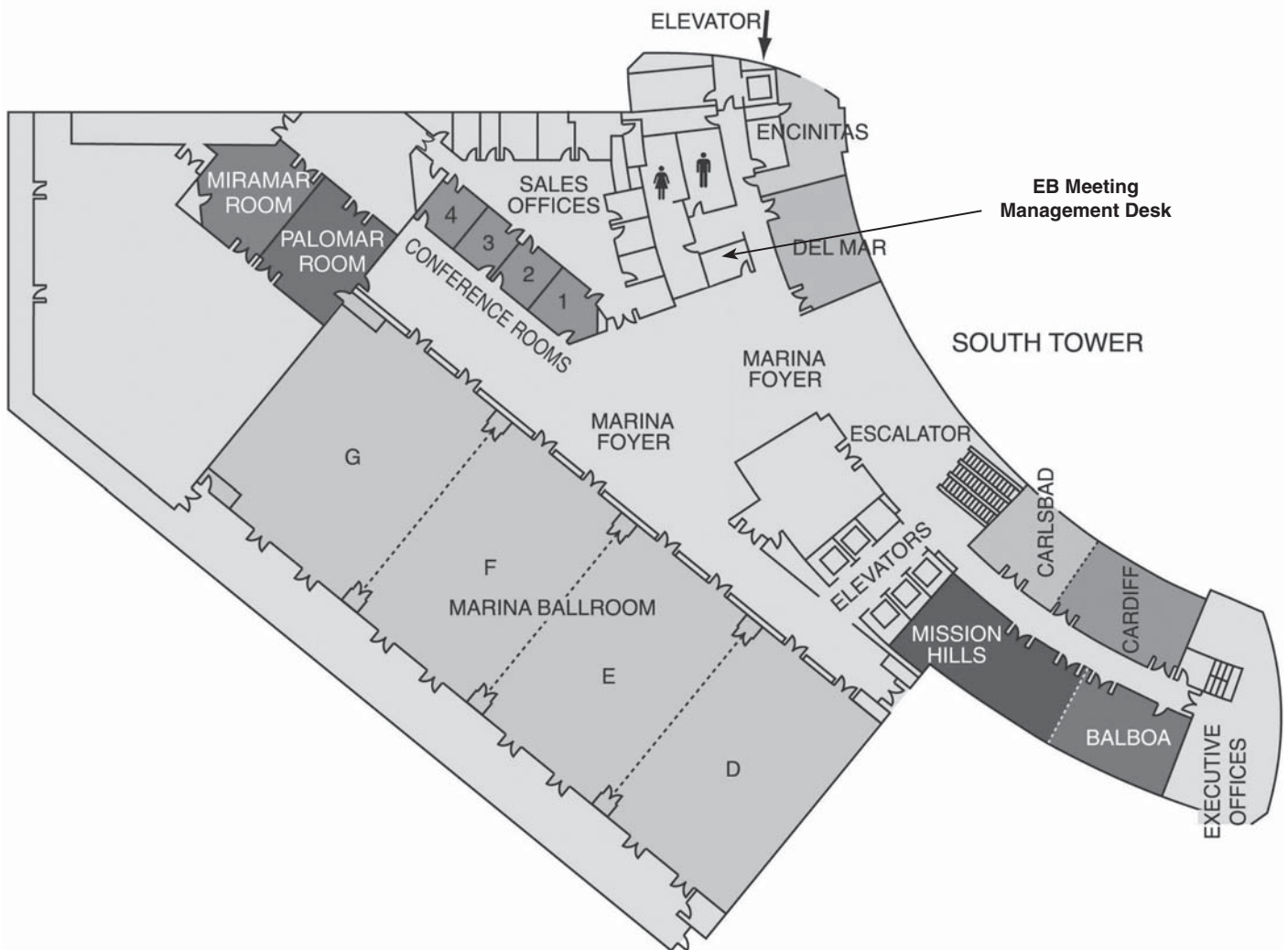
# SAN DIEGO MARRIOTT MARQUIS & MARINA

## Level 1



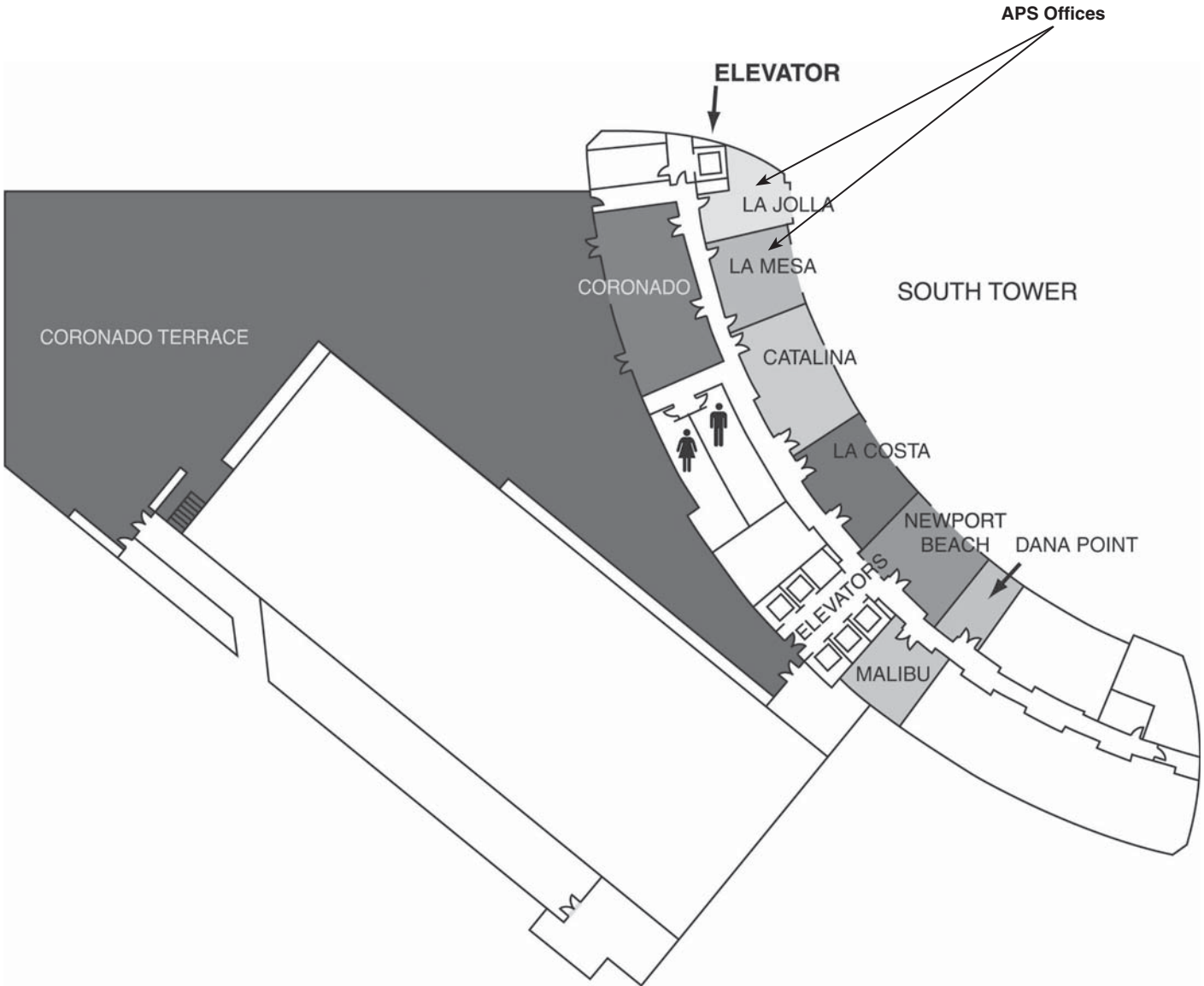
# SAN DIEGO MARRIOTT MARQUIS & MARINA

## South Tower Level 3



# SAN DIEGO MARRIOTT MARQUIS & MARINA

## South Tower Level 4



# SCIENTIFIC PROGRAM

San Diego Convention Center

San Diego, CA

April 21 – 25, 2012

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## SPONSORING SOCIETIES

American Association of Anatomists (AAA)

The American Physiological Society (APS)

American Society for Biochemistry and Molecular Biology (ASBMB)

American Society for Investigative Pathology (ASIP)

American Society for Nutrition (ASN)

American Society for Pharmacology and Experimental Therapeutics (ASPET)

## GUEST SOCIETIES

### AAA

Brazilian Society of Anatomy (SBA)

Chinese Society of Anatomical Sciences (CSAS)

### APS

American Federation for Medical Research (AFMR)

Association of Latin American Physiological Societies (ALACF)

Association of Physiologists and Pharmacologists of India (APPI)

Austrian Physiological Society (APS)

Biomedical Engineering Society (BMES)

Brazilian Society of Physiology (SBFis)

Hungarian Physiological Society (MET)

Kazakh Physiological Society (KPS)

The Microcirculatory Society (MCS)

Physiological Society of India (PSI)

The Physiological Society – UK (TPS)

Sociedad Mexicana de Ciencias Fisiologicas (SMCF)

Société de Physiologie – France (SP)

Society of Experimental Biology and Medicine (SEBM)

Turkish Society of Physiological Science (TFBD)

### ASBMB

Division of Biological Chemistry – American Chemical Society

### ASIP

American College of Veterinary Pathologists

American Society for Matrix Biology

International Society for Analytical and Molecular Morphology

International Society for Biological and Environmental Repositories

Società Italiana di Patologia/Italian Pathology Society

Society for Cardiovascular Pathology

### ASN

American Dietetic Association

American Society of Animal Science

ILSI North America

Korean Nutrition Society

Plant Phenolic and Human Health Research Interest Group (PhenHRIG)

### ASPET

Behavioral Pharmacology Society

# American Association of Anatomists at Experimental Biology 2012 – San Diego, CA

All sessions listed are in the San Diego Convention Center.

Saturday, April 21		Sunday, April 22		Monday, April 23	
AM	PM	AM	PM	AM	PM
<p>❖ <b>Connecting w/ Different Audiences: The Anatomy of Communication</b> <i>D. Evans</i> 8 AM – 10 AM Room 7B</p> <p>❖ <b>Climbing the Academic Ladder: Skills Needed for Each Rung</b> <i>R. Pratt &amp; K. Topp</i> 10:30 AM - 12:30 PM Room 7B</p>	<p>▲ <b>Master Class- Neural Innervation of the Heart</b> <i>J. McBride</i> 1 PM – 3 PM Room 8</p> <p>● <b>Visualizing Complex Biomedical Systems</b> <i>C. Johnson</i> 1 PM – 3 PM Room 9</p> <p>AAA Graduate Student Platform Award Session <i>P. Trainor</i> 1:30 PM – 3 PM Room 7B</p> <p>AAA Ed. Research Platform Award Session <i>C. Eckel</i> 3:15 PM - 4:45 PM Room 7B</p> <p>▲ <b>Hybrid – Pedagogy</b> <i>S. Marquez &amp; W. Pawlina</i> 3:30 PM - 5:30 PM Room 8</p> <p>● <b>Digital Imaging</b> <i>S. Zhang</i> 3:30 PM - 5:30 PM Room 9</p> <p>AAA Postdoctoral Platform Award Session <i>J. Venuti</i> 5 PM - 6:30 PM Room 7B</p>	<p>Plenary Lecture <i>B. Olsen</i> 8 AM – 9 AM Room 8</p> <p>Plenary Lecture <i>R. Drake</i> 9 AM – 10 AM Room 8</p> <p>▲ <b>Gross Anatomy for the Physician Assistant</b> <i>J. McBride</i> 10:30 AM - 12:30 PM Room 8</p> <p>♥ <b>Vascular Endothelium in Health &amp; Disease</b> <i>B. Olsen</i> 10:30 AM - 12:30 PM Room 9</p>	<p><b>Morphometry &amp; Applied Anatomy</b> <i>R. Hali Cabral</i> 2:30 PM - 4:30 PM Room 7A</p> <p>♣ <b>Hybrid- Global Positioning Systems Guide Neuronal Migration</b> <i>A. Stranahan</i> 2:30 PM - 4:30 PM Room 7B</p> <p>▲ <b>Anatomical Education for Allied Health Care Professionals</b> <i>A. Burrows</i> 2:30 PM - 4:30 PM Room 8</p> <p><b>Hybrid - Epigenetic Plasticity in Health &amp; Disease</b> <i>F. Domann</i> 2:30 PM - 4:30 PM Room 9</p> <p>AAA Undergraduate Poster Session 4 PM – 5 PM Sails Pavilion</p> <p>AAA Young Investigator Awards Symposium 5 PM – 7 PM Room 9</p> <p>AAA Socializer 7 PM – 8 PM West Terrace</p>	<p>◆ <b>Tissue Engineering, Regeneration &amp; Repair</b> <i>R. Marcucio</i> 8 AM – 10 AM Room 7A</p> <p>✱ <b>microRNAs in Stem Cells &amp; Cancer</b> <i>R. Hartley</i> 8 AM – 10 AM Room 7B</p> <p>▲ <b>Anatomy Education Breakfast Roundtables</b> <i>J. McBride</i> 8 AM – 10 AM Room 11A</p> <p>○ <b>The Nucleus: New Insights &amp; Understanding</b> <i>M. Alliegro</i> 8 AM – 10 AM Room 9</p> <p>◆ <b>Reactivation of Embryonic Processes</b> <i>M. Dunnwald &amp; J. Helms</i> 10:30 AM - 12:30 PM Room 7A</p> <p>✱ <b>O Cell Biology &amp; Regulatory RNAs</b> <i>K. Prasanth</i> 10:30 AM - 12:30 PM Room 7B</p> <p>▲ <b>Teaching Innovations in Anatomy I</b> <i>B. Singh</i> 10:30 AM - 12:30 PM Room 8</p> <p>♣ <b>The Exquisite Little Brains of Big Insects</b> <i>J. Hildebrand</i> 10:30 AM - 12:30 PM Room 9</p>	<p>■ <b>Lung Development &amp; the Origins of Disease</b> <i>D. Ornitz</i> 2:30 PM - 4:30 PM Room 7A</p> <p>♣ <b>Excellence in Canadian Research- Neural Regeneration</b> <i>M. Kawaja</i> 2:30 PM - 4:30 PM Room 7B</p> <p>▲ <b>Trends in the Anatomical Sciences</b> <i>H.W. Lambert</i> 2:30 PM - 4:30 PM Room 8</p> <p>♥ <b>Cardiovascular Biology</b> <i>J. Barnett</i> 2:30 PM - 4:30 PM Room 9</p> <p>AAA Keynote Lecture <i>E. Olson</i> 5 PM – 6 PM Room 8</p> <p>AAA Business Meeting 6 PM – 7 PM Room 8</p> <p><b>Student/Postdoc Poster Reception</b> 7 PM – 8 PM West Terrace</p>

## American Association of Anatomists at Experimental Biology 2012 – San Diego, CA

All sessions listed are in the San Diego Convention Center unless otherwise noted.

Tuesday, April 24		Wednesday, April 25		AAA Networking Opportunities	
AM	PM				
<p><b>* Epigenetics &amp; Regulatory RNAs</b> <i>B. Futscher</i> 8 AM – 10 AM Room 7B</p> <p><b>■ Craniofacial Birth Defects</b> <i>L.B. Ruest</i> 8 AM – 10 AM Room 8</p> <p><b>Adult Stem Cells: From Basic Research to Clinical Applications</b> <i>M. Dezawa</i> 8 AM – 10 AM Room 9</p> <p><b>* microRNAs in Cardiac Development &amp; Disease</b> <i>D-Z. Wang</i> 10:30 AM - 12:30 PM Room 7B</p> <p><b>■ The Role of Variation during Morphogenesis</b> <i>B. Hallgrímsson &amp; R. Marcucio</i> 10:30 AM - 12:30 PM Room 8</p> <p><b>◆ Stem Cell Biology</b> <i>C. Zhao</i> 10:30 AM - 12:30 PM Room 9</p>	<p><b>■ Development &amp; Growth</b> <i>P. Trainor</i> 2:30 PM - 4:30 PM Room 7B</p> <p><b>▲ Refresher Course- The Facts about Formaldehyde</b> <i>R. Fisher</i> 2:30 PM - 4:30 PM Room 8</p> <p><b>♣ Diseases of the Nervous System</b> <i>Y-Q. Li</i> 2:30 PM - 4:30 PM Room 9</p>	<p><b>■ Bioengineering Principles during Development</b> <i>E. Jones</i> 8 AM – 10 AM Room 7A</p> <p><b>Form, Function &amp; Evolution</b> <i>K. Muldoon</i> 8 AM – 10 AM Room 7B</p> <p><b>▲ Teaching Innovations in Anatomy II</b> <i>T. Hoagland</i> 8 AM – 10 AM Room 9</p> <p><b>■ Muscles &amp; Bones: Evolution &amp; Development</b> <i>R. Schneider</i> 10:30 AM - 12:30 PM Room 7A</p> <p><b>♣ O Novel Views of the Eye</b> <i>J. Clark</i> 10:30 AM - 12:30 PM Room 7B</p> <p><b>♥ Cardiac Tissue Engineering</b> <i>G. Vunjak-Novakovic</i> 10:30 AM - 12:30 PM Room 9</p>	<p><b>■ Developmental Biology</b></p> <p><b>◆ Regeneration/Tissue Engineering</b></p>	<p><b>Career Networking Break</b> Saturday, April 21, 10 AM – 10:30 AM, Room 7A (CC)</p> <p><b>Meet the Editors</b> Sunday, April 22, AAA Booth 945 (Exhibit Hall)</p> <p><b>Meet the Author</b> Sunday, April 22 – Tuesday, April 24, AAA Booth 945 (Exhibit Hall)</p> <p><b>Ask the Career Advisor</b> Sunday, April 22 – Tuesday, April 24, Room 10 (AAA Office)</p> <p><b>New Member Welcome Breakfast</b> Sunday, April 22, 7 AM – 8 AM, Cardiff (Marriott)</p> <p><b>Socializer</b> Sunday, April 22, 7 PM – 8 PM, West Terrace (CC)</p> <p><b>Student/Postdoc Poster Reception</b> Monday, April 23, 7 PM – 8 PM, West Terrace (CC)</p> <p><b>Young Experimental Scientists (Y.E.S) Mixer</b> Monday, April 23, 9 PM – 11 PM, Marriott Hall – Salon 3</p> <p><b>Awards Banquet (advance ticket purchase necessary)</b> Tuesday, April 24, 7 PM – 8 PM, Marina Ballroom DE (Marriott)</p>	<p><b>AAA Networking Opportunities</b></p>

◆ Professional Development	▲ Education & Teaching	● Imaging	■ Developmental Biology	◆ Regeneration/Tissue Engineering	♥ Cardiovascular	* Mini Meeting	○ Cell Biology
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## Anatomical Sciences: The Structural Foundation of Health & Disease

**American Society for Biochemistry and Molecular Biology at Experimental Biology 2012 – San Diego, CA**

<b>FRI, APRIL 20</b>	<b>Location</b>	<b>Room</b>	<b>Event (* ) advance event registration required</b>	<b>Title</b>
5:00 pm-6:30 pm	Marriott Marquis	Marriott Hall 4	Graduate/Postdoctoral Travel Award Keynote Lecture (*)	<b>Heidi E. Hamm</b> , Composing a Life.
6:30 pm-8:30 pm	Marriott Marquis	Marriott Hall 3	Graduate/Postdoctoral Travel Award Poster Session (*)	Event by invitation only to ASBMB Graduate and Postdoctoral Travel Award recipients.
<b>SAT, APRIL 21</b>	<b>Location</b>	<b>Room</b>	<b>Event (* ) advance event registration required</b>	<b>Title</b>
9:00 am-1:00 pm	Marriott Marquis	Santa Rosa	K-12 Educators Workshop (*)	Fostering Partnerships between Colleges, Universities and K-12 Schools
9:00 am-3:30 pm	Marriott Marquis	Marriott Hall 4	Trainee Workshop (*)	Professional Development for Trainees
11:30 am-12:00 pm	Marriott Marquis	Atlantic	Powering Up!	ASBMB Annual Meeting Orientation for Undergraduates
12:00 pm-4:30 pm	Marriott Marquis	Marriott Hall 1	The Battle! (*) (1:00 PM Competition Start)	16th Annual ASBMB Undergraduate Student Research Poster Competition
4:45 pm-5:45 pm	Marriott Marquis	San Diego Ballroom A	Find Your Super Match!	Career Speed "Dating" for Undergraduates
6:00 pm-7:00 pm	Marriott Marquis	Marriott Hall 4	<b>Opening Lecture</b> Herbert Tabor/ <i>Journal of Biological Chemistry</i> Lectureship	<b>Stuart Kornfeld</b> , Oligosaccharides as Recognition Molecules - A Coming of Age
Immediately follows Opening Lecture	Marriott Marquis	Marriott Hall 3	Special Event	Opening Reception
<b>SUN, APRIL 22</b>	<b>Location</b>	<b>Room</b>	<b>Event (* ) advance event registration required</b>	<b>Title</b>
7:00 am start	Embarcadero	Entrance to Seaport Village	ASBMB 5K Fun Run/Walk (*)	ASBMB 5K Fun Run/Walk held rain or shine.
7:00 am-8:00 am	Convention Center	11A	Brekke for Next Gens (*)	Undergraduates' Breakfast with award lecturer, <b>Kim Orth</b> , <b>ASBMB Young Investigator</b>
8:30 am-9:05 am	Convention Center	6B	Avanti Award in Lipids Lecture	<b>George M. Carman</b> , Lipin/Phosphatidic Acid Phosphatase in Lipid Metabolism and Cell Physiology
9:05 am-9:40 am	Convention Center	6B	ASBMB Plenary Lecture	<b>Steven L. McKnight</b> , Metabolic Specialization of Mouse Embryonic Stem Cells
9:55 am-12:10 pm	Convention Center	6F	Concurrent Symposia	Histone Modifications and Their Recognition
	Convention Center	6E		Constructing Networks
	Convention Center	6D		The Ribosome and Early Folding Decisions
	Convention Center	6C		Metabolomics
	Convention Center	6A		Organismal Metabolism
	Convention Center	1B		Glycoconjugates in Pathogen Invasion and Virulence
Poster Manning Times 12:25 pm-1:55 pm or 1:05 pm-2:35 pm	Convention Center	1A		Maximizing Institutional Effectiveness
	Convention Center	Exhibit Hall	Poster Sessions	Consult program for specific schedule information
12:30 pm-1:30 pm	Convention Center	6B	ASBMB Award for Exemplary Contributions to Education Lecture	<b>Judith G. and Donald Voet</b> , Content in the Educational Era of Process
12:30 pm-2:00 pm	Convention Center	6C	Alice & C. C. Wang Award in Molecular Parasitology Symposium	<b>Elisabetta Ullu</b> , The RNA Interference Pathway from a Trypanosome Point of View



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<b>SUN, APRIL 22</b>	<b>Location</b>	<b>Room</b>	<b>Event (* advance event registration required)</b>	<b>Title</b>
12:30 pm-2:00 pm	Convention Center	11A	Workshop	Workshop on LIPID MAPS Lipidomics Tools
1:30 pm-2:30 pm	Convention Center	6B	Teaching Session with Stuart Kornfeld	Modeling the Molecular Machinery of the Protein Trafficking Pathway
2:55 pm-3:28 pm	Convention Center	6B	ASBMB-Merck Award Lecture (2011)	<b>Christine Guthrie</b> , The Spliceosome is a Dynamic RNP Machine
3:45 pm-6:00 pm	Convention Center	6F	Concurrent Symposia	The Spliceosome: Fitting the Pieces Together
	Convention Center	6E		Mechanism and Regulation of DNA Repair
	Convention Center	6D		Mitochondrial Dynamics
	Convention Center	6A		Lipid Droplets: A Dynamic Subcellular Compartment
	Convention Center	1B		Will Combined MD-PhD Training Make Me Twice as Successful?
Convention Center	1A	Maximizing Teaching Effectiveness		
6:15 pm-7:30 pm	Convention Center	11A	Business Meeting	ASBMB Business Meeting
6:30 pm-8:30 pm	Marriott Marquis	Marina Ballroom D	Special Event	Welcome Networking Mixer, sponsored by the <b>ASBMB Minority Affairs Committee</b>
<b>MON, APRIL 23</b>	<b>Location</b>	<b>Room</b>	<b>Event (* advance event registration required)</b>	<b>Title</b>
7:00 am-8:00 am	Convention Center	11A	Brekke for Next Gens (*)	Undergraduates' breakfast with award lecturer, <b>Christine Guthrie</b> , <b>ASBMB-Merck Award, 2011</b>
8:30 am-9:05 am	Convention Center	6B	Earl & Thresa Stadman Scholar Awd Lecture	<b>David Sabatini</b> , Control of Growth by the mTOR Pathway
9:05 am-9:40 am	Convention Center	6B	ASBMB-Merck Award Lecture (2012)	<b>Xiaodong Wang</b> , Dissecting Cellular Necrosis Pathways
9:55 am-10:30 am	Convention Center	6A	Avanti Young Investigator Award Lecture presented in the symposium, <i>Metabolic Branchpoints/Lipid Channeling</i>	<b>Peter Espenshade</b> , Fungal SREBPs: Hypoxic Transcription Factors Required for Pathogenesis
9:55 am-12:10 pm	Convention Center	6F	Concurrent Symposia	RNA Dynamics: Function Follows Folding
	Convention Center	6E		Mechanism of DNA Replication
	Convention Center	6D		Organelle Quality Control
	Convention Center	6C		Drug Development and Apoptosis: Linking Tumor Regression to Cell Death
	Convention Center	6A		Metabolic Branchpoints/Lipid Channeling ( <b>Avanti Young Investigator</b> )
Convention Center	1B	In vivo Biochemistry of the Pathogen		
Convention Center	1A	Maximizing Your Marketability		
Poster Manning Times 12:25 pm-1:55 pm or 1:05 pm-2:35 pm	Convention Center	Exhibit Hall	Poster Sessions	Consult program for specific schedule information
12:30 pm-2:00 pm	Convention Center	11A	Workshop	Lipid Droplets: Basic Working Principles Workshop
12:30 pm-2:00 pm	Convention Center	6B	Public Policy	Effectively Communicating Your Science
2:55 pm-3:30 pm	Convention Center	6B	Ruth Kirschstein Diversity in Science Awd Lecture	<b>Lovell Jones</b> , Changing the Course of America Through Mentoring
3:45 pm-6:00 pm	Convention Center	6F	Concurrent Symposia	Fundamental Mechanisms in Gene Regulation
		6E		Networks and Time
		6D		Protein Targeting and Translocation
		6C		Chemistry in the Service of Medicine

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MON, APRIL 23	Location	Room	Event (* advance event registration required)	Title
3:45 pm-6:00 pm	Convention Center	6A	Concurrent Symposia	Signaling and Metabolism
		1B		Role of Glycoconjugates in Signaling and Development
3:45 pm-6:00 pm	Convention Center	1A	Concurrent Symposia	Maximizing Your Global Outreach
6:00 pm-7:00 pm	Convention Center	West Terr. (Bay Side)	ASBMB Thematic Fermentation Hour	ASBMB's Happy Hour for Biochemists and Molecular Biologists
7:00 pm-7:45pm	Convention Center	6A Lobby	Poetry Reading	ASBMB Inaugural Poetry Competition Reading - Winners will read their science-themed prose for all to enjoy! Consult program for specific schedule information for this dance party!
Late	TBA	TBA	Y.E.S. Mixer (Young Experimental Scientists)	
<b>TUES, APRIL 24</b>	<b>Location</b>	<b>Room</b>	<b>Event (* advance event registration required)</b>	<b>Title</b>
8:30 am-9:05 am	Convention Center	6B	DeLano Award for Computational Biosciences Lecture	<b>Barry Honig</b> , Physical Principles Underlying Cadherin-Mediated Cell-Cell Recognition
9:05 am-9:40 am	Convention Center	6B	William C. Rose Award Lecture	<b>Susan Marqusee</b> , Touring the Protein Energy Landscape: The View Depends on Where and How You Look
		6F		Transcriptional Regulation During Growth and Development
		6E		Networks and Space
		6D		Factors Modulating Protein Quality Control
		6C		Metabolic Engineering: From Antibiotics to Biofuels
		6A		Cancer Cell Metabolism
		1B		Novel Metabolic Routes of Glycoconjugate Assembly
9:55 am-12:10 pm	Convention Center	1A		Promoting Concept Driven Teaching Strategies in BMB ...
				Consult program for specific schedule information
		Exhibit Hall	Poster Sessions	
		11A	Professional Development Workshop (*)	Work Life Balance: A Professional Development Workshop for Students, Postdocs and Junior Faculty
		6B	ASBMB Young Investigator Award Lecture	<b>Kim Orth</b> , Black Spot, Black Death, Black Pearl: The Tales of Bacterial Effectors
		6F		RNA-based Regulation: A Diversity of Mechanisms
		6E		Coupling of DNA Repair and Replication
3:45 pm-6:00 pm	Convention Center	6D	Concurrent Symposia	Organization of the Secretory Pathway
		6C		Targeted Cancer Drug Development: Defining Molecular Profiles of
		6A		Lipid Signaling, Infection and Atherosclerosis
		1B		Biochemical Mediators of the Host-Pathogen Interaction
		11A		ASBMB Women Scientists' Networking Event/Reception
6:00 pm-8:00 pm	Convention Center	11A	Special Event	
<b>WED, APRIL 25</b>	<b>Location</b>	<b>Room</b>	<b>Event (* advance event registration required)</b>	<b>Title</b>
9:00 am-9:35 am	Convention Center	6B	Herbert A. Sober Lectureship	<b>Peggy Farnham</b> , Using Genomic Technologies to Investigate Transcriptional Regulation in Normal and Cancer Cells
9:55 am-12:10 pm	Convention Center	6F	Concurrent Symposia	Ribosomes: Regulation of Access to mRNA
		6E		Telomeres and Telomerase
		6D		Endomembrane System Dynamics
		6C		New Methodologies for Target Discovery and Target Validation

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<b>WED, APRIL 25</b>	<b>Location</b>	<b>Room</b>	<b>Event (*): advance event registration required</b>	<b>Title</b>
9:55 am-12:10 pm	Convention Center	6A	Concurrent Symposia	Lipid Regulation of Protein Function
	Convention Center	1B		Relationship of Host and Pathogen
Poster Manning Times 12:15 pm-1:30 pm	Convention Center	Exhibit Hall	Late-Breaking Poster Sessions	Consult program for specific schedule information
	Convention Center	6F		Interplay between Chromatin Structure and the Transcription Machinery
1:45 pm-4:00 pm	Convention Center	6E		Concurrent Symposia
	Convention Center	6D	Protein Quality Control and Disease	
	Convention Center	6C	Frontiers in Mechanistic Enzymology	
	Convention Center	6A	Aging Metabolism	
	Convention Center	1B	Roles of Glycoconjugates in Metabolism and Disease	
<b>4:00 pm</b>			<b>Meeting Concludes</b>	

# American Society for Nutrition at Experimental Biology 2012 – San Diego, CA

All sessions listed are in the San Diego Convention Center.

		SATURDAY, APRIL 21 <sup>st</sup>		SUNDAY, APRIL 22 <sup>nd</sup>	
		8:00-10:00 AM	10:30 AM -12:30 PM	8:00-10:00 AM	10:30 AM -12:30 PM
Ballroom 20 D		8:30 am- 12:00 pm Energy Balance: A New Paradigm <i>J.A. Milner and D. Tancredi</i>		The Role of Dietary Components in Leptin Resistance <i>J.R. Vasselli</i>	Presidential Symposium & DANONE Award: Nutrition and the Human Gut Microbiome <i>S.M. Donovan and Award Winner, J.I. Gordon</i>
31 ABC		Helpful or Harmful: Soy, Isoflavones, and Cancer Risk <i>B. Lindshield and M. Messina</i>	Strategic, Global Approaches to Improve Breastfeeding Rates <i>C. Litter and A. Morrow</i>	Sustainability in the 21 <sup>st</sup> Century: Food, Nutrition, Agriculture, Economics and the Environment <i>N. Auestad and J.M Gazzaniga-Moloo</i>	Food Insecurity and Health Across the Lifespan <i>M.A. Johnson and J.S. Lee</i>
Education Track 29AB		9:00 AM - 10:30AM Clinical Emerging Leaders Award Competition	11:00AM - 1:00 PM The Postdoctoral Research Award Competition	Utilizing a Multi-level Team Approach: Lessons Learned from the Vitamin D DRI-setting Activity <i>N.E. Moran and V.V. Potter</i>	Zinc Nutrition: From Discovery to Global Health Impact <i>H. H. Sandstead</i>
<i>All minisymposia are programmed in rooms 32B - 29C</i>					
32B		Carotenoids and Health	Carotenoids: Bioavailability and Metabolism	Mechanisms of Action and Molecular Targets of Dietary Bioactive Comp. I	Bioavailability, Metabolism and Biomarkers of Dietary Bioactive Comp.
32A		The Experience of Household Food Insecurity	Creating Healthy Food Environments	Redefine Obesity – Body Weight vs. Adiposity	Obesity, Inflammation and Chronic Disease Modulation by Dietary Phytonutrients
30D			Policies and Programs to Improve Children's Nutrition	Micronutrient Interventions	B Vitamins and One-Carbon Metabolism
30C			Animal Research Models for Macronutrient Metabolism	Immune Modulating Nutraceuticals and Functional Foods	Nutritional Immunology
30B				Epigenetics and Nutrition	Maternal Programming of Gene Expression
30A				Risk Factor Modification in Chronic Disease II: Nuts, Pulses, and Flavonols	Application of Novel Statistical Methods for Use in Nutritional Epidemiology
29D				What should I eat? Nutritional Effects of Foods	Breast Feeding, Early Child Feeding, Diet and Growth Trends
29C			Breastfeeding and Human Milk: Effects on the Recipient Infant and/or Lactating Mother	Longitudinal and Cross-Sectional Analysis of Associations between Diet and Health Outcome	Innovative Tools for Assessment of Diet, Physical Activity, and Related Behaviors

This overview includes sessions programmed by ASN's Scientific Program Committee.  
View ASN's Society Highlights and Guest Society Highlights in the onsite program for satellite symposia and Council, RIS and other activities.

# American Society for Nutrition at Experimental Biology 2012 – San Diego, CA

All sessions listed are in the San Diego Convention Center.

		TUESDAY, APRIL 24 <sup>th</sup>		
	MONDAY, APRIL 23 <sup>rd</sup>	8:00-10:00 AM	10:30 AM -12:30 PM	3:00-5:00 PM
Ballroom 20 D	8:00-10:00 AM	GPEC Forum: Using Interdisciplinary Tools to Evaluate Nutr. Interventions J.D. Haas and G.S. Marquis	10:30 AM -12:30 PM	3:00-5:00 PM
			Probiotics for Optimal Nutrition. From Efficacy to Guidelines S.M. Donovan and G.S. Howarth *E.V. McCollum Lecture 12:45-1:45	Frontiers in Fiber Nutrition Research and Application S.M. Kuo and C.L. Pelkman
31 ABC	Real-world Nutrition Translation Blended with Food Science M. Ferruzzi and R. Clemens	Metabolic Regulation by Amino Acids for Optimal Health S.M. Hutson and T.G. Anthony	Expanding the Frontiers of Nutrition Research D. Pelletier and C. Porter	Monounsaturates - The Forgiven Fats D. Heber
Education Track Room 29AB	Health Impact of Whole Grains, Bran and Cereal Fiber D.M. Klurfeld and I.S. Kim	Utilizing a Stepwise Procedure to Design Effective Nutrition Education S. Goodell *1:00PM-2:30PM Establishing and Evaluating Health Claims for Probiotics S.M. Donovan and M.E. Sanders	FNB Update: Not At All Quiet on the Labeling Front, and Remarques about Sodium L. Meyers and D.M. Bier	Adipose Dysfunction: Interaction of ROS and Inflammation D. Picklo, K. Claycombe and M. Meydani *W.O. Atwater Lecture 12:45-1:45
	32B	Epidemiologic and Systems Biology Approaches	Effects of Dietary Bioactive Comp. on Experimental Models of Chronic Disease Risk	Emerging Biomarkers for Cardiovascular Disease: Beyond LDL Cholesterol K.M. Park and B.H. Rice
32A	Preventing Childhood Obesity	Obesity and Metabolic Syndrome	Childhood Obesity: When Should We Intervene?	Intervention Points in Obesity: Worksite Interventions for Weight Control S.B. Roberts and N. Krebs
30D	Se 1: Selenoprotein Synthesis, Metabolism, and Function	Se II: Selenium in Cancer, Inflammation, and Oxidative Stress	Micronutrient Bioavailability	Scientific Career Advancement for Early Stage Investigators V.V. Potter
30C	Lipid and Fatty Acid Metabolism and Trans. Nutrient Gene Interactions	Dietary Factors Affecting Lipid Metabolism Nutrient Gene Interaction in Models of Neurodegenerative/Neuromuscular Disease	Diet and Cancer: Molecular Targets	Cardiovascular Effects of Dietary Bioactive Components
30B	Osteoporosis and Bone Metabolism in Aging	Applications and Challenges of Public Use Data Sets for Secondary Data Analysis Nutrition Research	Nutrition and Cognitive and Physical Function in Older Adults	Vitamin D and Obesity: From Cellular to Clinical Trials
29D	Community Nutrition Programs and Policies for Older Adults	Weight Management in Real Life	Breastfeeding: Determinants of Initiation, Duration...	Risk Factor Modification in Chronic Disease I: Macronutrient Manipulation
29C	Development of Evidence-based Nutrition Education	Influences of Water and Beverage Consumption on Nutrition and Health Outcomes	Energy Balance, Macronutrients & Weight Management	Diet and Cancer: Translation, Clinical and Survivorship
			Global Health: Dietary Intakes and Health Outcomes in Diverse Pop.	Revitalizing Local Food Systems
			Carbohydrate Metabolism	Lactation: Biology of Milk Production and Secretion
			Advancing Nutrition Policy and Improving the Effects of Nutrition Programs	Feeding Young Children
			Nutrition Science and Improving the Effects of Nutrition Programs	Micronutrients: Measurement, Interventions and Outcomes

# American Society for Nutrition at Experimental Biology 2012 – San Diego, CA

All sessions listed are in the San Diego Convention Center.

WEDNESDAY, APRIL 25 <sup>th</sup>	
	<p><b>8:00-10:00 AM</b>  <b>Nutritional Prevention of Cognitive Decline</b>  <i>L. Arab and R. Bailey</i></p>
Ballroom 20 D	<p><b>10:30 AM -12:30 PM</b>  <b>Macronutrients as Tools to Counter Age-related Changes in Skeletal Muscle</b>  <i>W. W. Campbell</i></p>
31 ABC	<p><b>Nutritional Regulation of Epigenetic Change</b>  <i>D. F. Romagnolo and T. R. Ziegler</i></p>
Education Track 29AB	

# American Society for Nutrition at Experimental Biology 2012 – San Diego, CA

All sessions listed are in the San Diego Convention Center.

Posters will be displayed 8:30 AM – 5:00 PM Sunday - Tuesday. Authors MUST be present by their boards 12:45 PM- 2:45 PM.

Sunday Posters:	Monday Posters:	Tuesday Posters:
<ul style="list-style-type: none"> <li>▪ Lactation: Biology of Milk Production and Secretion</li> <li>▪ Milk Bioactive Components</li> <li>▪ Nutrition Interventions for Risk Factor Modification in Chronic Disease</li> <li>▪ Nutrition and Cognitive and Physical Function in Older Adults</li> <li>▪ Community Nutrition Programs and Policies for Older Adults</li> <li>▪ Creating Healthy Food Environments</li> <li>▪ What Should I Eat? Nutritional Effects of Foods</li> <li>▪ The Experience of Household Food Insecurity</li> <li>▪ Behavioral Science and Eating Behavior Change</li> <li>▪ Nutrition Intervention in Diabetes Care</li> <li>▪ Nutrition and Sustainability</li> <li>▪ Food-Related Behaviors: Critical for Food Policy</li> <li>▪ Understanding and Communicating Benefits/Risks of Natural-State Foods (e.g. Minimally Processed, Natural, Organic)</li> <li>▪ Metabolic Phenotyping, Metabolomics and Biomarkers</li> <li>▪ Carbohydrate Metabolism</li> <li>▪ Regulation of Food Intake</li> <li>▪ Carotenoids and Health</li> <li>▪ Iron, Copper and Chronic Disease</li> <li>▪ Vitamin D and Obesity: From Cellular to Clinical Trials</li> <li>▪ Fat Soluble Vitamins and Chronic Disease</li> <li>▪ Mechanisms of Action and Molecular Targets of Dietary Bioactive Components</li> <li>▪ Epidemiologic Associations between Dietary Bioactive Components and Health</li> <li>▪ Bioavailability, Metabolism and Biomarkers of Dietary Bioactive Components</li> <li>▪ Nutrient-Gene Interactions</li> <li>▪ Nutrients, Epigenetics and Maternal Programming</li> <li>▪ Nutrient-Gene Interactions in Models of Neurogenerative/Neuromuscular and Metabolic Disease</li> <li>▪ Animal Research Models in Nutrition and Musculoskeletal Development</li> <li>▪ Animal Research Models for Macronutrient Metabolism</li> <li>▪ Long-term Effects on Nutrition</li> <li>▪ Interventions to Improve Diet and/or Nutrition Outcomes</li> <li>▪ Communication and Education</li> </ul>	<ul style="list-style-type: none"> <li>▪ Breastfeeding: Determinants, Initiation, Duration</li> <li>▪ Breastfeeding and Human Milk: Effect on the Recipient Infant/ or Lactating Mother</li> <li>▪ Nutritional Assessment and Status in Older Populations</li> <li>▪ Correlates, Consequences and Treatment of Obesity in Older Adults</li> <li>▪ Osteoporosis and Bone Metabolism in the Aging</li> <li>▪ Child Nutrition and Growth: Issues and Challenges</li> <li>▪ Global Health: Dietary Intakes and Health Outcomes in Diverse Populations</li> <li>▪ Weight Management in Real Life</li> <li>▪ Feeding Young Children</li> <li>▪ Nutrition Education</li> <li>▪ Childhood Obesity: When Should We Intervene?</li> <li>▪ Redefine Obesity: Body Weight versus Adiposity</li> <li>▪ Obesity, Inflammation and Chronic Disease Modulation by Dietary Phytonutrients</li> <li>▪ Obesity and Metabolic Syndrome</li> <li>▪ Energy Balance, Macronutrient and Weight Management</li> <li>▪ Effects of Dietary Bioactive Components on Experimental Models of Chronic Disease Risk</li> <li>▪ Diet and Cancer: Molecular Targets</li> <li>▪ Antioxidant and Anti-inflammatory Effects of Dietary Bioactive Components</li> <li>▪ Obesity, Inflammation and Nutrigenomics</li> <li>▪ Intestinal Physiology and Digestive Function</li> <li>▪ Measuring Diet and Nutritional Status</li> <li>▪ Nutrition-Related Chronic Disease</li> <li>▪ Diet, Physical Activity, Food Security Trends and Patterns</li> <li>▪ Prenatal Nutrient Programming</li> <li>▪ Nutrition and the Microbiome</li> <li>▪ Diet-Gene Interactions in the Etiology of Obesity and Weight-Related Comorbidities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Innovative Tools for Assessment of Diet, Physical Activity, and Related Behaviors</li> <li>▪ Applications and Challenges of Public Use Data Sets for Secondary Analysis Nutrition Research</li> <li>▪ Longitudinal and Cross-Sectional Analysis of Associations between Diet and Health Outcomes</li> <li>▪ Application of Novel Statistical Methods for Use in Nutritional Epidemiology</li> <li>▪ Dietary Supplements as a Population Exposure in Causation, Prevention, and Management of Disease</li> <li>▪ Influences of Water and Beverage Consumption on Nutrition and Health Status</li> <li>▪ Nutrition Education in Diverse Populations</li> <li>▪ Preventing Childhood Obesity</li> <li>▪ Nutrigenomics: Population, Racial/Ethnic Differences</li> <li>▪ Protein and Amino Acid Metabolism</li> <li>▪ Lipid and Fatty Acid Metabolism and Transport</li> <li>▪ Dietary Factors Affecting Lipid Metabolism</li> <li>▪ Polyunsaturated Fatty Acids and Health</li> <li>▪ Antioxidant Micronutrients</li> <li>▪ Water Soluble Vitamins</li> <li>▪ Micronutrient Bioavailability</li> <li>▪ B Vitamins and One-Carbon Metabolism</li> <li>▪ Micronutrient Interventions</li> <li>▪ Selenium</li> <li>▪ Diet and Cancer: Animal Studies</li> <li>▪ Diet and Cancer: Translational, Clinical and Survivorship</li> <li>▪ Dietary Bioactive Components of Medicinal, Functional and Whole Foods Including Probiotics and Fermented Foods</li> <li>▪ Cardiovascular Effects of Dietary Bioactive Components</li> <li>▪ Nutritional Immunology and Immune Modulating Nutraceuticals and Functional Foods</li> <li>▪ The Determinants of Feeding Practices, Dietary Intake and Nutritional Status</li> <li>▪ Advancing Nutrition Policy and Improving the Effectiveness of Nutrition Programs</li> <li>▪ Nutritional Status, Diet and Disease</li> <li>▪ Intervention Studies and Growth, Micronutrients</li> <li>▪ Interventions for the Treatment and Prevention of Nutrition-Related Disease</li> <li>▪ Nutrition and Inflammation</li> </ul>

Late Breaking posters will be on display Wednesday, April 25, 2012 starting at 8:30 AM. Authors MUST be present by their boards 10:00 AM – 11:00 AM.

**Late Breaking Posters will include:** Biochemistry of Vitamins and Minerals; Energy and Nutrient Metabolism; Human and Clinical Nutrition; Metabolic and Disease

PROGRAM

# American Society for Investigative Pathology Sessions at Experimental Biology 2012 – San Diego, CA

All sessions listed are in the San Diego Convention Center, unless otherwise noted.

Saturday, April 21		Sunday, April 22		Monday, April 23		Tuesday, April 24		Wednesday, April 25	
AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
<p><b>Symposium</b> Mesenchymal Stem Cells and Lung Disease <b>M.A. Matthay, D.S. Zander</b> 8:30 AM – Room 17A</p>	<p><b>Highlights:</b> Graduate Student Research in Pathology <b>D. Bienenberg, K. Kolegraf</b> 1:30 PM – Room 15B</p>	<p><b>Career Development Workshop and Breakfast:</b> Getting Your Dream Job: Preparing Your CV and Managing Your Interview <b>R. Barrios, T. Sander</b> 7:00AM – San Diego Marriott Marquis &amp; Marina, Laguna</p>	<p><b>BLOOD VESSEL CLUB™</b>, Vascular Development <b>D.S. Wilstone</b> 2:00 PM – Room 16B</p>	<p><b>ASIP Cotran Early Career Investigator Award Lecture:</b> Molecular Engines that Build and Break Epithelial Barriers <b>A.J. Ivanov</b> 8:30 AM – Room 16A</p>	<p><b>Lunch &amp; Learn:</b> Best Practices of Biobanking &amp; Specimen Collection <b>W. Mars, M. Hameed, T. Sander</b> 12:45 PM – Room 14A</p>	<p><b>Molecular and Cellular Basis of Disease</b> Host Microbe Interactions: The Microbiota and Systemic Disease <b>A.S. Neish, S. Lynch</b> 8:30 AM – Room 16A</p>	<p><b>Molecular and Cellular Basis of Disease</b> New Concepts in Vascular Biology: Endothelial Bacterial Interactions <b>M. Hickey, F.W. Luschnig</b> 2:00 PM – Room 16A</p>	<p><b>Symposium</b> Innate Immunity in the Brain <b>C.A. Wiley, J. Koffer</b> 8:30 AM – Room 16B</p>	
<p><b>Course</b> Pathology for Basic Scientists: Cell Injury and Inflammation: New Riffs on a Classical Score <b>R.N. Mitchell, M.B. Furie</b> 8:30 AM – 16A</p>	<p><b>Symposium</b> iPS Cells: Are We There Yet? <b>G.K. Michalopoulos</b> 2:00 PM – Room 16A</p>	<p><b>Molecular and Cellular Basis of Disease</b> Liver Pathology: Liver Injury, Fibrosis and Hepatocellular Cancer <b>S.P. Monga</b> 2:00 PM – Room 16A</p>	<p><b>Molecular and Cellular Basis of Disease</b> Evolutionary Aspects of Animal Models <b>E. Uni, M. Oglesbee</b> 9:30 AM – Room 16B <i>Cosponsored by ASN</i></p>	<p><b>ACVP Symposium:</b> Evolutionary Aspects of Animal Models <b>E. Uni, M. Oglesbee</b> 9:30 AM – Room 16B <i>Cosponsored by ASN</i></p>	<p><b>Veterinary Pathology Scientific Interest Group</b> Lunch/Networking Event <b>M. McArthur, E. Galbreath, E. Whitely, D. Hutto</b> 12:45 PM – Sails Pavilion</p>	<p><b>SCVP Symposium</b> The Pathogenesis and Molecular Diagnosis of Cardiomypathies <b>J. Lira, M.S. Willis, J. Seidman, L.M. Buja</b> 8:30 AM – Room 16B</p>	<p><b>Symposium</b> Protein Misfolding and Chaperonopathies <b>J. Lira, M.S. Willis</b> 2:00 PM – Room 17A</p>	<p><b>Symposium:</b> Recent Advances in the Pathobiology of Diabetic Complications <b>I. Jialal, S. Devaraj</b> 8:30 AM – Room 16A</p>	
<p><b>Workshop</b> Breast Cancer Workshop: Personalized Medicine &amp; Breast Cancer <b>A.G. Rivenbark, W.B. Coleman</b> 8:30 AM – 16B</p>	<p><b>Symposium</b> The Myofibroblast: Biological Features and Therapeutic Perspective <b>C.M. Hogaboam</b> 2:00 PM – Room 16B</p>	<p><b>Symposium</b> Computational Phenomics: The Potential of High-throughput, Whole-Animal Image Analysis for Elucidating Gene Function and Chemical Toxicity <b>K.C. Cheng, A. Madabhushi</b> 8:30 AM – Room 17A</p>	<p><b>ISBER Symposium:</b> Better Disease Biomarkers Through Biobanking <b>M. Hogan, G. Hostetter</b> 9:30 AM – Room 17A <i>(ISBER is a Division of ASIP)</i></p>	<p><b>ASIP Presidential Symposium:</b> Pathogen-Host Interactions: Provoking and Evading the Immune Response <b>M.B. Furie</b> 2:00 PM – Room 16A</p>	<p><b>ASIP Membership Business Meeting and Awards Presentation</b> <b>M.B. Furie</b> 5:00 PM – Room 16A</p>	<p><b>Workshop</b> Autophagy in Cellular Homeostasis and Diseases <b>A.J. Ivanov, X.M. Yin</b> 8:30 AM – Room 17A</p>	<p><b>ISAMM Symposium:</b> Advances in Ultrasensitive RNA In Situ Hybridization <b>R.R. Tubbs, L.E. DeBaut</b> 2:00 PM – Room 17B</p>	<p><b>Minisymposium</b> Animal Models <b>M.J. McArthur, E. Whitely</b> 8:30 AM – Room 17B</p>	
<p><b>Minisymposium</b> To Grow or Not to Grow <b>C. Hughes, M.J. McArthur</b> 8:30 AM – 17B</p>	<p><b>Minisymposium</b> Acute Inflammatory Response <b>M. Cybulsky, P. Alcalde</b> 2:00 PM – 17A</p>	<p><b>Symposium</b> Regulation of Epithelial Junctions in Development and Diseases <b>A.J. Ivanov, A. Nusrat</b> 8:30 AM – Room 16B</p>	<p><b>Stowell Symposium</b> Trends in Experimental Pathology: Metabolism &amp; Cancer <b>S. Ando, A. Mantovani</b> 9:30 AM – Room 16A <i>Co-Sponsored by SIP</i></p>	<p><b>ASIP Awards Reception</b> <b>M.B. Furie</b> 5:00 PM – Room 16A</p>	<p><b>ASIP Membership Business Meeting and Awards Presentation</b> <b>M.B. Furie</b> 5:00 PM – Room 16A</p>	<p><b>Special Session</b> Scientific Sleuthing of Human Disease for High School Teachers <b>M.B. Furie, K. Nejak-Bown</b> 8:30 AM – San Diego Marriott Marquis &amp; Marina, Del Mar</p>	<p><b>EB Wide Symposium:</b> National Institutes of Health: Programs and Policies Updates from Institutes <b>P. Dasgupta, V. Castronovo, J. Chatham, S. Barman</b> 2:00 PM – Room 1A</p>	<p><b>Minisymposium</b> Modeling Cancer: Biological and Therapeutic Implications <b>P. Dasgupta, V. Castronovo</b> 8:30 AM – Room 17A</p>	
<p><b>ASMB Lecture:</b> Fibronectin matrix assembly in development and disease. <b>J.E. Schwarzbauer</b> 11:30 AM – Room 16B</p>	<p><b>Minisymposium</b> Epithelial Injury and Repair <b>S. Colgan, R. Jones</b> 2:00 PM – 17B</p>	<p><b>Minisymposium</b> Mechanisms of Cardiac Pathobiology <b>L.M. Buja, M.S. Willis</b> 8:30 AM – Room 15B</p>	<p><b>Minisymposium</b> Biology of Liver Growth &amp; Regeneration <b>T. Wu, K. Nejak-Bowen</b> 9:30 AM – Room 17B</p>	<p><b>ASIP Awards Reception</b> 6:00 PM – Mezzanine Foyer</p>	<p><b>ASIP Awards Reception</b> 6:00 PM – Mezzanine Foyer</p>	<p><b>Minisymposium</b> Combating Cancer through Improved Diagnosis and Therapeutics <b>M.E. Sobel, A. Gasperi-Campani</b> 8:30 AM – Room 15B</p>	<p><b>Minisymposium</b> Novel Strategies for Liver Injury, Fibrosis &amp; Cancer <b>C. Gandhi, P. Stock</b> 2:00 PM – Room 16B</p>	<p><b>Minisymposium</b> Novel Strategies for Liver Injury, Fibrosis &amp; Cancer <b>C. Gandhi, P. Stock</b> 2:00 PM – Room 16B</p>	
<p><b>Workshop</b> 12<sup>th</sup> Annual Workshop on Graduate Education in Pathology: Genomics and Personalized Medicine in the Graduate Curriculum <b>R.N. Mitchell</b> 11:30 AM – San Diego Marriott Marquis &amp; Marina, Cardiff</p>	<p><b>ASIP Excellence in Science Award Lecture:</b> Mechanisms of TDP-43 Mediated Neurodegeneration in ALS and FTLD90 <b>E.B. Lee</b> 3:35 PM – Room 15B</p>	<p><b>Minisymposium</b> Inflammation and Immunopathology <b>J. Homeister, B. McCormick</b> 8:30 AM – Room 17B</p>	<p><b>Minisymposium</b> Cell Junctions &amp; Signaling <b>J. Wäschke, N. Louis</b> 9:30 AM – Room 15B</p>	<p><b>Minisymposium</b> Neuropathology <b>C.A. Wiley, E. Masliah</b> 8:30 AM – Room 15A</p>	<p><b>Minisymposium</b> Neuropathology <b>C.A. Wiley, E. Masliah</b> 8:30 AM – Room 15A</p>	<p><b>Minisymposium</b> Neuropathology <b>C.A. Wiley, E. Masliah</b> 8:30 AM – Room 15A</p>	<p><b>Inflammation/Immunopathology and Mucosal Pathobiology Scientific Interest Groups</b> Endothelial and Epithelial Contributions to Homeostasis and the Inflammatory Response <b>F.W. Luschnig, A.S. Neish, A. Nusrat</b> 5:30 PM – San Diego Marriott Marquis &amp; Marina, Del Mar</p>	<p><b>Inflammation/Immunopathology and Mucosal Pathobiology Scientific Interest Groups</b> Endothelial and Epithelial Contributions to Homeostasis and the Inflammatory Response <b>F.W. Luschnig, A.S. Neish, A. Nusrat</b> 5:30 PM – San Diego Marriott Marquis &amp; Marina, Del Mar</p>	



# American Society for Investigative Pathology Sessions at Experimental Biology 2012 – San Diego, CA

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Saturday, April 21		Sunday, April 22		Monday, April 23		Tuesday, April 24		Wednesday, April 25	
AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
<b>Breast Cancer Scientific Interest Group</b> Networking/Poster Session <b>A.G. Rivenbark,</b> <b>W.B. Coleman</b> 11:45 AM – Room 1B	<b>ASIP Trainee Welcome Reception</b> 4:00PM – Room 15A	<b>12<sup>th</sup> Annual Career Development Program and Lunch:</b> Fundamental Basics of Success: How to Write Award-Winning Grants <b>T.A. Reaves,</b> <b>J.S. Reuben</b> 11:45 AM – San Diego Marriott Marquis & Marina, Presidio 1-2  Cosponsored by AAA	<b>Club Hepatomania™ S.P. Monga</b> 6:30 PM – San Diego Marriott Marquis & Marina, Torrey Pines 2/3	<b>Minisymposium</b> Phagocytes and Infection <b>B. McCormick,</b> <b>T. Denning</b> 9:30 AM – Room 15A		<b>Minisymposium</b> Regulation of the Extracellular Matrix in the Pathophysiology of Disease <b>C. Yates-Binder,</b> <b>J. Homeister</b> 8:30 AM – Room 17B			
<b>ASIP Outstanding Investigator Award</b> Lecture: Lost in Ubiquitination, Found by Mass Spectrometry: Identification of E3 Ligase Substrates: Controlling Critical Cellular Events and Cancer <b>K. Elenitoba-Johnson</b> 5:00 PM – Room 16A			<b>Der Schadenklub – Cell Injury Scientific Interest Group Networking Reception/Poster Session</b> <b>M.S. Willis</b> 6:30 PM – San Diego Marriott Marquis & Marina, Marina Ballroom – Salon E			<b>Neuropathology Scientific Interest Group</b> Lunch/Networking Session <b>C.A. Wiley, C. Kolarcik</b> 11:45 AM – Room 33A			

# American Society for Pharmacology and Experimental Therapeutics at Experimental Biology 2012 – San Diego, CA

All sessions listed are in the San Diego Convention Center unless otherwise noted.

ASPE Booths 801-805		Exhibits 9:00 AM – 4:00 PM Sunday-Tuesday						
Saturday, 4/21	Sunday AM, 4/22	Sunday PM, 4/22	Monday AM, 4/23	Monday PM, 4/23	Tues AM, 4/24	Tues PM, 4/24	Wed AM, 4/25	Wed PM, 4/25
<b>Behavioral Pharmacology Meeting</b> 8:00 AM – 6:00 PM San Diego Marriott, Marina Ballroom Salon F Separate, pre-registration required	<b>WIP Into Shape Networking Walk</b> 7:00 AM – 9:00 AM Marriott, meet at Concierge Desk <b>Diversity Committee Mentoring Breakfast</b> 7:30 AM – 9:00 AM Marriott, Anaheim	<b>JULIUS AXELROD AWARD LECTURE:</b> From farm to pharm: A journey with Serotonin <i>E. Sanders-Bush</i> 2:00 PM – 3:00 PM <b>Room 2</b>	<b>NEU, MP</b> Location, location, location: The role of membrane microdomains in dopamine transporter function & trafficking <i>H. Khashabaei, H. Melikian</i> 9:30 AM – 12:00 PM <b>Room 2</b>	<b>P. B. DEWS AWARD LECTURE:</b> Behavioral determinants of pharmacological plasticity <i>J. Barrett</i> 2:00 PM – 3:00 PM <b>Room 2</b> <b>BEHAVIORAL PHARMACOLOGY DIVISION</b> The behavioral pharmacology of drugs of abuse & drug dependence: A tribute to Steve Holtzman & Bob Schuster <i>L. Dykstra, C. Paronis</i> 3:00 PM – 5:30 PM <b>Room 2</b> <b>BEH BUSINESS MEETING</b> 5:45 PM – 6:45 PM <b>Room 2</b>	<b>J.J. ABEL LECTURE:</b> Spatiotemporal regulation of protein kinases in living cells <i>J. Zhang</i> 8:30 AM – 9:30 AM <b>Room 2</b>	<b>CARDIOVASCULAR PHARMACOLOGY DIVISION</b> Trainee Showcase 2:30 PM – 4:30 PM <b>Room 2</b>	<b>RAY FULLER LECTURE:</b> Fulfilling the promise of molecular medicine in autism spectrum disorders <i>M. Bear</i> 8:30 AM – 9:30 AM <b>Room 2</b> <b>RAY FULLER SYMPOSIUM:</b> Progress toward autism drug discovery <i>M. Bear</i> 9:30 AM – 12:00 PM <b>Room 2</b>	<b>NEU, BEH, MP</b> Discovery of protein kinase inhibitors for CNS disorders: Opening new avenues for unmet needs <i>M. Gnegy, D. Watterson</i> 3:00 PM – 5:30 PM <b>Room 3</b>
	<b>Diversity Committee Workshop:</b> Building a career in pharmaceutical: A focus on health disparities <i>M.I. Davila-Garcia, R. Thurmond</i> 12:00 PM – 2:30 PM <b>Room 2</b> <b>Graduate Student Colloquium:</b> Communication 2:45 PM – 5:15 PM <i>L. Schrott, J.S. Fedan, M.J. Seminerio</i> <b>Room 2</b>	<b>BEH, NEU, TOX</b> Cognitive enhancement to improve treatment outcome & quality of life associated with neuropathologies <i>R. Gould, M. Nader</i> 9:30 AM – 12:00 PM <b>Room 3</b>	<b>BEH, DDDRA, NEU</b> The behavior of pain <i>T. Martin</i> 3:00 PM – 5:30 PM <b>Room 3</b>	<b>BEH, NEU, TOX</b> Cognitive enhancement to improve treatment outcome & quality of life associated with neuropathologies <i>R. Gould, M. Nader</i> 9:30 AM – 12:00 PM <b>Room 3</b>	<b>B.B. BRODIE AWARD LECTURE:</b> Drug transporters: Roles in new drug discovery and development <i>Y. Sugiyama</i> 2:00 PM – 3:00 PM <b>Room 3</b> <b>DRUG METABOLISM DIVISION</b> James R. Gillette Best Paper Award & Platform Session 3:00 PM – 5:30 PM <b>Room 3</b> <b>DM BUSINESS MEETING</b> 5:45 PM – 6:45 PM <b>Room 3</b>	<b>MP, NEU, ISTCP</b> Toll-like receptors in neuroplasticity & disease <i>M. Mattson</i> 9:30 AM – 12:00 PM <b>Room 3</b>	<b>NEUROPHARMACOLOGY DIVISION</b> Postdoctoral Award Finalists 3:00 PM – 5:30 PM <b>Room 3</b> <b>NEU BUSINESS MEETING</b> 5:45 PM – 6:45 PM <b>Room 3</b>	<b>MP, DDDRA</b> Protein-protein interaction (PPI) interfaces as therapeutic targets: Promises & challenges <i>H. Fu</i> 9:30 AM – 12:00 PM <b>Room 3</b>
<b>2012 TEACHING INSTITUTE:</b> The use of social media in pharmacology education <i>L. Crespo</i> 12:00 PM – 2:30 PM <b>Room 3</b>	<b>BEH, NEU</b> Neuropsychological correlates of stimulant treatment for ADHD in adolescents & adults <i>C. Adavakat</i> 9:30 AM – 12:00 PM <b>Room 4</b>	<b>DM, ISTCP, TOX</b> Role of nuclear receptors in lipid dysregulation & obesity-related diseases <i>J. Chiang, H. Swanson</i> 3:00 PM – 5:30 PM <b>Room 5A</b>	<b>CVP, ISTCP</b> Perivascular (p) fat: Pharmacology, physiology & (P)function <i>A. Darrance, S. Warts</i> 9:30 AM – 12:00 PM <b>Room 4</b>	<b>WORKSHOP:</b> FDA's strategy to develop and validate new anticancer and cancer prevention agents and pathways 1:00 PM – 2:50 PM <i>K. Tew</i> <b>Room 4</b>	<b>NEU, BEH</b> The Nociceptin/orphanin FQ-NOP receptor system: Neurobiology, pharmacology & therapeutic opportunities <i>G. Calo</i> 9:30 AM – 12:00 PM <b>Room 4</b>	<b>MP, NEU</b> Regulation of TRP channels <i>M. Zhu</i> 3:00 PM – 5:30 PM <b>Room 4</b>	<b>DM, TOX, DDDRA</b> NADH-CYP450 oxidoreductase: Roles in physiology, pharmacology and toxicology <i>T. Porter, D. Riddick</i> 9:30 AM – 12:00 PM <b>Room 4</b>	<b>DDDRA</b> Clinical pipeline of marine natural products: The odyssey continues <i>K. Glaser, A. Mayer</i> 3:00 PM – 5:30 PM <b>Room 5A</b>

# American Society for Pharmacology and Experimental Therapeutics at Experimental Biology 2012 – San Diego, CA

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Saturday, 4/21	Sunday AM, 4/22	Sunday PM, 4/22	Monday AM, 4/23	Monday PM, 4/23	Tuesday AM, 4/24	Tuesday PM, 4/24	Wednesday AM, 4/25	Wednesday PM, 4/25
	<b>TOX, DM, ISTCP</b> Role of pharmacogenetics in oncology <i>E.P. Black, H. Swanson</i> 9:30 AM – 12:00 PM <b>Room 5A</b>	<b>CVP, ISTCP</b> Emerging role of heme oxygenase in cardiovascular & metabolic disease <i>N. Abraham</i> 3:00 PM – 5:30 PM <b>Room 5B</b> <b>CVP BUSINESS MEETING</b> 5:45 PM – 6:45 PM <b>Room 5B</b>	<b>DPE, BEH</b> The real world of therapeutic drugs: Bench to boardroom, the bedside & beyond <i>P.K. Rangachari</i> 9:30 AM – 12:00 PM <b>Room 5A</b>	<b>MOLECULAR PHARMACOLOGY DIVISION</b> Postdoctoral scientist award finalists 3:00 PM – 5:30 PM <b>Room 4</b>	<b>TOX, DM, DDDRA</b> From structure to knockout: Common themes between CYPs & ABC transporters <i>M. Vore</i> 9:30 AM – 12:00 PM <b>Room 5A</b>	<b>TOXICOLOGY DIVISION</b> The utilization of genetically modified mice to determine mechanisms of toxicity <i>J. Hinson</i> 3:00 PM – 5:30 PM <b>Room 5A</b> <b>TOX BUSINESS MEETING</b> 5:45 PM – 6:45 PM <b>Room 5A</b>	<b>ISTCP, TOX, NEU</b> Opioid-induced bowel dysfunction <i>H. Akbarali</i> 9:30 AM – 12:00 PM <b>Room 5A</b>	Applications of biomaterials & drug delivery systems for enhancing tissue engineering & regeneration <i>K.-E. Andersson, G. Christ</i> 3:00 PM – 5:30 PM <b>Room 5B</b>
<b>ASPET Business Meeting</b> 6:00 PM – 7:30 PM <b>Ballroom 20B/C</b>	<b>NEU, TOX, MP, DDDRA</b> Multi target agents: The yin & yang of rational drug discovery <i>A. Cross, M. Wood</i> 9:30 AM – 12:00 PM <b>Room 5B</b>	<b>DPE</b> Adapting TBL techniques to teach pharmacology to graduate, professional & medical students <i>R.S. Kumar</i> 3:00 PM – 5:30 PM <b>San Diego Marriott, Hall 5</b>	<b>DRUG DISCOVERY, DEVELOPMENT &amp; REGULATORY AFFAIRS DIVISION</b> Mitochondrial dysfunction in human disease <i>R. Davis, M. Williams</i> 9:30 AM – 12:00 PM <b>Room 5B</b>	<b>INTEGRATIVE SYSTEMS, TRANSLATIONAL &amp; CLINICAL PHARMACOLOGY DIVISION</b> Young Investigator Platform Awards Session 3:00 PM – 5:30 PM <b>Room 5A</b> <b>ISTCP BUSINESS MEETING</b> 5:45 PM – 6:45 PM <b>Room 5A</b>	<b>BEH, DDDRA, NEU</b> Models of affective disorders & pharmacological interventions: The influence of etiology in treatment approach <i>M. Nader, L. Howell</i> 9:30 AM – 12:00 PM <b>Room 5B</b>	<b>DDDRA, TOX, MP</b> Targeting PI3K for human diseases <i>T. Rao</i> 3:00 PM – 5:30 PM <b>Room 5B</b>		
<b>Opening Reception</b> 7:30 PM – 9:30 PM <b>Center Terrace</b>	<b>DPE</b> Building a pharmacology course from scratch: Benefits & pitfalls of a cut & paste pharmacology course <i>J. Szarek</i> 9:30 AM – 12:00 PM <b>San Diego Marriott, Hall 5</b>	<b>Graduate Student/Postdoc Best Abstract Competition</b> 6:30 PM – 8:30 PM <b>San Diego Marriott, Hall 3/4</b>	<b>DDRA BUSINESS MEETING</b> 12:15 PM – 1:15 PM <b>Room 5B</b>	<b>PHARMACOLOGY EDUCATION DIVISION</b> Strategies for pharmacology in integrated medical school curricula: Best practices for enhancing involvement of our discipline 3:00 PM – 5:30 PM <i>L. Crespo</i> <b>Room 5B</b> <b>DPE BUSINESS MEETING</b> 5:45 PM – 6:45 PM <b>Room 5B</b> <b>MP BUSINESS MEETING</b> 7:00 PM – 9:00 PM <b>Marriott, Presidio</b>	<b>Women in Pharmacology Career Roundtable</b> 1:00 PM – 3:00 PM <b>Room 12</b>			<b>ASPET Closing Reception</b> 6:00 PM – 8:00 PM <b>San Diego Marriott, Poolside Terrace</b>

Posters will be displayed 7:30 AM – 6:00 PM Sunday and Monday, 7:30 AM – 4:00 PM Tuesday, and 7:30 AM – 5:30 PM Wednesday. AUTHORS MUST BE PRESENT BY THEIR BOARDS 12:30 PM – 2:45 PM.

### Sunday Poster Sessions

Drugs of abuse-Cocaine  
Drugs of abuse-Depressants/Cannabinoids  
Monoamines/behavior  
Pharmacology of pain  
GPCR signaling  
Protease activated receptors  
GRKs and Arrestins  
cAMP signaling & compartmentation  
Phosphoinositide signaling  
Systems pharmacology/toxicology-Asthma & COPD  
Systems pharmacology/toxicology-Pulmonary  
Endothelium & ion channels  
Endothelial mechanisms  
Pharmacology of neuroprotection  
Mechanisms of gene expression  
Developmental Pharmacology/Toxicology

### Monday Poster Sessions

GPCR Ligand development  
GPCR modifications & trafficking  
AGS/AGS Proteins  
Kinases & phosphatases  
Endothelium dysfunction  
Vascular cell proliferation & angiogenesis  
Peripheral & central vascular pcol  
Neurotransmission  
Neurotransmitter transporters  
Neuronal & glial growth/differentiation  
Alzheimer's disease approaches  
Pharmacology of learning & memory  
Clinical pharmacology & toxicology  
Pharmacokinetics/pharmacodynamics  
Phase I/Phase II drug metabolism  
Drug discovery and development  
Mechanisms of cell injury/death

### Tuesday Poster Sessions

Cancer chemotherapy & mechanisms of toxicity I  
Cancer chemotherapy & mechanisms of toxicity II  
Corticotropin-releasing factor  
Drugs of abuse-amphetamines & other stimulants  
Drugs of abuse-opiates  
Drug-behavioral interactions  
Physiology/behavior  
CNS pharmacology - Neurotransmitter receptors  
Neuropsychiatric disorders  
Neurotoxicology-General  
Transporters  
Signal transduction/ion channels  
Smooth muscle pharmacology  
Mechanisms of toxicity  
Renal pharmacology/toxicology

### Wednesday Poster Sessions

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Vascular systems pharmacology  
Cardiovascular pharmacology-Thrombosis  
Targeting myocardial function  
Pharmacology & women's health  
Immune cell pharmacology  
Pharmacology of immunity  
Regenerative pharmacology  
Pharmacoproteomics  
Opioid/cannabinoid therapeutics  
Natural products  
All Late-breaking abstracts








**The American Physiological Society at Experimental Biology 2012 – San Diego, CA**

All sessions listed are in the San Diego Convention Center.

**Physiology InFocus  
Physiology in Medicine**

Organized by: **Joey Granger, Univ. of Mississippi Medical Center**

<p>Sunday April 22, 2012 3:30-5:30 PM Room 20A</p>	<p>Physiology of Obesity, Cardiometabolic Disease, and Therapeutic Weight Loss <b>John Hall and Ann Schrehofer, Cochairs</b>  <i>Speakers:</i> Randy Seeley, John E. Hall, Kevin L. Grove, Lee M. Kaplan</p>
<p>Monday April 23, 2012 3:30-5:30 PM Room 20A</p>	<p>Using Physiology to Translate Cardiac Remodeling and Heart Failure <b>Merry L. Lindsey and Margaux Horn, Cochairs</b>  <i>Speakers:</i> Lynne W. Stevenson, Marielle Scherrer-Crosbie, Kersten Small, Yufang Jin</p>
<p>Tuesday April 24, 2012 3:30-5:30 PM Room 20A</p>	<p>Hypertension and Chronic Kidney Diseases <b>Pedro Jose and Jennifer Sullivan, Cochairs</b>  <i>Speakers:</i> Gerald DiBona, S. Ananth Karumanchi, Susan Quaggin, Alejandro Chade</p>
<p>Wednesday April 25, 2012 3:30-5:30 PM Room 20A</p>	<p><b>Nobel Prize in Physiology or Medicine Lecture</b> <b>Oliver Smithies, Univ. of North Carolina</b> “On being a bench scientist for 50 years.”</p> 

# FASEB Career Center Activities at Experimental Biology 2012 – San Diego, CA

All sessions listed are in the San Diego Convention Center.

HALL D San Diego Convention Center	CRC-1	CRC-2	CRC-3	CRC-4	CRC-5	Resume Critique/ Career Counseling Room Hall D
Sat., Apr. 21 9:00	<b>Networking: A Required Life Skill</b> 9:00-10:00 AM (Howard Adams)				<b>Workplace Dynamics I/II Workshop:</b> 9:00 AM- 12:00 PM (Sharon Milgram, Lori Conlan)	One-on-One: Joe Tringali, Bill Lindstaedt, John Lombardo, Andrew Green, Naledi, Saul, Debra Behrens
Sat., Apr. 21 10:00	<b>Goal Setting, Prioritizing, Time Management</b> 10:30- 11:30 AM (Howard Adams)		<b>Postdocs: What Should You be Looking For and How to Find Them</b> 10:00-11:15 AM (Andrew Green)	<b>Talking About Yourself: Interviewing Well</b> 10:00-11:00 AM (Naledi Saul)	<b>Workplace Dynamics I/II Workshop</b> (continues until 12:00 PM)	One-on-One: Bill Lindstaedt, John Lombardo, Debra Behrens
Sat., Apr. 21 11:00	<b>Goal Setting, Prioritizing, Time Management...</b> (continues until 11:30 AM)	<b>Beyond the Bench... Preparing for Your Career Transition in the Life Sciences</b> 11:00 AM-12:00 PM (Joe Tringali)	<b>Postdocs: What Should You be Looking For...</b> (Continues until 11:15 AM)		<b>Workplace Dynamics I/II Workshop</b> (continues until 12:00 PM)	One-on-One: Bill Lindstaedt, John Lombardo, Naledi Saul, Debra Behrens
Sat., Apr. 21 12:00 PM						
Sat., Apr. 21 1:00	<b>Ten Ways to Get Lucky in The Job Search</b> 1:00-2:00 PM (Phil Clifford, John Lombardo)	<b>Negotiation Strategies for Scientists</b> 1:30-2:30 PM (Debra Behrens)	<b>Professional Development for PhDs</b> 1:00-2:30 PM (Andrew Green)		<b>Workplace Dynamics: Conflict &amp; Feedback</b> 1:00-3:00 PM (Sharon Milgram, Lori Conlan)	One-on-One: Joe Tringali, Bill Lindstaedt, Naledi Saul
Sat., Apr. 21 2:00	<b>Transforming Your CV</b> 2:00-3:30 PM (Naledi Saul)	<b>Negotiation Strategies...</b> (continues until 2:30 PM)	<b>Professional Development for PhDs</b> (continues until 2:30 PM)	<b>Job Hunting in the Biotech Industry</b> 2:15-3:15 PM (Bill Lindstaedt)	<b>Conflict &amp; Feedback</b> (continues until 3:00 PM)	One-on-One: Joe Tringali, John Lombardo
Sat., Apr. 21 3:00	<b>Transforming Your CV</b> (continues until 3:30 PM)	<b>Economics and Your Job Search</b> 3:30-4:30 PM (Joe Tringali)		<b>Job Hunting in the Biotech Industry ...</b> (continues until 3:15 PM)	<b>Workplace Dynamics: Team Skills</b> 3:15-5:15 PM (Sharon Milgram, Lori Conlan)	One-on-One: John Lombardo, Debra Behrens, Andrew Green, Bill Lindstaedt
Sat., Apr. 21 4:00	<b>Global Interview Skills</b> 4:00-5:00 PM (Debra Behrens)	<b>Economics and Your Job Search...</b> (continues until 4:30 PM)	<b>Developing Your Core Message/ "Elevator Pitch"</b> 4:00-5:00 PM (John Lombardo)		<b>Team Skills</b> (continues until 5:15 PM)	One-on-One: Bill Lindstaedt, Andrew Green, Naledi Saul
Sat., Apr. 21 5:00						



# FASEB Career Center Activities at Experimental Biology 2012 – San Diego, CA

All sessions listed are in the San Diego Convention Center.

HALL D San Diego Convention Center	CRC-1	CRC-2	CRC-3	CRC-4	CRC-5	Resume Critique/ Career Counseling Room Hall D
Sun., Apr. 22 8:00	Developing Your Core Message/ Elevator Pitch 8:30- 9:30 AM (John Lombardo)	NIH K Awards 8:30-9:45 AM (Henry Khachatryan)	Revealing Your Character through Your Resume 8:15-9:15am (Judy Blumenthal)	Making the Case for Graduate School 8:30-9:30 AM (Howard Adams)		
Sun., Apr. 22 9:00	Developing Your Core Message... (continues until 9:30 AM)	NIH K Awards (continues until 9:45 AM)	Economics and Your Job Search 9:30-10:30 AM (Joe Tringali)	Making the Case... (continues until 9:30 AM)	Lab Management 9:00-10:30 AM (Sharon Milgram, Lori Conlan)	One-on-One: Bill Lindstaedt, Andrew Green, Naledi, Saul, Judy Blumenthal, Debra Behrens
Sun., Apr. 22 10:00	Transforming Your CV 10:00-11:00 AM (Naledi Saul)	Sometimes it's Who You Know: Winning at Networking 10:30-11:30 AM (Judy Blumenthal)	Economics and Your Job Search (continues until 10:30 AM)	Scientific Peer Review of NIH Grants 10-11:30 AM (Anthony Coelho)	Lab Management... (continues until 10:30 AM)	One-on-One: Bill Lindstaedt, John Lombardo, Debra Behrens
Sun., Apr. 22 11:00	Compensation Negotiation for Scientists Moving into Industry 11:00 AM-12:00 PM (Bill Lindstaedt)	Sometimes... (continues until 11:30 AM)	The Academic Job Search in the Life Sciences: Part 1 11:00 AM-12:00 PM (Andrew Green)	Scientific Peer Review of NIH Grants (continues until 11:30 AM)		One-on-One: John Lombardo, Naledi Saul
Sun., Apr. 22 12:00 PM				Career Skills Blitz* 12:00-1:30 PM	Career Skills Blitz* 12:00-1:30 PM	
Sun., Apr. 22 1:00	Ten Ways to Get Lucky in the Job Search 1:30-2:30 PM (Phil Clifford/John Lombardo)	The Academic Job Search in the Life Sciences: Part 2 1:00-2:00 PM (Andrew Green)	Ten Tough Industrial Interview Questions; Ten Good Responses 1:00-2:00 PM (Joe Tringali)	Career Skills Blitz* (continues until 1:30 PM)	Career Skills Blitz* (continues until 1:30 PM)	One-on-One: Bill Lindstaedt, Naledi Saul, Debra Behrens, Judy Blumenthal
Sun., Apr. 22 2:00	Ten Ways to Get Lucky (continues until 2:30 PM)			Grant Writing for Success 2:00-3:30 PM (Anthony Coelho)	Managing Up 2:30- 3:30 PM (Sharon Milgram, Lori Conlan)	One-on-One: Joe Tringali, Judy Blumenthal, Debra Behrens, Bill Lindstaedt
Sun., Apr. 22 3:00	Achieving Your Goals: Goal Setting Strategies for Scientific and Career Success 3:00-4:00 PM (Bill Lindstaedt)	Negotiation Strategies for Scientists 3:30-4:30 PM (Debra Behrens)	The Job Talk 3:00-4:00 PM (Andrew Green)	Grant Writing for Success (continues until 3:30 PM)	Managing Up (continues until 3:30 PM)	One-on-One: John Lombardo, Joe Tringali, Judy Blumenthal
Sun., Apr. 22 4:00	Career Decisions: How to Select a Career Path That's Best for You 4:00-5:00 PM (B Lindstaedt)	Negotiation Strategies... (continues until 4:30 PM)	Making the Connection: The Relationship between the Resume, the Interview & the Job 4:15-5:15 PM (Judy Blumenthal)	Navigating Graduate Work Protocol, Milestones, Requirements 4:00- 5:00 PM (Howard Adams)	How to Get a Job in Science Policy 4:00-5:00 PM (Sharon Milgram, Lori Conlan)	One-on-One: Andrew Green, Naledi Saul
Sun., Apr. 22 5:00			Making the Connection... (continues until 5:15 PM)			

\* Career Skills Blitz: CRC-4: Networking and Informational Interviews; Resumes and Cover Letters; Interviewing Tips (20-minute mini-sessions) – Sharon Milgram, Lori Conlan

# FASEB Career Center Activities at Experimental Biology 2012 – San Diego, CA

All sessions listed are in the San Diego Convention Center.

CRC-5: Jobs and Training at the NIH; Finding A Career Path; Non-Bench Careers (20-minute mini-sessions) – Sharon Milgram, Lori Conlan					Resume Critique/ Career Counseling Room Hall D	
HALL D San Diego Convention Center	CRC-1	CRC-2	CRC-3	CRC-4	CRC-5	
Mon., Apr. 23 8:00		NIH K Awards 8:30-9:45 AM (Henry Khachatryan)		Successful Behaviors for Winning an Interview 8:30-9:30 AM (Judy Blumenthal)		
Mon., Apr. 23 9:00	Developing Your Core Message/ "Elevator Pitch" 9:00-10:00 AM (John Lombardo)	NIH K Awards (continues until 9:45 AM)	Ten Tough Industrial Interview Questions; Ten Good Responses 9:00-10:00: AM (Joe Tringali)	Successful Behaviors (continues until 9:30 AM)	How to Get a Job in Government: Bench 9:00-10:00 AM (Sharon Milgram, Lori Conlan)	One-on-One: Bill Lindstaedt, Andrew Green, Naledi, Saul, Debra Behrens
Mon., Apr. 23 10:00	Postdocs: What Should You Be Looking For and How to Find Them 10:00-11:00 AM (Andrew Green)	Sometimes it's Who You Know: Winning at Networking 10:00-11:00 AM (Judy Blumenthal)	Making the Grade: Job Talk/Chalk Talk 10:15-11:15 AM (Debra Behrens)	Scientific Peer Review of NIH Grants 10:00-11:30 AM (Anthony Coelho)	How to Get a Job in Government: Non-bench 10:00-11:00 AM (Sharon Milgram, Lori Conlan)	One-on-One: Joe Tringali, Bill Lindstaedt, John Lombardo, Naledi Saul
Mon., Apr. 23 11:00		Compensation Negotiation for Scientists Moving into Industry 11:00 AM-12:00 PM (Bill Lindstaedt)	Making the Grade: (continues until 11:15 AM)	Scientific Peer Review of NIH Grants (continues until 11:30 AM)		One-on-One: John Lombardo, Andrew Green, Naledi Saul, Judy Blumenthal; Joe Tringali
Mon., Apr. 23 12:00 PM				Career Skills Blitz* 12:00-1:30 PM	Career Skills Blitz* 12:00-1:30 PM	
Mon., Apr. 23 1:00	The Industrial Hiring Process: Learn the Nuances: Get the Offer 1:00-2:00 PM (Joe Tringali)	Utilizing LinkedIn in the PhD Job Search 1:15-2:15 PM (Andrew Green) (continues until 2:15 PM)	The Right Attitude and Behaviors While Job Searching from the Resume to the Job 1:00-2:00 PM (Judy Blumenthal)	Career Skills Blitz* (continues until 1:30 PM)	Career Skills Blitz* (continues until 1:30 PM)	One-on-One: Bill Lindstaedt, Naledi Saul, Debra Behrens
Mon., Apr. 23 2:00	Achieving Your Goals: Goal Setting Strategies for Scientific and Career Success 2:00-3:00 PM (Bill Lindstaedt)	Revealing Your Character through Your Resume 2:30-3:30 PM (Judy Blumenthal)	Talking About Yourself: Interviewing Well 2:00-3:30 PM (Naledi Saul)	Grant Writing for Success 2:00-3:30 PM (Anthony Coelho)	How to Continue Your Training at NIH 1:30-2:30 PM (Sharon Milgram, Lori Conlan)	One-on-One: Joe Tringali, John Lombardo, Debra Behrens, Andrew Green
Mon., Apr. 23 3:00	Career Decisions: How to Select A Career Path That's Best for You 3:00-4:00 PM (Bill Lindstaedt)	Revealing ... (continues until 3:30 PM)	Talking About Yourself (continues until 3:30 PM)		Continuing Training at NIH (continues until 3:30 PM)	One-on-One: John Lombardo, Joe Tringali, Debra Behrens, Andrew Green
Mon., Apr. 23 4:00		CV → Resume ... 3:45-4:45 PM (Andrew Green)	Job Search in Academia & Industry 4:00-5:00 PM (Debra)	Fundamentals for Managing the Post-doctoral Experience	Successful Behaviors for Winning an Interview 4:00-	One-on-One: Naledi Saul and Joe Tringali

## FASEB Career Center Activities at Experimental Biology 2012 – San Diego, CA

All sessions listed are in the San Diego Convention Center.

			Behrens)	4:00-5:00 PM (Howard Adams)	5:00 PM (Judy Blumenthal)	
<p><b>* Career Skills Blitz:</b> CRC-4: Networking and Informational Interviews; Resumes and Cover Letters; Interviewing Tips (20-minute mini-sessions) – Sharon Milgram, Lori Conlan                      CRC-5: Jobs and Training at the NIH; Finding A Career Path; Non-Bench Careers (20-minute mini-sessions) – Sharon Milgram, Lori Conlan</p>						
<b>Resume Critique/ Career Counseling Room Hall D</b>						
<b>HALL D</b> San Diego Convention Center						
<b>Tue., Apr. 24</b> 8:00						
<b>Tue., Apr. 24</b> 9:00						
<b>Tue., Apr. 24</b> 10:00						
<b>Tue., Apr. 24</b> 11:00						
<b>Tue., Apr. 24</b> 1:00						
<b>Tue., Apr. 24</b> 2:00						
<b>Tue., Apr. 24</b> 3:00						
<b>Tue., Apr. 24</b> 4:00						
	<b>CRC-1</b>	<b>CRC-2</b>	<b>CRC-3</b>	<b>CRC-4</b>	<b>CRC-5</b>	
	<b>Academic Job Search: CV's, Letters, Statements and Start-ups</b> 10:00 AM -11:30 PM (Bill Lindstaedt)	<b>The Job Talk</b> 9:00-10:00 AM (Andrew Green)	<b>Transforming Your CV</b> 10:30-11:30 AM (Naledi Saul)	<b>Making the Connection: The Relationship between the Resume, the Interview and the Job</b> 9:15-10:15 AM (Judy Blumenthal)	<b>Navigating Graduate Work Protocol, Milestones, Requirements</b> 10:00-11:00 AM (Howard Adams)	<b>One-on-One: Joe Tringali, John Lombardo, Judy Blumenthal</b>
	<b>Academic Job Search...</b> (continues until 11:30 AM)	<b>Negotiation Strategies for Scientists</b> 10:15-11:15 AM (Behrens)	<b>Transforming Your CV ...</b> (continues until 11:30 AM)	<b>PhD Negotiation Skills and Strategies: How to Get What You Want and Need</b> 11:00 AM-12:00 PM (Andrew Green)		<b>One-on-One: Joe Tringali, John Lombardo, Joe Tringali</b>
	<b>Achieving Your Goals</b> 1:00-2:00 PM (Bill Lindstaedt)	<b>CV –Resume</b> 1:30-3:00 PM (Andrew Green) continues until 2:30 PM	<b>Making the Grade: Job Talk/Chalk Talk</b> 1:00-2:15 PM (Behrens)		<b>Developing/Writing the Doctoral Dissertation</b> 1:00-2:00 PM (Howard Adams)	<b>One-on-One: Joe Tringali, Naledi Saul, Judy Blumenthal</b>
	<b>Career Decisions: How to Select a Career Path That's Best for You</b> 2:00-3:00 PM (Bill Lindstaedt)	<b>CV –Resume</b> (continues until 3:00 PM)	<b>Beyond the Bench... Preparing for Your Career Transition in the Life Sciences</b> 2:30-3:30 PM (Joe Tringali)	<b>Talking About Yourself: Interviewing Well</b> 2:15-3:15 PM (Naledi Saul)		<b>One-on-One: John Lombardo, Judy Blumenthal</b>
	<b>Job Hunting in the Biotech Industry</b> 3:30-4:30 PM (Bill Lindstaedt)	<b>The Right Attitude &amp; Behaviors While Job Searching from the Resume to the Job Offer</b> 3:15-4:15 PM (Judy Blumenthal)	<b>Beyond the Bench...</b> (continues until 3:30 PM)	<b>Talking About Yourself</b> (continues until 3:15 PM)	<b>Leadership Principles</b> 3:00-4:00 PM (Howard Adams)	<b>One-on-One: John Lombardo, Debra Behrens, Andrew Green</b>
	<b>Job Hunting...</b> (continues until 4:30 PM)	<b>Right Attitude...</b> (continues until 4:15 PM)				<b>One-on-One: Joe Tringali, Andrew Green, Naledi Saul, Debra Behrens</b>

**FASEB Career Center Activities at Experimental Biology 2012 – San Diego, CA**

All sessions listed are in the San Diego Convention Center.

**NOTE: Career Center location in Hall D will close at 5:00 PM on Tuesday, April 24, 2012. Resume Critiques/Career Counseling Sessions will resume on Wednesday, April 25, 2012, in the Sails Pavilion in the San Diego Convention Center.**

<u>Sails Pavilion</u> San Diego Convention Center	CRC-1	CRC-2	CRC-3	CRC-4	CRC-5	Resume Critique/ Career Counseling Room Sails Pavilion in SDCC
Wed., Apr. 25 8:00	No Seminars on Wednesday	No Seminars on Wednesday	No Seminars on Wednesday	No Seminars on Wednesday	No Seminars on Wednesday	One-on-One: Joe Tringali and Judy Blumenthal  One-on-One: Joe Tringali and Judy Blumenthal  One-on-One: Joe Tringali and Judy Blumenthal
Wed., Apr. 25 9:00	No Seminars on Wednesday	No Seminars on Wednesday	No Seminars on Wednesday	No Seminars on Wednesday	No Seminars on Wednesday	
Wed., Apr. 25 10:00	No Seminars on Wednesday	No Seminars on Wednesday	No Seminars on Wednesday	No Seminars on Wednesday	No Seminars on Wednesday	
Wed., Apr. 25 11:00	No Seminars on Wednesday	No Seminars on Wednesday	No Seminars on Wednesday	No Seminars on Wednesday	No Seminars on Wednesday	

Current As Of: 01/26/12

# SCIENTIFIC SESSIONS BY SOCIETY

Listed in alphabetical order by discipline of Sponsoring Societies, followed by Guest Societies.

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## FRIDAY, APRIL 20

### Biochemistry and Molecular Biology

**1. ASBMB GRADUATE AND POSTDOCTORAL TRAVEL AWARD KEYNOTE LECTURE**

**Special Session**

*(Supported by an educational grant from Genentech)*

*(Sponsored by: ASBMB Education and Professional Development and Minority Affairs Committees)*

FRI. 5:00 PM—SAN DIEGO MARRIOTT MARQUIS & MARINA,  
MARRIOTT HALL SALON 4

*COCHAIRING:* K. DODGE-KAFKA AND C. HEINEN

**Invitation only.**

Participation is compulsory for all ASBMB Graduate Minority and Graduate/Postdoctoral Travel Award recipients.

5:00 Chair's introduction.

5:15 Composing a life. **H. E. Hamm.** Vanderbilt Univ.

**2. ASBMB GRADUATE AND POSTDOCTORAL TRAVEL AWARD POSTER SESSION**

**Special Session**

*(Supported by an educational grant from Genentech)*

*(Sponsored by: ASBMB Education and Professional Development and Minority Affairs Committees)*

FRI. 6:30 PM—SAN DIEGO MARRIOTT MARQUIS & MARINA,  
MARRIOTT HALL SALON 1

**Invitation only.**

Participation is compulsory for all ASBMB Graduate Minority and Graduate/Postdoctoral Travel Award recipients.

Poster board assignments will be issued at event check in, 4:00 pm - 4:45 pm, outside Hall 4.

### Nutrition

**3. THE GLOBAL NUTRITION TRANSITION: THE ROLE OF LIPID SUPPLEMENTATION**

**Special Session**

*(Organized and Sponsored by: Herbalife Nutrition Institute)*

FRI. 8:30 AM—HILTON SAN DIEGO BAYFRONT, INDIGO BALLROOM H

*CHAIRING:* D. HEBER

**4. WHAT DO WE REALLY KNOW ABOUT WHOLE FOODS DIGESTIBILITY AND ENERGY VALUES?**

**Special Session**

*(Organized and Sponsored by: Almond Board of California)*

FRI. 1:00 PM—HILTON SAN DIEGO BAYFRONT, INDIGO BALLROOM G

**5. ASN CARIG ANNUAL SYMPOSIUM**

**Special Function**

*(Supported by educational grants from Chrysantis, Inc. and Mead Johnson and Co., LLC)*

*(Sponsored by: CARIG RIS)*

FRI. 1:00 PM—HILTON SAN DIEGO BAYFRONT, INDIGO BALLROOM C

*CHAIRING:* M. FERRUZZI



# SATURDAY, APRIL 21

## Across Societies – Experimental Biology

### 6. MARC AND PROFESSIONAL DEVELOPMENT PROGRAMS

#### Workshop

SAT. 9:00 AM—SAN DIEGO CONVENTION CENTER, HALL D, CAREER CENTER

#### Career Development

The Experimental Biology 2012 Career Center activities have been arranged by the FASEB Office of MARC & Professional Development. Access to the Career Center is FREE to all registered EB 2012 meeting attendees.

9:00 Networking: a required life skill. **H. Adams.**

9:00 Workplace dynamics I/II. **S. Milgram, L. Conlan.**

10:00 Postdocs: what should you be looking for and how to find them. **A. Green.**

10:00 Talking about yourself: interviewing well. **N. Saul.**  
10:30 Goal setting, prioritizing, time management. **H. Adams.**  
11:00 Beyond the bench: preparing for your career transition in the life sciences. **J. Tringali.**  
1:00 Ten ways to get lucky in the job search. **P. Clifford, J. Lombardo.**  
1:00 Professional development for PhDs. **A. Green.**  
1:00 Workplace dynamics: conflict and feedback. **S. Milgram, L. Conlan.**  
1:30 Negotiation strategies for scientists. **D. Behrens.**  
2:00 Transforming your CV. **N. Saul.**  
2:15 Job hunting in the biotech industry. **B. Lindstaedt.**  
3:15 Workplace dynamics: team skills. **S. Milgram, L. Conlan.**  
3:30 Economics and your job search. **J. Tringali.**  
4:00 Global interview skills. **D. Behrens.**  
4:00 Developing your core message/"elevator pitch". **J. Lombardo.**

## Anatomy

### 7. CONNECTING WITH DIFFERENT AUDIENCES: THE ANATOMY OF COMMUNICATION

#### Symposium

SAT. 8:00 AM—SAN DIEGO CONVENTION CENTER, 7B

CHAired: D. EVANS

#### Professional Development

#### Public Policy

8:00 Chair's introduction.

8:05 **7.1** The abc of communication: easy as 123? **D.J. Evans.** Brighton and Sussex Med. Sch., U.K.

8:30 **7.2** Communicating science during a crisis. **C. Reddy.** Woods Hole Oceanographic Instn.

8:55 **7.3** Inside the Beltway and up on the Hill. **J.C. LaManna.** Case Western Reserve Univ.

9:20 **7.4** Outside the box and inside the living room: teaching through television. **J.S. Reidenberg.** Mount Sinai Sch. of Med.

9:45 Discussion.

11:00 **8.2** Herding cats and academics: skills for leading a professional organization. **D.B. Burr.** Indiana Univ. Sch. of Med.  
11:25 **8.3** Leading a medical school academic unit: institute versus department. **K.J. Jones.** Indiana Univ. Sch. of Med.  
11:50 **8.4** The role of the president in guiding the university: learners, lawyers and legislators. **R.O. Kelley.** Univ. of North Dakota.  
12:15 Discussion.

### 8. CLIMBING THE ACADEMIC LADDER: SKILLS NEEDED FOR EACH RUNG

#### Symposium

SAT. 10:30 AM—SAN DIEGO CONVENTION CENTER, 7B

CHAired: R. PRATT AND K. TOPP

#### Professional Development

10:30 Chair's introduction.

10:35 **8.1** Committees – target the right ones and work strategically to make them productive. **K.S. Topp.** UCSF.

### 9. MASTER CLASS—NEURAL INNERVATION OF THE HEART AND ITS ROLE IN PATHOPHYSIOLOGY AND TREATMENT

#### Symposium

SAT. 1:00 PM—SAN DIEGO CONVENTION CENTER, 8

CHAired: J. WALKER

#### Education & Teaching

#### Cardiovascular

1:00 Chair's introduction.

1:05 **9.1** Foundations of neurocardiology: neural control of the normal and diseased heart. **J.L. Ardell.** East Tennessee State Univ.

1:30 **9.2** Clinical methods to assess cardiac sympathetic innervation and function. **D.S. Goldstein.** NINDS/NIH.

1:55 **9.3** Oxidant stress, inflammatory and autonomic pathways in the development of atrial fibrillation. **D.R. Van Wagoner.** Cleveland Clin.

2:20 **9.4** The role of self-regulation in modulating the heart-brain connection. **C.S. Moravec.** Cleveland Clin.

2:45 Discussion.

## 10. VISUALIZING COMPLEX BIOMEDICAL SYSTEMS

### Symposium

SAT. 1:00 PM—SAN DIEGO CONVENTION CENTER, 9

CHAired: C. JOHNSON

### Imaging/Computational Analysis

- 1:00 Chair's introduction.
- 1:05 **10.1** Image-based biomedical modeling, simulation and visualization. **C. Johnson**. Univ. of Utah.
- 1:30 **10.2** Quantitative cellular phenotyping in tissue microenvironments. **R. Machiraju, S. Singh, T. Pecot, K. Huang, S. Roy, G. Leone, C. Sen and M. Ostrowski**. The Ohio State Univ. and Broad Inst., Cambridge, MA.
- 1:55 **10.3** Automating the visualization of biological machines. **C.L. Bajaj**. Univ. of Texas at Austin.
- 2:20 **10.4** 3D slicer. **R. Kikinis**. Brigham and Women's Hosp. and Harvard Med. Sch.
- 2:45 Discussion.

## 11. AAA LANGMAN GRADUATE STUDENT PLATFORM AWARD SESSION

### Special Session

SAT. 1:30 PM—SAN DIEGO CONVENTION CENTER, 7B

CHAired: P. TRAINOR

- 1:30 Fgf-induced activation of the limb specific Shh regulatory region. **T.W. Bailey, C.U. Pira and K.C. Oberg**. Loma Linda Univ. (908.1)
- 1:45 Nexilin is a dynamic protein at *Listeria monocytogenes* comet tails and enteropathogenic *E. coli* pedestals. **H.T. Law, M. Bonazzi, J. Jackson, P. Cossart and J.A. Guttman**. Simon Fraser Univ., Canada and Inst. Pasteur and INSERM, Paris. (522.3)
- 2:00 Is embryonic pressure overload responsible for causing endocardial fibroblastosis? **Z. Pesevski and D. Sedmera**. First Fac. of Med., Charles Univ. and Inst. of Physiol., Acad. of Sci. of Czech Republic, Prague. (726.13)
- 2:15 The effects of angiotensin receptor blockade on functional recovery and inflammatory gene expression following spinal cord injury. **E.A. Robbins, I.G. Shlifer, D. Manning, C.B. Jones and T.B. Jones**. Midwestern Univ., AZ. (921.3)
- 2:30 Abnormal proliferation and defective multilineage differentiation potential of adipose-derived stem cells isolated from dystrophin and utrophin knockout mice. **J. Sohn, A. Kozemchak, N. Oyster, S.D. Thompson, A. Lu, B. Gharaibeh, Y. Tang, B. Wang and J. Huard**. Univ. of Pittsburgh Sch. of Med. (914.6)
- 2:45 General discussion.

## 12. AAA EDUCATIONAL RESEARCH PLATFORM AWARD SESSION

### Special Session

SAT. 3:15 PM—SAN DIEGO CONVENTION CENTER, 7B

CHAired: C. ECKEL

- 3:15 Do lectures matter? Lecture attendance in online and face-to-face histology courses. **M.L. Barbeau and K.A. Rogers**. Univ. of Western Ontario. (528.5)
- 3:30 **12.1** Benefit assessment of premedical anatomical study for medical students. **N. Harper, N.S. Livdahl, J. Jensen and D.A. Morton**. Univ. of Utah Sch. of Med.
- 3:45 A successful method for engaging students in active learning using prosected cadavers. **S. Khirallah and J.J. Walker**. Purdue Univ. (529.13)
- 4:00 **12.2** Problem solving strategies and the relationship between visualization ability and spatial anatomy task performance. **N. Nguyen, A. Mulla, A.J. Nelson and T.D. Wilson**. Univ. of Western Ontario.
- 4:15 Foundations for a lifetime: a qualitative inquiry into the salient aspects of cadaver dissection over time and their impact on medical professionals. **M.D. Skinner, S. Morrow and D.A. Morton**. Univ. of Utah. (531.15)
- 4:30 **12.3** Revamping anatomy education: student-authored dissection manual significantly improves learning and academic performance. **D. Tetzl, J. Neira, J. Ramirez, L. Grossmann and P. Bernd**. Columbia Univ. Col. of P&S and SUNY Downstate Med. Ctr. Col. of Med.

## 13. PEDAGOGY

### Hybrid Symposium

SAT. 3:30 PM—SAN DIEGO CONVENTION CENTER, 8

CHAired: S. MARQUEZ AND W. PAWLINA

### Education & Teaching

- 3:30 Chair's introduction.
- 3:35 **13.1** Dyad Pedagogy: from the anatomy classroom to the workplace. **S. Marquez**. SUNY Downstate Med. Ctr., Elmhurst.
- 4:00 **13.2** Teaching discipline-independent skills in anatomy. **W. Pawlina**. Mayo Clin. Col. of Med.
- 4:25 **13.3** Students teaching students – facilitating deeper learning of anatomy? **D.J.R. Evans**. Brighton and Sussex Med. Sch.
- 4:40 **13.4** No 'I' in anatomy: group cadaveric dissection. **L. Kour, E. Cassidy, J. Roth and T.D. Wilson**. Univ. of Western Ontario.
- 4:55 **13.5** Integration of PBL cases into gross anatomy laboratory experiences followed by a modified TBL formative assessment: pedagogy using the best of both worlds. **J.J. Wisco, T.L. Korin, P. Wimmers and M.E. Stark**. David Geffen Sch. of Med. at UCLA.
- 5:10 **13.6** Teaching beyond the classroom. **L.R. Sherman**. Mount Sinai Sch. of Med.
- 5:25 Discussion.

## 14. DIGITAL IMAGING

## Symposium

(Sponsored by: CSAS and AAA)

SAT. 3:30 PM—SAN DIEGO CONVENTION CENTER, 9

CHAIRERD: S. ZHANG

## Imaging/Computational Analysis

- 3:30 Chair's introduction.
- 3:35 **14.1** The shape, size, and asymmetry of fetal hippocampal formation during the second trimester: a 7.0 Tesla postmortem MRI study. **S. Liu, J. Liu, Z. Zhang, G. Teng, F. Fang and F. Zang.** Shandong Univ. Sch. of Med. and Zhongda Hosp., Southeast Univ. Sch. of Med., China.
- 4:00 **14.2** Three-dimensional reconstruction and measurement of cervical vertebral CT images: anatomical bases for cervical anterior transpedicular screw fixation. **J. Ouyang, C. Chen, C. Wu and P. Wu.** Southern Med. Univ., China.
- 4:25 **14.3** Chinese visible human project and its application. **S-X. Zhang.** Col. of Med., Third Military Med. Univ., China.
- 4:50 **14.4** The virtual human embryo project: a resource for the study of human embryology. **R.J. Cork and R.F. Gasser.** LSU Hlth. Sci. Ctr. - New Orleans.
- 5:15 Discussion.

## 15. AAA POSTDOCTORAL PLATFORM AWARD SESSION

## Special Session

SAT. 5:00 PM—SAN DIEGO CONVENTION CENTER, 7B

CHAIRERD: J. VENUTI

- 5:00 Developing henna-haematoxylin stain as alternative to Nissl stain in delineating the cytoarchitecture of the neocortex and archicortex of the cerebrum. **J.N. Alawa, O. Gideon, B. Adetiba and C.B. Alawa.** Ahmadu Bello Univ., Nigeria. (918.3)
- 5:15 **15.1** FGF signaling is involved in physiological adaptation to pressure overload in developing heart. **E. Krejci, Z. Pesevski, O. Nanka and D. Sedmera.** inst. of Physiol., Acad. of Sci. of Czech Republic, Prague and 1st Fac. of Med., Charles Univ. in Prague.
- 5:30 **15.2** Adult stem cell mobilization to enhance intramembranous bone regeneration in the mouse. **M.A. McNulty, K.W. Christopherson, A.S. Viridi, K. Sena, R.R. Frank and D.R. Sumner.** Rush Univ. Med. Ctr.
- 5:45 Potent suppressive effect of resveratrol and apigenin on pro-inflammatory responses in lipopolysaccharide and IFN- $\gamma$ -activated microglia and macrophages: implications for Alzheimer's disease therapies. **L. Ooi.** Univ. of Western Sydney Sch. of Med. (921.2)
- 6:00 Hypoxic environments cause differential facial shape variation in zebrafish. **T.E. Parsons, S.M. Weinberg, M. Tsang and A.R. Vieira.** Univ. of Pittsburgh. (907.9)
- 6:15 Tumor-derived IDO affects the lifespan in a mouse model of glioblastoma. **D.A. Wainwright and M.S. Lesniak.** Univ. of Chicago. (920.1)

## Biochemistry and Molecular Biology

## 16. FOSTERING PARTNERSHIPS BETWEEN COLLEGES, UNIVERSITIES AND K-12 SCHOOLS WORKSHOP

## Workshop

(Supported by an educational grant from National Science Foundation)

(Sponsored by: ASBMB Minority Affairs, Education and Professional Development and Undergraduate Affiliate Network Committees)

SAT. 9:00 AM—SAN DIEGO MARRIOTT MARQUIS & MARINA, SANTA ROSA

COCHAIRERD: R. STEVENS-TRUSS, R. DUTNALL, J. THORNER, P. J. KENNELLY, W. ZHAO, I. MILLS-HENRY, AND T. HERMAN

## Advance event registration required.

This workshop will promote collaborative partnerships between junior high and high school teachers and college/university faculty and researchers to bring creative, cutting-edge, and hands-on science into K-12 classrooms.

## 17. ASBMB GRADUATE AND POSTDOCTORAL PROFESSIONAL DEVELOPMENT PROGRAM

## Special Session

(Supported by an educational grant from Genentech)

(Sponsored by: ASBMB Education and Professional Development and Minority Affairs Committees.)

SAT. 9:00 AM—SAN DIEGO MARRIOTT MARQUIS & MARINA, MARRIOTT HALL SALON 4

COCHAIRERD: K. DODGE-KAFKA AND C. HEINEN

## Advance event registration required.

Participation is compulsory for all ASBMB Graduate Minority and Graduate/Postdoctoral Travel Award recipients.

**18. POWERING UP! ASBMB ANNUAL MEETING ORIENTATION FOR UNDERGRADUATES**

**Workshop**

*(Supported by an educational grant from National Science Foundation)*

SAT. 11:30 AM—SAN DIEGO MARRIOTT MARQUIS & MARINA,  
ATLANTA

COCHAIR: E. BELL AND M. JOHNSON

This interactive ASBMB Annual Meeting orientation will help students navigate the program offerings and make the most of their participation in the ASBMB national meeting.

**19. THE BATTLE! ASBMB 16TH ANNUAL UNDERGRADUATE STUDENT RESEARCH POSTER COMPETITION**

**Special Session**

SAT. 1:00 PM—SAN DIEGO MARRIOTT MARQUIS & MARINA,  
MARRIOTT HALL SALON 1

CHAIR: K. CORNELLY

COCHAIR: P. A. ORTIZ AND M. A. WALLERT

Board numbers will be assigned at check-in (Noon - 12:45 pm) outside Marriott Hall 1.

**20. FIND YOUR SUPER MATCH! CAREER SPEED “DATING” FOR UNDERGRADUATES**

**Workshop**

*(Sponsored by: ASBMB Education and Professional Development Committee)*

SAT. 4:45 PM—SAN DIEGO MARRIOTT MARQUIS & MARINA,  
SAN DIEGO BALLROOM A

CHAIR: S. BARBOUR

Fast-paced, informative and fun, this workshop gives undergraduates an opportunity to meet and have Q&A sets with a variety of experts in both traditional and non-traditional career fields.

**21. ASBMB OPENING LECTURE: HERBERT TABOR/ JOURNAL OF BIOLOGICAL CHEMISTRY LECTURESHIP**

**Award**

*(Supported by an educational grant from Cadmus Communications, a Cenvco Company)*

SAT. 6:00 PM—SAN DIEGO MARRIOTT MARQUIS & MARINA,  
MARRIOTT HALL SALON 4

6:00 Introductory remarks. **S. R. Pfeffer.**  
6:15 **21.1** Oligosaccharides as recognition molecules – a coming of age. **S. Kornfeld.** Washington Univ. in St. Louis.

**22. ASBMB OPENING RECEPTION**

**Special Event**

SAT.—SAN DIEGO MARRIOTT MARQUIS & MARINA,  
MARRIOTT HALL SALON 1

**Immediately follows the ASBMB Opening Lecture**

ASBMB members and Biochemistry attendees welcome.

## Nutrition

**23. PROTEINS AS BENEFICIAL INGREDIENTS IN FORTIFIED BLENDED FOODS: WHAT FOOD AID STUDIES ARE NEEDED?**

**Special Session**

*(Organized and Sponsored by: Solae, LLC)*

SAT. 6:30 AM—SAN DIEGO CONVENTION CENTER, 30A/B

**24. ENERGY BALANCE: A NEW PARADIGM**

**Symposium**

*(Supported by an educational grant from International Life Sciences Institute North America)*

*(Sponsored by: ILSI NA)*

SAT. 8:30 AM—SAN DIEGO CONVENTION CENTER, 20D

CHAIR: J.A. MILNER

COCHAIR: D. TANCREDI

8:30 Registration.  
8:45 Introduction and welcome. **J. A. Milner and D. Tancredi.** NCI/NIH and Cadbury-Schweppes.  
8:45 Defining energy balance. **J. O. Hill.** Univ. of Colorado Denver.

- 9:20 Methodological issues in studying energy balance. **D. Schoeller**. Univ. of Wisconsin-Madison.
- 9:55 Statistical and study design issues. **D. Allison**. Univ. of Alabama at Birmingham.
- 10:30 Effect of manipulating components of energy intake and energy expenditure. **J. Jakicic**. Univ. of Pittsburgh.
- 11:00 Can energy balance be altered by exercise alone? **J. Donnelly**. Univ. of Kansas.
- 11:30 Future directions and panel discussion. **J. A. Milner**. NCI/NIH.

## 25. HELPFUL OR HARMFUL: SOY, ISOFLAVONES, AND CANCER RISK

### Symposium

*(Supported by an educational grant from Pharmavite)*

*(Sponsored by: Diet and Cancer RIS)*

SAT. 8:00 AM—SAN DIEGO CONVENTION CENTER, 31A/B/C

CHAired: B. LINDSHIELD

COCHAired: M. MESSINA

### Education

- 8:00 Impact of soy intake on the risk of prostate, colon and endometrial cancer. **M. Messina**. Loma Linda Univ. and Nutr. Matters, Inc.
- 8:20 Post-diagnosis soy food intake and breast cancer outcome: a review of the epidemiologic evidence. **X. Shu**. Vanderbilt Univ. Med. Ctr.
- 8:40 Effect of isoflavone exposure on markers of breast cancer risk: a review of the clinical data. **S. Khan**. Prentice Women's Hosp., Chicago.
- 9:00 Soy and the breast cancer patient: a clinical perspective. **M. Hardy**. UCLA Ctr. for Integrative Med.
- 9:20 Isoflavones and breast cancer growth and progression: insights from preclinical models. **W. Helferich**. Univ. of Illinois at Urbana-Champaign.
- 9:40 Panel takes questions from audience.

## 26. CLINICAL EMERGING LEADERS AWARD COMPETITION, SUPPORTED BY THE MEDICAL NUTRITION COUNCIL

### Special Session

*(Sponsored by: Medical Nutrition Council)*

SAT. 9:00 AM—SAN DIEGO CONVENTION CENTER, 29A/B

CHAired: P. KRIS-ETHERTON

### Education

- 9:00 Overview.
- 9:15 Increasing the number of masticatory cycles reduces food intake in healthy young adults. **Y. Zhu and J.H. Hollis**. Iowa State Univ. (639.7)
- 9:30 Intradialytic protein supplementation improves co-morbid disease risk in hemodialysis patients. **E. Tomayko, B. Yudell, E. Jeanes, B. Kistler, P. Fitschen, J.H. Jeong, P-T. Wu, H.R. Chung, E.M. Evans and K. Wilund**. Univ. of Illinois at Urbana and Chicago and Univ. of Georgia. (387.4)

- 9:45 Omega-3 supplementation prevents intestinal inflammation by inhibiting the expansion of an intestinal pathobiont in IL-10<sup>-/-</sup> mice. **S. Devkota, V. Leone, Y. Wang, M. Musch, D. Antonopoulos and E. Chang**. Univ. of Chicago and Argonne Natl. Lab. (830.4)
- 10:00 Effects of whole and refined grains on cardiometabolic risk factors in a controlled-feeding, weight-loss study: preliminary findings. **K.A. Harris, S. West, J.P. Vanden Heuvel, S. Jonnalagadda and P.M. Kris-Etherton**. Penn State and General Mills Inc., Minneapolis. (117.5)
- 10:15 High dose vitamin D is associated with decreased inflammatory markers and increased number of hospital-free days in adults with cystic fibrosis: a pilot study. **R.E. Grossmann, S.M. Zughaier, R.H. Lyles, S. Liu, V. Sueblinvong, M.S. Schechter, A.A. Stecenko, T.R. Ziegler and V. Tangpricha**. Emory Univ. (43.4)

## 27. CATOTENOIDS AND HEALTH

### Minisymposium

*(Sponsored by: CARIG RIS)*

SAT. 8:00 AM—SAN DIEGO CONVENTION CENTER, 32B

CHAired: L. RUBIN

COCHAired: J. CAMPBELL

- 8:00 Overview.
- 8:15 **27.1** Regulation of antioxidant responses in prostate cancer: Nrf2-dependent and independent effects of lycopene. **X. Gong, R. Marisiddiah, D. Wiener and L.P. Rubin**. Univ. of South Florida.
- 8:30 **27.2** β-Cryptoxanthin supplementation inhibits carcinogen-initiated and nicotine-promoted lung tumor development in AJ mice. **A. Iskandar, C. Liu, H. Ernst, S-W. Choi, L. Ausman and X-D. Wang**. Tufts Univ., Boston.
- 8:45 **27.3** Phytochemicals and cellular redox potential: variations in measurement of glutathione levels using three assays. **R. Marisiddiah, D. Wiener, X. Gong and L.P. Rubin**. Univ. of South Florida.
- 9:00 **27.4** Plant cell culture strategies to increase 13C-enrichment of lycopene for human metabolic tracing studies. **N. Engelmann Moran, L.E. Conlon, R.B. Rogers, M.A. Lila, J.W. Erdman, Jr. and S.K. Clinton**. The Ohio State Univ., Univ. of Illinois, Urbana and North Carolina State Univ., Kannapolis.
- 9:15 **27.5** Impact of daily feeding of carotenoid-rich foods on plasma carotenoid and vitamin A concentrations in lactating women with marginal vitamin A status. **T. Turner, B.J. Burri, M. Haskell, K. Jamil and M. Jamil**. USDA, Davis, Univ. of California, Davis and Intl. Ctr. for Diarrhoeal Dis. Res., Dhaka, Bangladesh.
- 9:30 Summary.

## 28. THE EXPERIENCE OF HOUSEHOLD FOOD INSECURITY

### Minisymposium

(Sponsored by: Community and Public Health Nutrition RIS)

SAT. 8:00 AM—SAN DIEGO CONVENTION CENTER, 32A

CHAired: J.S. LEE

COCHAired: M. BURKE

- 8:00 **28.1** A longitudinal study of food insecurity among low income families in Toronto. **R. Loopstra-Masters and V. Tarasuk.** Univ. of Toronto.
- 8:15 **28.2** Household food insecurity affects school children's growth in body mass index. **M.P. Burke, E.A. Frongillo, S.J. Jones and B.A. Bell.** Col. of Med., Univ. of South Carolina.
- 8:30 **28.3** Parents are not fully knowledgeable of their children's experiences of food insecurity. **J.L. Escobar-Alegría, E.A. Frongillo, M.S. Fram, M. Pérez-Garay, M.M. Macaudo and D.L. Billings.** Univ. of South Carolina.
- 8:45 **28.4** Children's very low food security is associated with increased dietary intakes in energy, fat, and added sugar among Mexican-origin children (6-11 y) in Texas border colonias. **J.R. Sharkey, C. Nalty, C. Johnson and W.R. Dean.** Sch. of Rural Publ. Hlth., College Station and Univ. of North Carolina Gillings Sch. of Global Publ. Hlth.
- 9:00 **28.5** Single incidence household food insecurity is associated with elevated maternal BMI. **N.A. Tilton, M.M. Black, L.S. Magder, Y. Wang and K.M. Hurley.** Univ. of Maryland Sch. of Med.
- 9:15 **28.6** Household food insecurity reduces the impact of dietary counseling of mothers in Brazil. **T.S. Lemos, D.J. Hoffman and M.R. Vitolo.** Rutgers Univ. and Fed. Univ. of Hlth. Sci. of Porto Alegre, Brazil.
- 9:30 **28.7** Exploring shopping habits and nutrition knowledge of single mothers in transitional housing. **S.J. Sweitzer, M. Romo, M. McAllaster and M.E. Briley.** Univ. of Texas at Austin.
- 9:45 **28.8** Relationship between nutritional status and the prevalence of malaria and anemia among children in the Kassena-Nankana district of Ghana. **S.Y. Asare, E. Paintsil, K. Koram, F. Atuguba, V. Asoala and D. Humphries.** Yale Schs. of Publ. Hlth. and Med., Noguchi Mem. Inst. for Med. Res., Accra and Navrongo Hlth. Res. Ctr., Ghana.

## 29. STRATEGIC, GLOBAL APPROACHES TO IMPROVE BREASTFEEDING RATES

### Symposium

(Supported by an educational grant from Medela)

(Sponsored by: Lactation RIS)

(Cosponsored by: International Nutrition Council)

SAT. 10:30 AM—SAN DIEGO CONVENTION CENTER, 31A/B/C

CHAired: C. LUTTER

COCHAired: A. MORROW

### Public Policy

- 10:30 Backsliding on a key intervention in public health in Latin America and the Caribbean: the case of breastfeeding promotion. **C. Lutter.** Amer. Hlth. Org., WHO.

- 10:54 Making breastfeeding a public health priority in the United States and new tools to measure progress. **L. Grummer-Strawn.** CDC.
- 11:18 Exclusive breastfeeding promotion: from efficacy to global scaling up. **R. Perez-Escamilla.** Yale Sch. of Publ. Hlth.
- 11:42 Economic impact of breastfeeding: research methods and updates. **M. Bartick.** Cambridge Hlth. Alliance and Harvard Med. Sch.
- 12:06 Summary. Do we have the breastfeeding evidence base we need to support large-scale health systems change? **A. L. Morrow.** Cincinnati Children's Hosp.

## 30. POSTDOCTORAL RESEARCH AWARD COMPETITION, SUPPORTED BY SOLAE, LLC

### Special Session

(Supported by an educational grant from Solae, LLC)

(Sponsored by: Young Professionals Interest Group (YPIG))

SAT. 11:00 AM—SAN DIEGO CONVENTION CENTER, 29A/B

CHAired: V.V. POTTER

### Education

- 11:00 Overview.
- 11:15 The early breastfeeding experience of obese mothers? a mediation analysis. **Z. Maalouf-Manasseh, K.G. Dewey, C.J. Chantray, J.M. Peerson and L.A. Nommsen-Rivers.** Univ. of California, Davis and Davis Med. Ctr. and Cincinnati Children's Hosp. Med. Ctr. **(368.1)**
- 11:30 Maternal vitamin D supplementation to optimize the vitamin D status of breastfed infants. **S.S. Oberhelman, M. Meekins, P. Fischer, B. Lee, B. Gardner, R. Singh, S. Cha, J. Pettifor and T. Thacher.** Mayo Clin., Univ. of Kentucky and Univ. of Witwatersrand, South Africa. **(44.5)**
- 11:45 Patterns and predictors of growth in HIV-exposed 24-48-week-old Malawians receiving lipid-based nutrient supplements as a breastmilk replacement: results of the BAN study. **V.L. Flax, M.E. Bentley, C. Chasela, D. Kayira, M.G. Hudgens, K.G. Kacheche, C. Chavula, D.J. Jamieson, C. van der Horst and L.S. Adair.** Univ. of North Carolina at Chapel Hill, UNC Project, Lilongwe, Malawi and Ctrs. for Dis. Control and Prevent. **(653.6)**
- 12:00 **454** Pyrosequencing reveals a beneficial shift in fecal microbiota of healthy adult men consuming polydextrose or soluble corn fiber. **S. Hooda, B.M. Vester Boler, M.C. Rossoni Sero, M.A. Staeger, T.W. Boileau, S.E. Dowd, G.C. Fahey, Jr. and K.S. Swanson.** Univ. of Illinois, Urbana, General Mills Inc., Minneapolis and Res. and Testing Lab., Lubbock, TX. **(830.3)**
- 12:15 Genotype-based hierarchical clustering reveals a panel of polymorphisms in one carbon metabolism that are associated with obesity. **K.D. Corbin, M.D. Spencer, K-A. da Costa, W. Sha, M.F. Abdelmalek, Y. Pan, A. Suzuki, C.D. Guy, D.M. Cardona, A. Torquati, A.M. Diehl and S.H. Zeisel.** Univ. of North Carolina at Chapel Hill, Kannapolis and Chapel Hill, Univ. of North Carolina at Charlotte, Kannapolis and Duke Univ. **(819.18)**
- 12:30 Flaxseed lignan supplementation improves markers of obesity in C57BL6 mice. **N.A. Ford and S.D. Hursting.** Univ. of Texas at Austin and M.D. Anderson Cancer Ctr., Smithville. **(125.5)**

### 31. CAROTENOIDS: BIOAVAILABILITY AND METABOLISM

#### Minisymposium

(Sponsored by: CARIG RIS)

SAT. 10:30 AM—SAN DIEGO CONVENTION CENTER, 32B

CHAired: S. TANUMIHARDJO

COCHAired: X. GONG

- 10:30 Overview.
- 10:45 **31.1** No effect of pH on in vitro digestion of carotenoids from sweet potatoes and mandarin oranges. **B.J. Burri, C.M. Devin, M. Rajaonary, M. Roman and D. La Porte.** USDA, Davis and Univ. of California, Davis.
- 11:00 **31.2** Effect of lactation stage on the content and bioaccessibility of carotenoids in human milk. **T.E. Lipkie, Z.E. Jouni, T.G. Sapper and M.G. Ferruzzi.** Purdue Univ. and Mead Johnson Nutr., IN.
- 11:15 **31.3** Provitamin A carotenoid biofortified maize as a source of vitamin A in pregnant and nursing sows (*Sus scrofa domestica*). **E. Heying, K. Pixley and S.A. Tanumihardjo.** Univ. of Wisconsin-Madison and Intl. Maize and Wheat Improvement Ctr., Texcoco, Mexico.
- 11:30 **31.4** Effect of phosphatidyl choline liposomes on the relative bioavailability of fat soluble micronutrients in salad vegetables. **L.M. Flendrig, Y. Zhou, F. Quadt, T. Mulder, E. Schuurbiens and W.S. White.** Unilever R&D, Netherlands and Iowa State Univ.
- 11:45 **31.5** Provitamin A absorption and conversion from a unique high beta-carotene tomato is higher when consumed with avocado. **R.E. Kopec, J.L. Cooperstone, R.M. Schweiggert, K.M. Riedl, E.H. Harrison, D.M. Francis, S.K. Clinton and S.J. Schwartz.** The Ohio State Univ., Hohenheim Univ., Germany and Ohio State Univ., Wooster.
- 12:00 **31.6** Impact of meal patterning on carotenoid absorption from vegetables. **S.R. Goltz, T.N. Sapper, M.L. Failla, W.W. Campbell and M.G. Ferruzzi.** Purdue Univ. and The Ohio State Univ.
- 12:15 **31.7** Bioavailability and bioaccessibility of carotenoids from papaya, tomato, and carrot are modulated by chromoplast morphology. **R.M. Schweiggert, D. Mezger, F. Schimpf, C.B. Steingass, A. Heller, K. Riedl, R. Kopec, S. Quesada, P. Esquivel, R. Carle and S.J. Schwartz.** The Ohio State Univ., Hohenheim Univ., Germany and Univ. of Costa Rica.

### 32. CREATING HEALTHY FOOD ENVIRONMENTS

#### Minisymposium

(Sponsored by: Community and Public Health Nutrition RIS)

SAT. 10:30 AM—SAN DIEGO CONVENTION CENTER, 32A

CHAired: E. RACINE

COCHAired: C. BLAKE

- 10:30 **32.1** Perceptions of the local food environment among low-income residents of Athens, Georgia. **S. Wilson and J.S. Lee.** Cornell Univ. and Univ. of Georgia.
- 10:45 **32.2** Eating identity and perceptions of the neighborhood food environment. **C.E. Blake, T.L. Barnes, M.D. Nichols and A.D. Liese.** Univ. of South Carolina.

- 11:00 **32.3** Understanding characteristics of families who buy local produce. **E.F. Racine, E.A. Mumford and S.B. Laditka.** Univ. of North Carolina at Charlotte and NORC at Univ. of Chicago.
- 11:15 **32.4** Challenges to making local food accessible through farmers' markets and community supported agriculture: DeKalb County, Georgia. **C. McAuliffe, L. Whitaker and A. Webb Girard.** Emory Univ. Rollins Sch. of Publ. Hlth.
- 11:30 **32.5** Food availability is related to body mass index of children in an urban area of Brazil. **P.A. Martins, E.C. Cremm, M.A. de Oliveira and J. Gittelsohn.** Fed. Univ. of São Paulo, Sch. of Publ. Hlth., Univ. of São Paulo and Johns Hopkins Bloomberg Sch. of Publ. Hlth.
- 11:45 **32.6** Healthy stores intervention associated with psychosocial improvements in adult American Indian consumers. **J. Gittelsohn, S. He, E. Kim, B. Delrow and M. Pardilla.** Johns Hopkins Bloomberg Sch. of Publ. Hlth. and Navajo Nation Special Diabetes Prog., Window Rock, AZ.
- 12:00 **32.7** Environmental intervention in carryouts increases sales of healthy menu items in low-income urban setting. **S.H. Lee, H. Kim, R. Yong, M. Hamouda, J. Shon, J.H. Park and J. Gittelsohn.** Johns Hopkins Sch. of Publ. Hlth.
- 12:15 **32.8** Modifying placement and simplifying menu labels in a foodservice operation reduces the energy content purchased by patrons. **Y.H. Chu, S.J. Jones, E.A. Frongillo, J.F. Thrasher and R.B. DiPietro.** Univ. of South Carolina.

### 33. POLICIES AND PROGRAMS TO IMPROVE CHILDREN'S NUTRITION

#### Minisymposium

(Sponsored by: Community and Public Health Nutrition RIS)

SAT. 10:30 AM—SAN DIEGO CONVENTION CENTER, 30D

CHAired: Y. CHU

COCHAired: D. PINERO

- 10:30 **33.1** The effect of policy change on feeding practices of infants and toddlers in the special supplemental nutrition program for women, infants, and children in San Marcos, TX. **A.M. Reat, S.H. Crixell, J.A. Von Bank and B.J. Friedman.** Texas State Univ. San Marcos.
- 10:45 **33.2** Improving nutrition in the supplemental nutrition assistance program: a qualitative study. **C.W. Leung, E.E. Hoffnagle, A.C. Lindsay, S. Turrell, W.C. Willett and S.J. Blumenthal.** Harvard Sch. of Publ. Hlth. and Ctr. for Study of Presidency and Congress.
- 11:00 **33.3** Barriers and facilitators to the implementation of healthy eating strategies in schools. **M. Quintanilha, J. Liefers, A. Farmer, T. Berry, S. Downs, D. Mager, N. Willows and L. McCargar.** Univ. of Alberta and Univ. of Sydney.
- 11:15 **33.4** State regulation of school food environments is not enough. **S.J. Jones, M.P. Burke, E.A. Frongillo, Y. Chu, M. Tompkins and M. Howlett.** Univ. of South Carolina and Simon Fraser Univ., Canada.
- 11:30 **33.5** Children's lunch box after the implementation of a guideline to regulate the foods and beverages for sale in schools in Mexico City. **M. Perez-Rodriguez, I.B. Naranjo, E. Pedraza, G. Ávalos, G. Melendez and F. Pfeffer.** FUNSALUD, Mexico City.
- 11:45 **33.6** School lunches and children's fruit and vegetable consumption. **A.M. Teixeira, S.J. Jones, C.D. Childers and J.M. Ball.** Univ. of South Carolina.

- 12:00 **33.7** Using technology to assess gain in nutrition knowledge among the youth. **H. Roy.** LSU.
- 12:15 **33.8** Behavioral intervention among early adolescent girls improves bone mass after 18 months; however, lactose maldigestion is still a barrier for calcium intake. **Y. Lee, C.J. Boushey, L.D. McCabe, G.P. McCabe, R. Novotny, M. Van Loan, M. Read, S.B. Going, C.M. Weaver, D.A. Savaiano and ACT Investigators.** Purdue Univ., Univ. of Hawaii, USDA, Davis, Univ. of Nevada Reno and Univ. of Arizona.

#### 34. ANIMAL RESEARCH MODELS FOR MACRONUTRIENT METABOLISM

##### Minisymposium

(Sponsored by: Experimental Animal Nutrition RIS)

SAT. 10:30 AM—SAN DIEGO CONVENTION CENTER, 30C

CHAired: M. WALDRON

COCHAired: K. SWANSON

- 10:30 **34.1** Dietary protein source influence on growth and body composition in zebrafish. **D.L. Smith, R.J. Barry, M.L. Powell, T.R. Nagy and S.A. Watts.** Univ. of Alabama at Birmingham.
- 10:45 **34.2** Dietary L-carnitine results in greater energy expenditure and a lower RQ in overweight, but not lean, adult cats. **A.K. Shoveller, D.L. Minikhiem, J. Brewer, J. Foy and J. DiGennaro.** Procter & Gamble.
- 11:00 **34.3** Soft tissue calcification in the Ossabaw miniature pig: experimental and kinetic modeling studies. **M. Wastney, W. Lee, G. Jackson, M. Alloosh, M. Sturek, P. Lachcik, B. Martin and C.M. Weaver.** Purdue Univ. and Indiana Univ. Sch. of Med.
- 11:15 **34.4** Persistence of an adverse metabolic phenotype in parenterally fed neonatal pigs. **D. Burrin, B. Stoll, S.W. El-Kadi, K. Genovese, T. Davis, M. Fiorotto, T. Thymann and P. Sangild.** USDA, Baylor Col. of Med., USDA, College Station and Univ. of Copenhagen.
- 11:30 **34.5** Effect of dietary advanced glycation end products on mouse liver. **R.A. Patel, S.S. Baker, W. Liu, S. Desai, R. Alkhoury, R. Kozielski, L. Mastrandrea, A. Sarfraz, W. Cai, H. Vlassara, M.S. Patel, R.D. Baker and L. Zhu.** Univ. at Buffalo, SUNY and Mount Sinai Sch. of Med.
- 11:45 **34.6** Palmitoleate supplementation dissociates liver inflammatory response from hepatic steatosis in mice. **X. Guo, H. Li, H. Xu, C. Meng and C. Wu.** Texas A&M Univ.
- 12:00 **34.7** Effect of a high carbohydrate or a high fat diet and exercise on the oxidant/antioxidant status in liver. **R. Valdés-Ramos, A.L. Guadarrama, B.E. Martínez-Carrillo, A. Kormanovski and T.R. Cruz Hernandez.** Autonomous Univ. of State of Mexico and Grad. Sch. of Med.-IPN, Mexico City.
- 12:15 **34.8** Relationship between exercise and high fat diet with oxidative stress parameters in the immune system. **B.E. Martínez-Carrillo, R. Valdés-Ramos, A.L. Guadarrama and A. Kormanovski.** Autonomous Univ. of State of Mexico and Higher Sch. of Med.-IPN, Mexico City.

#### 35. THE HUMAN MICROBIOME AND FORMATION OF BIOACTIVE FLAVONOID METABOLITES

##### Special Function

(Sponsored by: PhenHRIG)

SAT. 1:00 PM—SAN DIEGO CONVENTION CENTER, 30A/B

CHAired: M. GROSS

#### 36. CONTROVERSIES REGARDING REPORTED TRENDS: HAS THE OBESITY EPIDEMIC LEVELED OFF IN THE UNITED STATES?

##### Symposium

(Sponsored by: Nutritional Epidemiology RIS)

(Cosponsored by: Obesity RIS Community and Public Health Nutrition RIS)

SAT. 3:00 PM—SAN DIEGO CONVENTION CENTER, 20D

CHAired: Y. WANG

COCHAired: W.H. DIETZ

- 3:00 Overview of obesity epidemic in the U.S. **W. H. Dietz.** CDC.
- 3:25 Some different messages: the trends in different population groups in the U.S. and based on different type of data and different type of analysis. **Y. Wang.** Johns Hopkins Bloomberg Sch. of Publ. Hlth.
- 3:50 Lessons from European countries: the recent trends in childhood obesity. **T. Lobstein.** IASO and IOTF.
- 4:15 Recommendations for future effort. **J. O. Hill.** Univ. of Colorado Denver.
- 4:40 Questions and answers.

#### 37. ADOPTING HEALTHY AND SUSTAINABLE FOOD SERVICE GUIDELINES: EMERGING EVIDENCE FROM IMPLEMENTATION AT THE UNITED STATES FEDERAL GOVERNMENT, NEW YORK CITY, LOS ANGELES COUNTY, AND KAISER PERMANENTE

##### Symposium

(Sponsored by: Nutrition Education RIS)

(Cosponsored by: Public Health Nutrition RIS)

SAT. 3:00 PM—SAN DIEGO CONVENTION CENTER, 31A/B/C

CHAired: J. KIMMONS

COCHAired: A. LEDERER

##### Public Policy

- 3:00 Implementing and evaluating the Health and Human Services and General Services Administration's Health and Sustainability Guidelines for federal concessions and vending operations. **J. Kimmons.** CDC.
- 3:30 Implementing and evaluating nutrition standards for NYC agencies and extending to healthy worksites. **A. Lederer.** Nutr. Strategy Prog.



- 4:00 Lessons learned from adopting and implementing procurement policies in the food services in the Los Angeles County Government and the region's largest school district. **M. Wood.** RENEW Los Angeles County.
- 4:30 Kaiser Permanente healthy and sustainable journey. **J. C. Villarante.** Kaiser Permanente.

### 38. GRADUATE STUDENT RESEARCH AWARD COMPETITION, SUPPORTED BY THE NUTRITIONAL SCIENCES COUNCIL

#### Special Session

(Sponsored by: Nutrition Sciences Council)

SAT. 2:00 PM—SAN DIEGO CONVENTION CENTER, 29A/B

CHAired: K. TUCKER

#### Education

- 2:00 High-dose (4000 IU) vitamin D supplementation improves insulin resistance in obese adolescents. **A.M. Belenchia, A.K. Tosh, L.S. Hillman and C.A. Peterson.** Univ. of Missouri-Columbia and Univ. of Missouri Hosp. & Clins. (386.3)
- 2:15 Intestinal permeability at baseline is negatively associated with change in plasma zinc concentration following short-term zinc supplementation. **K.R. Wessells, S.Y. Hess, Z.P. Ouédraogo, N. Rouamba, R. Goto, J-B. Ouédraogo and K.H. Brown.** Univ. of California, Davis, Hlth. Res. and Sci. Inst., Bobo-Dioulasso, Burkina Faso and Univ. of Cambridge. (392.2)
- 2:30 Effect of (-)-epigallocatechin gallate on cyclin D1 downregulation at the post-translational level. **X. Zhang and S.J. Baek.** Col. of Vet. Med., Univ. of Tennessee and Col. of Animal Sci. and Technol., Northwest A&F Univ., China. (366.7)
- 2:45 Lower dairy calcium and dairy vitamin D intakes are associated with increased skeletal muscle fatty infiltration in adolescent girls. **D. Vassallo, V. Lee, M. Laudermilk, R. Blew and S. Going.** Univ. of Arizona and Univ. of Pennsylvania. (369.2)
- 3:00 Genetic variation in the vitamin D receptor and the plasma proteome. **B. García Bailo, A. Badawi and A. El-Soheby.** Univ. of Toronto and Publ. Hlth. Agcy. of Canada, Toronto. (1012.6)
- 3:15 Fatty acid transport protein mediates macrophage polarization. **Y. Qin, B. Sampey, G. Sacks, A. Freerman, L. Li, R. Coleman, A. Stahl and L. Makowski.** Gillings Sch. of Global Publ. Hlth., Univ. of North Carolina at Chapel Hill and Univ. of California, Berkeley. (364.6)
- 3:30 Tumor progression locus 2 deletion attenuates alcohol-induced hepatic inflammatory foci and cytokine expression in mice. **C.A. Peach, S. Hussain, C. Liu, X-D. Wang and A.S. Greenberg.** USDA at Tufts Univ. (1033.9)
- 3:45 Prevalence of folate deficiency and folate deficiency anemia in REGARDS 2003-2007. **O. Odewole, N. Zakai, S. Judd, R. Berry, Y.P. Qi, W. McClellan, R. Williamson, A. Demilade and G. Oakley.** Rollins Sch. of Publ. Hlth., Emory Univ., Univ. of Vermont, Univ. of Alabama at Birmingham Sch. of Publ. Hlth. and Ctrs. for Dis. Control. (808.2)
- 4:00 Physiologic role of the Menkes copper ATPase (Atp7a) in intestinal iron transport. **S. Gulec, P. Ranganathan, Y. Lu and J. Collins.** Univ. of Florida. (641.22)

- 4:15 Coffee consumption and risk of chronic disease in the European Prospective Investigation into Cancer and Nutrition-Germany study. **A. Floegel, T. Pischon, M.M. Bergmann, B. Teucher, R. Kaaks and H. Boeing.** German Inst. of Human Nutr., Potsdam-Rehbruecke, Max Delbrück Ctr. for Molec. Med., Berlin-Buch and German Cancer Res. Ctr., Heidelberg. (258.4)
- 4:30 **366.4** DHA alters EGFR spatiotemporal dynamics to suppress signal transduction. **H.F. Turk and R.S. Chapkin.** Texas A&M Univ.
- 4:45  $\beta$ -Cryptoxanthin supplementation inhibits carcinogen-initiated and nicotine-promoted lung tumor development in AJ mice. **A. Iskandar, C. Liu, H. Ernst, S-W. Choi, L. Ausman and X-D. Wang.** Tufts Univ., Boston. (27.2)

### 39. CAROTENOIDS: EYE AND BRAIN HEALTH

#### Minisymposium

(Sponsored by: CARIG RIS)

SAT. 3:00 PM—SAN DIEGO CONVENTION CENTER, 32B

CHAired: E. JOHNSON

COCHAired: Z. JOUNI

- 3:00 Overview.
- 3:15 **39.1** Differences in carotenoid content of normal elderly and Alzheimer's brains. **N.E. Craft, D. Gierhart and C.K. Dorey.** Craft Technol. Inc., Wilson, NC, ZeaVision LLC, Chesterfield, MO and Virginia Tech Carilion Sch. of Med.
- 3:30 **39.2** Carotenoids and lipid peroxidation in human brains with and without Alzheimer's disease. **A.J. Roe, T.M. Scott, C-Y.O. Chen, R. Vishwanathan, E.M.R. Eggert, W. Schalch, J. Wittwer and E.J. Johnson.** USDA at Tufts Univ. and DSM, Basel.
- 3:45 **39.3** Relationship between brain lutein (L) and zeaxanthin (Z) and retinal L and Z in humans. **R. Vishwanathan, J. Wittwer, W. Schalch and E.J. Johnson.** USDA at Tufts Univ. and DSM Nutritionals Prods. Ltd., Kaiseraugst, Switzerland.
- 4:00 **39.4** The relationship between retinal carotenoids and cognitive function in healthy and cognitively impaired elders. **L.M. Renzi, M. Dengler, S.A. Thorne, A.N. Puente, B.R. Hammond, Jr. and L.S. Miller.** Univ. of Georgia.
- 4:15 **39.5** In vitro models of retinal pigment epithelium: xanthophyll uptake, metabolism and pathway-specific gene expression. **R. Marisiddaiah, X. Gong, D. Wiener and L.P. Rubin.** Univ. of South Florida.
- 4:30 Summary.

Please Silence Your  
Cell Phones during  
Sessions

## 40. REGULATION OF FOOD INTAKE

## Minisymposium

(Sponsored by: Energy and Macronutrient Metabolism RIS)

(Cosponsored by: Obesity RIS)

SAT. 3:00 PM—SAN DIEGO CONVENTION CENTER, 32A

CHAired: J.W. APOLZAN

COCHAired: J.H. HOLLIS

- 3:00 **40.1** Chronic high fat diet changes gene expression within the brain reward system: critical periods and sex differences. **T.M. Reyes and J. Carlin.** Univ. of Pennsylvania Sch. of Med.
- 3:15 **40.2** Preload of dietary fiber added to oil emulsion efficiently reduces energy intake by systemic PYY and vagal CCK signaling in mice. **R. Rasoamanana, C. Chaumontet, D. Tome, G. Fromentin and N. Darcel.** AgroParisTech-INRA.
- 3:30 **40.3** Effect of incorporating avocados in meals on self-reported subjective feelings related to satiety in healthy overweight adults. **J. Sabaté, M. Wien and E.H. Haddad.** Loma Linda Univ.
- 3:45 **40.4** The effect of consuming cooked beans before a meal on post-meal concentrations of gastrointestinal peptide hormones. **L. Griffith, S. Tonstad, N. Malik, M. Paalani, K. Bahjri and E.H. Haddad.** Loma Linda Univ.
- 4:00 **40.5** The contribution of gastrointestinal appetite hormones to protein-induced satiety. **A. Astrup, A. Belza, M.Q. Sørensen, C. Ritz, J.J. Holst and J.F. Rehfeld.** Univ. of Copenhagen, Frederiksberg, Copenhagen and Univ. Hosp.
- 4:15 **40.6** Effects of increased dietary protein at breakfast on appetite control and energy intake throughout the day in overweight 'breakfast skipping' teen girls. **H.J. Leidy, L.C. Ortinau, S.M. Douglas and H.A. Hoertel.** Univ. of Missouri-Columbia.
- 4:30 **40.7** The effect of sugars in solution on subjective appetite and short-term food intake in normal weight boys. **M. Van Engelen, T. Armstrong, M. Rossiter, M. Eskritt and N. Bellissimo.** Mount Saint Vincent Univ., Canada.
- 4:45 **40.8** Short term effects of chewing gum on satiety and snack intake in healthy weight and obese women. **E. Park, S. Thomas, B. Wuchner, Y. Huang, L. Alandete, T. Inuit, S. Kergoat, I. Edirisinghe and B. Burton-Freeman.** Illinois Inst. for Technol. and Wm. Wrigley Jr. Co., Chicago.

## 41. FAT SOLUBLE VITAMINS AND CHRONIC DISEASE

## Minisymposium

(Sponsored by: Vitamins and Minerals RIS)

SAT. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30D

CHAired: D. TEEGARDEN

COCHAired: G. CHEN

- 3:00 **41.1** Vitamin D standardization program. **C.T. Sempos, H.W. Vesper and K. Phinney.** ODS/NIH, CSC, Atlanta and Natl. Inst. of Stds. and Technol., Gaithersburg, MD.

- 3:15 **41.2** Vitamin D supplementation and insulin sensitivity in early pubertal children: results from the randomized controlled GAPI trial. **A.J. Ferira, E. Laing, D. Hausman, D. Hall, C. Weaver, G. McCabe, B. Martin, M. Peacock, S. Warden, K. Hill and R. Lewis.** Univ. of Georgia, Purdue Univ. and Indiana Univ. Sch. of Med.
- 3:30 **41.3** Lower prediagnostic serum 25-hydroxyvitamin D concentration is associated with increased incidence of type 1 diabetes in the U.S. military: a nested case-control study. **E.D. Gorham, C.F. Garland, A. Burgi, S.B. Mohr, K. Zeng, H. Hofflich and C. Ricordi.** Naval Hlth. Res. Ctr., San Diego, UCSD and Univ. of Miami.
- 3:45 **41.4** Vitamin D dose-response study in breast-fed infants from Montréal, Canada: 400 IU/day is sufficient to meet the plasma 25-hydroxy vitamin D threshold of 50 nmol/L but not 75 nmol/L by 12 months of age. **S. Gallo, C.J. Rodd, C.A. Vanstone, S. Agellon, K. Comeau, G. Jones, M.R. L'Abbe, A. Khamessan, A. Sharma and H.A. Weiler.** McGill Univ., Montreal Children's Hosp., Queen's Univ., Canada, Univ. of Toronto and EURO-PHARM Intl. Canada Inc., Montreal.
- 4:00 **41.5** A prospective, randomized, placebo-controlled trial of high-dose vitamin D for prevention of vitamin D insufficiency in early stage chronic kidney disease. **J.A. Alvarez, J. Law, K. Coakley, B. Wright, L. Hao, T.R. Ziegler and V. Tangpricha.** Emory Univ. Sch. of Med.
- 4:15 **41.6** Determining the retinoic acid response element in the liver glucokinase gene promoter using deletion and linker-scan analysis. **R. Li and G. Chen.** Univ. of Tennessee Knoxville.
- 4:30 **41.7** Knockout of CYP4f14 causes severe perturbations in vitamin E metabolism and results in tissue accumulation of vitamin E in the mouse. **S.A. Bardowell, F. Duan, J.E. Swanson, D. Manor and R.S. Parker.** Cornell Univ. and Case Western Reserve Univ.
- 4:45 **41.8** Transcriptional regulation of the tocopherol transfer protein. **L. Ulatowski, C. Dreussi and D. Manor.** Case Western Reserve Univ.

## 42. PROTEIN AND AMINO ACID METABOLISM

## Minisymposium

(Sponsored by: Energy and Macronutrient Metabolism RIS)

SAT. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30C

CHAired: E. VOLPI

COCHAired: S. CHEVALIER

- 3:00 **42.1** Using the phenylalanine stable isotope pulse method to measure intracellular protein breakdown and metabolic shunting in the context of sepsis in the pig. **G.A. Ten Have, M.P. Engelen, R.R. Wolfe and N.E. Deutz.** Donald W. Reynolds Inst. on Aging, Little Rock.
- 3:15 **42.2** Dietary supplementation with aromatic amino acids improves net protein synthesis in children with severe acute malnutrition during hospitalization. **J.W. Hsu, A. Badaloo, C. Taylor-Bryan, M. Reid, T. Forrester and F. Jahoor.** USDA, Houston, Baylor Col. of Med. and Univ. of West Indies, Jamaica.
- 3:30 **42.3** Lean growth is enhanced by intermittent bolus compared with continuous feeding in neonates. **S.W. El-Kadi, C. Boutry, M.C. Gazzaneo, A. Suryawan, R. Orellana, N. Srivastava, H.V. Nguyen, M.L. Fiorotto and T.A. Davis.** USDA, Baylor Col. of Med.

- 3:45 **42.4** Protein requirement in healthy pregnant women in early and late gestation determined by indicator amino acid oxidation method. **T.V. Stephens, M. Payne, R.O. Ball, P.B. Pencharz and R. Elango.** Child and Family Res. Inst., Vancouver, Univ. of Alberta and The Hosp. for Sick Children, Toronto.
- 4:00 **42.5** Protein requirement of elderly women determined using the indicator amino acid oxidation technique. **M. Tang, G.P. McCabe, R. Elango, P.B. Pencharz, R.O. Ball and W.W. Campbell.** Purdue Univ., Univ. of British Columbia, Univ. of Toronto, The Hosp. for Sick Children, Toronto and Univ. of Alberta.
- 4:15 **42.6** Basal muscle protein synthesis is unaffected by sex in young and older adults. **M.M. Markofski, K.L. Timmerman, S. Fujita, C.S. Fry, E.L. Glynn, M.J. Drummond, J.M. Dickinson, P.T. Reidy, D.M. Gundermann, B.B. Rasmussen and E. Volpi.** Univ. of Texas Med. Branch.
- 4:30 **42.7** Leucine balance, metabolic and satiety responses to a leucine-rich meal in healthy elderly women. **C. Snarr, E. Redmond, J.A. Morais, L.J. Wykes and S. Chevalier.** McGill Univ.
- 4:45 **42.8** Influence of excess postexercise leucine ingestion on mTORC1 signaling and gene expression in skeletal muscle of older men: a 24-hour time-course. **J.M. Dickinson, D.M. Gundermann, D.K. Walker, P.T. Reidy, M.J. Drummond, M. Arora, E. Volpi and B.B. Rasmussen.** Univ. of Texas Med. Branch.

### 43. NUTRITION AND INFLAMMATION

#### Minisymposium

(Sponsored by: Medical Nutrition Council (MNC))

SAT. 3:00 PM—SAN DIEGO CONVENTION CENTER, 29D

CHAired: G. JENSEN

COCHAired: T. ZIEGLER

- 3:00 **43.1** Omega-3 fatty acids mitigate inflammation in felines with chronic kidney disease. **M.A. Harris, K. Lunn, J. Quimby, S. Kim and C. Mulligan.** Vet. Teaching Hosp., Colorado State Univ.
- 3:15 **43.2** Threonine treatment increases heat shock protein 25 and 70 expression and decreases apoptosis in heat stressed intestinal epithelial cells. **C.H. Baird, A.R. Kallweit, R. Beck, S. Niederlechner and P.E. Wischmeyer.** Univ. of Colorado Anschutz Med. Campus.
- 3:30 **43.3** Whole grain intake is associated with inflammatory markers in the Framingham Offspring Study. **N.M. McKeown, Y. Ma, G. Rogers, J. Meigs, J. Fontes and P. Jacques.** USDA at Tufts Univ., Friedman Sch. of Nutr. Sci. and Policy, Tufts Univ., Massachusetts Gen. Hosp., Boston and Boston Univ. Sch. of Med.
- 3:45 **43.4** High dose vitamin D is associated with decreased inflammatory markers and increased number of hospital-free days in adults with cystic fibrosis: a pilot study. **R.E. Grossmann, S.M. Zughaier, R.H. Lyles, S. Liu, V. Sueblinvong, M.S. Schechter, A.A. Stecenko, T.R. Ziegler and V. Tangpricha.** Emory Univ.
- 4:00 **43.5** Buccal swab IL-1ra in necrotizing enterocolitis: a predictive biomarker. **R. Murgas Torrazza, N. Li, V. Mai, S. Chen, M. Chow, E-K. Kim and J. Neu.** Univ. of Florida.

- 4:15 **43.6** Maternal and infant predictors of CRP in exclusively breastfed infants born to HIV-infected Malawian mothers. **L.S. Adair, A.L. Thompson, D. Kayira, C. Chasela, Z. Kacheche, D. Kamwendo, M. Bentley, D. Jamieson, L.H. Allen and S. Shahab-Ferdows.** Univ. of North Carolina at Chapel Hill, UNC Project, Lilongwe, Malawi, Ctrs. for Dis. Control and Prevent. and USDA, Davis.
- 4:30 **43.7** Muscle breakdown determines arginine availability during hyperdynamic sepsis in the pig. **G.A. Ten Have, M.P. Engelen, R.R. Wolfe and N.E. Deutz.** Ctr. for Translational Res. in Aging & Longevity, Little Rock.
- 4:45 **43.8** Alcohol exposure and burn injury drive acute adipose inflammation and alterations in glucose transporter GLUT1. **Y. Qin, M. Bird, M. Chen, E. Kovacs and L. Makowski.** Univ. of North Carolina at Chapel Hill and Loyola Univ. Med. Ctr.

### 44. BREASTFEEDING AND HUMAN MILK: EFFECT ON THE RECIPIENT INFANT AND/OR LACTATING MOTHER

#### Minisymposium

(Sponsored by: Lactation RIS)

SAT. 3:00 PM—SAN DIEGO CONVENTION CENTER, 29C

CHAired: C. LOVELADY

COCHAired: E. WIDEN

- 3:00 **44.1** A prospective study of blood pressure, BMI and immunity in breastfeeding and formula feeding women. **M.W. Groer, F. Sahebzamani, C. Jevitt and J. Beckstead.** Col. of Nursing, Univ. of South Florida.
- 3:15 **44.2** Calcium plus vitamin D supplementation during pregnancy protects Brazilian adolescent mothers from excessive bone loss during lactation. **M.E.L. Diogenes, F.F. Bezerra, E.P. Rezende, M.F. Taveira, I. Pinhal and C.M. Donangelo.** Fed. Univ. of Rio de Janeiro, Univ. of Estado of Rio de Janeiro and Univ. of the Republic, Uruguay.
- 3:30 **44.3** Impact of maternal prenatal metabolic abnormalities on metabolic hormones in human milk. **S.H. Ley, A.J. Hanley, M. Sermer, B. Zinman and D.L. O'Connor.** Univ. of Toronto, Mount Sinai Hosp. and The Hosp. for Sick Children, Toronto.
- 3:45 **44.4** Docosahexaenoic acid and amino acids are limiting in pasteurized donor milk from a cross sectional sampling in the north American milk banks. **C.J. Valentine, G. Morrow, A. Hodge, A.L. Morrow and L.K. Rogers.** Cincinnati Children's, Hosp. and Mother's Milk Bank of Ohio and Nationwide Children's Hosp., Columbus.
- 4:00 **44.5** Maternal vitamin D supplementation to optimize the vitamin D status of breastfed infants. **S.S. Oberhelman, M. Meekins, P. Fischer, B. Lee, B. Gardner, R. Singh, S. Cha, J. Pettifor and T. Thacher.** Mayo Clin., Univ. of Kentucky and Univ. of Witwatersrand, South Africa.
- 4:15 **44.6** Maternal body mass index modifies the impact of negative energy balance during lactation on infant weight and length gain in HIV-exposed, uninfected Malawian females. **E.M. Widen, M. Bentley, D. Kayira, C. Chasela, Z. Kacheche, G. Tegha, D. Kamwendo, D. Jamieson, V. Flax, C. van der Horst and L. Adair.** Univ. of North Carolina at Chapel Hill, UNC Project, Lilongwe, Malawi and Ctrs. for Dis. Control and Prevent.

4:30 **44.7** Linear growth in very premature infants is significantly related to protein intake. **C.L. Berseth, C. Harris and S.H. Mitmesser.** Mead Johnson Nutr., Evansville, IN.

4:45 **44.8** Development of resting cardiovascular activity during the first 2 years of life differs in breastfed and formula-fed boys and girls. **R.T. Pivik, A. Andres and T.M. Badger.** Univ. of Arkansas for Med. Sci.

## Pathology

### 45. PATHOBIOLOGY FOR BASIC SCIENTISTS: CELL INJURY AND INFLAMMATION: NEW RIFFS ON A CLASSICAL SCORE

#### Course

(Sponsored by: ASIP Education Committee)

SAT. 8:30 AM—SAN DIEGO CONVENTION CENTER, 16A

CHAired: R.N. MITCHELL AND M.B. FURIE

#### Education

This session is intended primarily for graduate students, residents, and and post-doctoral fellows interested in a well-organized and well-structured update on the current scientific and clinical developments--and controversies--regarding cell injury, cell death, inflammation, and neoplasia. Topics will cycle on a regular basis from the popular Summer Academy courses, and speakers will be drawn from among the best pathobiology educators in the ASIP, providing a solid foundation of the fundamentals, and a stimulating look at the future. Given the focus and nature of the presentations, the sessions will also provide an excellent framework for pathobiology faculty developing new course materials, or industry professionals looking for a primer of the fields.

8:30 Autophagy. **C. T. Chu.** Univ. of Pittsburgh Med. Sch.

9:30 Apoptosis and necroptosis. **S. Oakes.** UCSF Sch. of Med.

10:30 The inflammasome and innate immunity. **K. L. Rock.** Univ. of Massachusetts Med. Ctr.

### 46. MESENCHYMAL STEM CELLS AND LUNG DISEASE

#### Symposium

SAT. 8:30 AM—SAN DIEGO CONVENTION CENTER, 17A

CHAired: M.A. MATTHAY AND D.S. ZANDER

#### Pulmonary Pathobiology

#### Stem Cells

8:30 Mesenchymal stem cells and acute lung injury. **M. A. Matthay.** UCSF Sch. of Med.

9:15 Mesenchymal stem cell therapy: tales of airway inflammation and infection. **T. Bonfield.** Case Western Reserve Univ.

10:00 Lung repair by mitochondrial transfer from MSCs. **J. Bhattacharya.** Columbia Univ. Med. Ctr.

10:45 Mesenchymal stem cells and mechanisms of interstitial lung fibrosis: potential for interaction with the environment. **A. R. Brody.** North Carolina State Univ.

### 47. BREAST CANCER WORKSHOP: PERSONALIZED MEDICINE AND BREAST CANCER

#### Workshop

(Supported by educational grants from Academic Press, California Breast Cancer Research Program and earlier. org - Friends for an Earlier Breast Cancer Test)

(Sponsored by: ASIP Breast Cancer Scientific Interest Group)

SAT. 8:30 AM—SAN DIEGO CONVENTION CENTER, 16B

CHAired: A.G. RIVENBARK AND W.B. COLEMAN

#### Neoplasia

8:30 Clinical biomarkers for targeted breast cancer treatment: a personal approach. **G. J. Tsogalis.** Dartmouth-Hitchcock Med. Ctr.

9:15 Molecular biomarkers for early detection of breast cancer. **T. D. Tlsty.** UCSF Sch. of Med.

10:00 Identification of new pathways for targeted breast cancer therapy. **W. B. Coleman.** Univ. of North Carolina at Chapel Hill.

10:45 Identification of new pathways for targeted breast cancer therapy. **W. F. Symmans.** MD Anderson Cancer Ctr.

### 48. TO GROW OR NOT TO GROW

#### Minisymposium

SAT. 8:45 AM—SAN DIEGO CONVENTION CENTER, 17B

CHAired: C. HUGHES

COCHAired: M.J. McARTHUR

#### Abstract 48.1 moved to the end of Tuesday Poster Session 1034.

8:45 **48.2** Attenuation of retinal neovascularization and endothelial cells proangiogenic activity in endoglin-deficient mice. **S. Park, C.M. Sorenson and N. Sheibani.** Univ. of Wisconsin-Madison.

9:00 **48.3** Utilizing mTOR inhibition to study the role of mTOR signal transduction in angiogenesis. **M. Ziegler and C.C.W. Hughes.** Univ. of California, Irvine.

9:15 **48.4** A role for endothelial cell-derived Wnt5a in angiogenesis. **A. Newman and C.C.W. Hughes.** Univ. of California, Irvine.

9:30 **48.5** Elucidating the role of  $\beta$ -catenin in hepatocellular tumor angiogenesis. **E.R. Delgado and S.P. Monga.** Univ. of Pittsburgh Sch. of Med.

9:45 **48.6** Functional genomics of endothelial cells treated with chemopreventive anti-angiogenic drugs. **I. Sogno, A.R. Cantelmo, D. Bartolini, D.M. Noonan and A. Albini.** Casa di Cura MultiMedica, Milan and Univ. of Insubria, Italy.

- 10:00 **48.7** MG624, an  $\alpha 7$ -nicotinic receptor antagonist, inhibits angiogenesis in human small cell lung cancer. **A.M. Dom, K.C. Brown, J.K. Lau, T.R. Witte, W.E. Hardman, H. Luo, Y.C. Chen and P. Dasgupta.** Joan C. Edwards Sch. of Med., Marshall Univ. and Alderson-Broaddus Col., WV.
- 10:15 **48.8** Inhibitory effects of macrolactin A and 7-*O*-succinyl macrolactin A on angiogenesis and cancer cell invasion. **Y. Kang, S. Park, H.Y. Kim, D.H. Kim and J-A. Kim.** Yeungnam Univ. and Daewoo Pharm. Co. Ltd., South Korea.
- 10:30 **48.9** Pro-angiogenic capacity of MMP-9 produced by different types of inflammatory leukocytes is determined by the levels of TIMP-1 complexed with the MMP-9 proenzyme. **E. Zajac, B. Schweighofer, T. Kupriyanova, B. Casar, I. Rimann, A. Juncker-Jensen, E.I. Deryugina and J.P. Quigley.** The Scripps Res. Inst.
- 10:45 **48.10** The angiogenesis suppressor gene AKAP12 is under the epigenetic control of HDAC7 in endothelial cells. **V. Castronovo, N. Matheus, B. Dumont, P. Peixoto, V. Hennequiere, C. Deroanne, A. Colige, E. De Pauw, A. Bellahcene, D. Mottet and A. Turtoi.** Univ. of Liege, Belgium.

#### 49. ASMB LECTURE

(Sponsored by: ASIP and the American Society for Matrix Biology)

SAT. 11:30 AM—SAN DIEGO CONVENTION CENTER, 16B

- 11:30 Fibronectin matrix assembly in development and disease. **J. E. Schwarzbauer.** Princeton Univ.

#### 50. 12TH ANNUAL WORKSHOP ON GRADUATE EDUCATION IN PATHOLOGY: GENOMICS AND PERSONALIZED MEDICINE IN THE GRADUATE CURRICULUM

##### Workshop

(Sponsored by: ASIP Education Committee)

SAT. 11:30 AM—SAN DIEGO MARRIOTT MARQUIS & MARINA, CARDIFF

CHAired: R.N. MITCHELL

##### Education

The goal of the ASIP Graduate Education Workshops is to provide a venue for Pathology Program Directors and interested Faculty to learn about and discuss innovations and best practices, and share experiences relevant to the training of Graduate Students, Residents, and Fellows. The sessions--with a box lunch provided--are relatively informal, beginning with short presentations (20-30 minutes each) and progressing to lively discussions; they typically average 15-25 attendees from programs around the country.

For 2012, in view of the Banbury Initiative and other developments, the Annual Workshop will focus on Genomics and Personalized Medicine in the Graduate Curriculum: what should graduate programs be considering, and what are the potential challenges and pitfalls?

- 11:30 Introductory remarks.
- 11:45 Overview: genomics and personalized medicine. **D. P. Wall.** Beth Israel Deaconess Med. Ctr.
- 12:15 Genomic medicine in pathology residency programs. **J. E. Saffitz.** Beth Israel Deaconess Med. Ctr.

- 12:45 Genomic medicine in pathology graduate programs. **A. H. Beck.** Beth Israel Deaconess Med. Ctr.

#### 51. BREAST CANCER SCIENTIFIC INTEREST GROUP NETWORKING/POSTER SESSION

(This Session is not CME accredited.)

##### Poster Discussion

SAT. 11:45 AM—SAN DIEGO CONVENTION CENTER, 1B

CHAired: A.G. RIVENBARK

COCHAired: W.B. COLEMAN

##### Neoplasia

This informal lunch/networking session will take place following the Breast Cancer Workshop and will showcase a number of posters that will be selected for discussion. This event is provided for all ASIP members who are interested in breast cancer research. One of the major objectives of this session is to create a community of breast cancer researchers and to foster collaborations. Additionally, this professional networking outlet will provide new investigators and/or predoctoral students and postdoctoral trainees an opportunity to become acquainted with scientists working in the field. A complimentary light lunch will be provided for all in attendance.

- P1 Growth of triple negative human breast cancer cells is regulated by the OGF-OGFr axis. **I.S. Zagon, N.K. Porterfield and P.J. McLaughlin.** Penn State Col. of Med. (142.1)
- P2 A designer artificial transcription factor stably reprograms cancer cells by targeted DNA methylation. **A.G. Rivenbark, S. Stolzenburg, B.D. Strahl and P. Blancafort.** Univ. of North Carolina at Chapel Hill. (142.2)
- P3 Inhibitory effect of adiponectin on breast cancer cell growth: evidences of the crucial role of ER $\alpha$  expression. **L. Mauro, M. Pellegrino, F. De Amicis, C. Giordano and S. Andò.** Univ. of Calabria, Italy. (142.3)
- P4 Migration of breast cancer cell lines in response to pulmonary laminin 332: for metastasis. **P.M. Carpenter, S.S. Hua, C. Xiao, T. Ngo and P.D. Gershon.** Univ. of California, Irvine, Orange and Irvine. (142.4)
- P5 Neuropeptide Y stimulates VEGF production and secretion and promotes angiogenesis in murine and human breast cancer. **P.J. Medeiros and D.N. Jackson.** Univ. of Western Ontario. (142.5)
- P6 Kaiso: a key regulator in EMT and cancer progression. **J.D. Jones, H. Wang, P. He, W.E. Grizzle, T. Turner and C. Yates.** Tuskegee Univ. and Univ. of Alabama at Birmingham. (142.6)
- P7 Estrogen receptor-positive breast cancer cells drive CAFs to secrete leptin and support tumor invasiveness. **I. Barone, S. Catalano, L. Gelsomino, S. Panza, S. Marsico, C. Giordano, D. Bonofiglio, I. Casaburi, K.R. Covington, S. Fuqua and S. Andò.** Univ. of Calabria, Italy and Baylor Col. of Med. (142.7)
- P8 Reprogramming the cancer epigenome by metabolic transduction. **J.S. Byun and K. Gardner.** NCI/NIH. (142.8)

- P9 Lapatinib for breast cancer's systematic review and meta-analysis. **D. Li, W. Shi, J. Li, J. Wang, K. Su and L. Wei.** Basic Med. Sch. of Wuhan Univ., China. (834.8)
- P10 Detection of nanoparticles in mice using an integrated photoacoustic micro-ultrasound system. **J. Sun, A. Heinmiller, D. Bates, A. Needles and C. Theodoropoulos.** VisualSonics, Toronto. (834.7)
- P11 Polychlorinated biphenyls enhance the neoplastic progression of human breast epithelial cells in a xenograft model. **H. Pang, F.R. Miller, T.A. Kocarek and M. Runge-Morris.** Wayne State Univ. (834.6)
- p12 Mono-ubiquitination of annexin A1, acetylation of PML and apoptosis of MCF7 cells treated by HDAC inhibitors. **A. Hirata, T.H. Senanayake, P.M. Woster and F. Hirata.** Wayne State Univ. (834.5)
- P13 FoxO3a transcription factor differentially modulates the metastatic potential of ER+ and ER- breast tumors. **C. Morelli, P. Maris, W. Anselmo, M.G. Cesario, M. Lanzino, D. Sisci and S. Andò.** Univ. of Calabria, Italy and Thomas Jefferson Univ. (834.4)
- P14 Overexpression of claudin-6, -7 or -9 modifies the activation of MMP-2 and MMP-9. **A.C. Torres Martinez, L.F. Montañó Estrada and E.P. Rendon-Huerta.** Fac. of Med., UNAM, Mexico City. (833.1)
- P15 Effects of claudins-6, -7 or -9 overexpression on migration and invasiveness of breast and hepatocellular cancer cells. **B. Salas, E.P. Rendón-Huerta and L.F. Montañó-Estrada.** UNAM, Mexico City. (833.8)
- P16 Leptin increases HER2 stability through HSP90 in breast cancer cells. **C. Giordano, D. Vizza, D. Rovito, I. Barone, D. Bonofiglio, S. Panza, M. Lanzino, S. Fuqua, S. Catalano and S. Andò.** Univ. of Calabria, Italy and Baylor Col. of Med. (834.3)
- P17 Progesterone receptor B through Sp1 induces the phosphatase and tensin homologue deleted from chromosome 10 (PTEN) gene promoter activity and cell death in breast cancer cell lines. **C. Guido, F. De Amicis, M. Santoro, P. Avena, I. Perrotta, I. Casaburi, S. Panza, S. Marsico and S. Andò.** Univ. of Calabria, Italy. (834.2)
- P18 A new immunohistochemistry-based assay SBrC5 classifies invasive breast cancer subtypes? profiling five biomarkers in one single test. **L. Haiping and S. Muralitharan.** Thermo Fisher Scientific. (834.1)

## 52. HIGHLIGHTS: GRADUATE STUDENT RESEARCH IN PATHOLOGY

### Poster Discussion

(Sponsored by: ASIP Committee for Career Development, Women & Minorities)

SAT. 1:30 PM—SAN DIEGO CONVENTION CENTER, 15B

CHAired: D. BIELENBERG

COCHAired: K. KOLEGRAFF

This session showcases a selection of oral and poster presentations by students, taken from regular sessions. It provides a view of the research excellence among trainees in Pathology. Scout for a postdoctoral fellow and meet colleagues from other pathology research training programs.

- 1:30 Welcome and introduction. **D. Bielenberg, K. Kolegraff.** Harvard Med. Sch./Children's Hosp., Emory Univ.

### Oral Presentations

- 1:35 Antisense oligonucleotide therapy: combating aberrant  $\beta$ -catenin in hepatocellular carcinoma using peptide nucleic acids without transfecting agents. **E.R. Delgado, R. Bahal, D. Ly and S.P. Monga.** Univ. of Pittsburgh Sch. of Med. and Carnegie Mellon Univ. (397.5)
- 1:45 The RNA-binding protein Imp2 regulates oxidative phosphorylation that is key to glioblastoma cancer stem cell maintenance. **M. Janiszewska, M-L. Suva, R.H. Houtkooper, V. Clement-Schatlo and I. Stamenkovic.** Univ. of Lausanne, Massachussetts Gen. Hosp., Boston, EPFL, Lausanne and Univ. of Geneva. (479.6)
- 1:55 Improvement of defective cystic fibrosis airway epithelial repair after CFTR rescue. **N.T.N. Trinh, D. Adam, O. Bardou, P. Anik, É. Maillé, S. Lingée, P. Ferraro, M. Desrosiers, C. Coraux and E. Brochiero.** CRCHUM Hôtel-Dieu, Univ. of Montreal, Univ. Champagne Ardenne, Reims and CHUM Notre-Dame, Montreal. (56.9)

### Poster Presentations

- P2 The desmosomal protein, PERP, is required for the pro-inflammatory response to *Salmonella typhimurium* infection. **K. Hallstrom, C.V. Srikanth, T. Agbor, Z. Demma and B.A. McCormick.** Univ. of Massachusetts Med. Sch. (55.9)
- P4 Neuropeptide Y stimulates VEGF production and secretion and promotes angiogenesis in murine and human breast cancer. **P.J. Medeiros and D.N. Jackson.** Univ. of Western Ontario. (142.5)
- P6 The  $\alpha 7$ -nicotinic receptor antagonist induces robust apoptosis in human SCLC. **K.C. Brown, J.K. Lau, A.M. Dom, B.S. Shiflett, T.R. Witte, W.E. Hardman, H. Luo, Y.C. Chen, A.B. Carpenter and P. Dasgupta.** Joan C. Edwards Sch. of Med., Marshall Univ. and Alderson-Broaddus Col., WV. (397.4)
- P8 Differential contribution of desmoglein 2 and 3 to cell adhesion and intracellular signaling in keratinocytes. **E. Hartlieb, V. Spindler and J. Waschke.** Ludwig Maximilians Univ., Munich. (833.2)
- P10 D295N mutant cathepsin D exerts a dominant negative effect in vitro by promoting  $\alpha$ -synuclein accumulation. **D.M. Crabtree, X. Ouyang and J. Zhang.** Univ. of Alabama at Birmingham. (1035.15)
- P12 Suppression of skeletal muscle inflammation by muscle stem cells. **J. Proto, A. Lu, K. Imbrogno, Y. Tang, P. Robbins, B. Wang and J. Huard.** Univ. of Pittsburgh Sch. of Med. (1034.8)

### Oral Presentations

- 2:35 The role of miR-17-92 cluster in hepatic carcinogenesis. **H. Zhu, C. Han and T. Wu.** Tulane Univ. Sch. of Med. (274.12)
- 2:45 Attenuation of retinal neovascularization and endothelial cells proangiogenic activity in endoglin-deficient mice. **S. Park, C.M. Sorenson and N. Sheibani.** Univ. of Wisconsin-Madison. (48.2)
- 2:55 The role of SOD-2 in a mouse model of multiple sclerosis. **T. Inoue, T. Majid, A. Quick, R.G. Pautler and C. Beeton.** Baylor Col. of Med. (136.11)

3:05 **Poster Presentations**

- P1 A cell permeable hairpin peptide inhibits hepatitis C viral NS5A-mediated translation and virus production. **R. Khachatoorian, V. Arumugaswami, P. Ruchala, E.M. Maloney, S. Raychaudhuri, E. Miao, A. Dasgupta and S.W. French.** UCLA, Northridge and Los Angeles and Cedars-Sinai Med. Ctr. (139.1)
- P3 *Entamoeba histolytica* induces a robust acute inflammatory response with increased colonic permeability and altered tight junction proteins in *Muc2<sup>-/-</sup>* mice. **V. Kissoon-Singh, F. Moreau and K. Chadee.** Univ. of Calgary, Canada. (275.7)
- P5 Calreticulin upregulates VEGF-A and VEGF-C in SK-N-DZ and SH-SY5Y neuroblastoma cell lines. **K. Lin, P-Y. Wu and H. Lee.** Natl. Taiwan Univ. (657.5)
- P7 Lipocalin 2, an innate immune protein, plays a key role in immune-complex mediated inflammation. **J.D. Aitken, G. Srinivasan, R. Sashidhramurthy, C.A. Parkos, P. Selvaraj and M. Vijay-Kumar.** Georgia State Univ., Philadelphia Col. of Osteo. Med. and Emory Univ. (55.11)
- P9 The inhibitory effect of sulforaphane on the expression of VCAM-1 in vascular smooth muscle cells. **J.Y. Kim, D-K. Rhee and S. Pyo.** Sungkyunkwan Univ., South Korea. (656.16)
- P11 Role of PDGFR $\alpha$  in liver regeneration using hepatocyte-specific knockout mice. **P. Awuah, K.N. Nejak-Bowen and S. Monga.** Univ. of Pittsburgh Sch. of Med. (274.9)
- 3:35 **ASIP Excellence in Science Award Lecture:** Mechanisms of TDP-43 mediated neurodegeneration in ALS and FTLD90. **E. B. Lee.** Hosp. of Univ. of Pennsylvania.
- 3:50 Concluding remarks.

**53. IPS CELLS: ARE WE THERE YET!****Symposium**

SAT. 2:00 PM—SAN DIEGO CONVENTION CENTER, 16A

CHAired: G.K. MICHALOPOULOS

**Stem Cells**

- 2:00 Probing the potential of human pluripotent stem cell progeny. **W. E. Lowry.** UCLA.
- 2:35 Using induced pluripotent stem cells to study autism. **R. Dolmetsch.** Stanford Univ. Sch. of Med.
- 3:10 Using human pluripotent stem cells to study metabolic liver disease. **S. A. Duncan.** Med. Col. of Wisconsin.
- 3:45 DNA methylation dynamics in pluripotent cells. **J. R. Ecker.** Salk Inst.
- 4:20 Instructing cells to change their identity. **J. Gearhart.** Univ. of Pennsylvania.

**54. THE MYOFIBROBLAST: BIOLOGICAL FEATURES AND THERAPEUTIC PERSPECTIVE****Symposium**

SAT. 2:00 PM—SAN DIEGO CONVENTION CENTER, 16B

CHAired: C.M. HOGABOAM

- 2:00 Epigenetic mechanisms through which TLR9 promotes myofibroblast differentiation and IPF progression. **C. M. Hogaboam.** Univ. of Michigan.

- 2:45 TBD. **S. H. Phan.** Univ. of Michigan Med. Sch.
- 3:30 The specialized myofibroblasts of the liver: different roles, different cues. **R. G. Wells.** Univ. of Pennsylvania Sch. of Med.
- 4:15 TBD. **B. Hinz.** Univ. of Toronto.

**55. ACUTE INFLAMMATORY RESPONSE****Minisymposium**

SAT. 2:00 PM—SAN DIEGO CONVENTION CENTER, 17A

CHAired: M. CYBULSKY

COCHAired: P. ALCAIDE

**Inflammation**

- 2:00 **55.1** HS1 is required for neutrophil polarization, LFA-1 activation and leukocyte recruitment. **M. Schnoor, S.M. Logermann, D. Jing, H. Li, S. Butz and D. Vestweber.** Max Planck Inst. for Molec. Biomed., Muenster.
- 2:15 **55.2** Leukocyte CD47 plays a critical role in T-cell recruitment in vivo through affinity regulation of LFA-1 and VLA-4 integrins. **V. Azcutia, M. Routledge, G. Newton, A. Manica, K. Croce and F.W. Luscinskis.** Brigham and Women's Hosp.
- 2:30 **55.3** Phosphoinositide 3-kinase activation and actin dynamics within force sensing anchors are required to stabilize VLA-4 integrin-mediated leukocyte adhesion. **J. Rullo, H. Becker, S. Hyduk and M. Cybulsky.** Univ. of Toronto and Univ. Hlth. Network, Toronto.
- 2:45 **55.4** Pericytes: gatekeepers governing neutrophil extravasation during inflammation. **S. Wang, C. Cao, Z. Chen, V. Bankaitis, E. Tzima, N. Sheibani and K. Burridge.** Univ. of North Carolina at Chapel Hill and Univ. of Wisconsin-Madison.
- 3:00 **55.5** Monocyte activation and endothelial small G-proteins control the route of transendothelial migration. **A.V. Mikhailov and W.A. Muller.** Northwestern Univ., Chicago.
- 3:15 **55.6** Endothelial cell IQGAP1 is an important regulator of the transendothelial migration of leukocytes. **D.P. Sullivan and W.A. Muller.** Northwestern Univ., Chicago.
- 3:30 **55.7** Downstream effects of the homophilic PECAM-1 interaction in neutrophils. **N.A. Sieracki, Y. Komarova and A.B. Malik.** Univ. of Illinois at Chicago.
- 3:45 **55.8** FGD5 deficiency confers defective matrix adhesion and survival among endothelial cells. **M. Nakhaei-Nejad, G. Haddad and A. Murray.** Univ. of Alberta.
- 4:00 **55.9** The desmosomal protein, PERP, is required for the pro-inflammatory response to *Salmonella typhimurium* infection. **K. Hallstrom, C.V. Srikanth, T. Agbor, Z. Demma and B.A. McCormick.** Univ. of Massachusetts Med. Sch.
- 4:15 **55.10** Engagement of ICAM-1 mediates neutrophil crawling on the luminal surface of the intestinal epithelium and signals to regulate barrier function. **R. Sumagin and C.A. Parkos.** Emory Univ.
- 4:30 **55.11** Lipocalin 2, an innate immune protein, plays a key role in immune-complex mediated inflammation. **J.D. Aitken, G. Srinivasan, R. Sashidhramurthy, C.A. Parkos, P. Selvaraj and M. Vijay-Kumar.** Georgia State Univ., Philadelphia Col. of Osteo. Med. and Emory Univ.
- 4:45 **55.12** The role of tissue transglutaminase 2 in the modulation of polymorphonuclear leukocyte function. **D.P. Lebel, T.S. Lai, M.K. Anderson and T.A. Reaves.** Med. Univ. of South Carolina.

## 56. EPITHELIAL INJURY AND REPAIR

## Minisymposium

SAT. 2:00 PM—SAN DIEGO CONVENTION CENTER, 17B

CHAIR: S. COLGAN

COCHAIR: R. JONES

## Epithelial Pathobiology

- 2:00 **56.1** Potassium channels as operators of alveolar epithelial repair. **A. Girault, A. Privé, N.T.N. Trinh, O. Bardou, É. Maillé and E. Brochiero.** CRCHUM Hôtel-Dieu, Univ. of Montreal.
- 2:12 **56.2** N-formyl peptide receptor-1 is important for homeostasis of intestinal epithelial cells. **A. Alam, G. Leoni, C. Wentworth, A. Nusrat and A.S. Neish.** Emory Univ.
- 2:24 **56.3** Cellular confluence and cohesion regulates CXCL11/IP9 expression during keratinocyte re-epithelialization. **A.C. Huen and A. Wells.** Univ. of Pittsburgh Med. Ctr. and VA Pittsburgh Healthcare Syst.
- 2:36 **56.4** Annexin A1 derived peptide Ac2-26 promotes epithelial wound healing through p120-Vav2-Rac1 signaling and ROS generation. **G. Leoni, A. Mohammad, M. Perretti, C. Parkos, A. Neish and A. Nusrat.** Emory Univ. and Barts and The London Sch. of Med.
- 2:48 **56.5** A *Giardia* cathepsin-B-like protease cleaves interleukin-8 from intestinal epithelial cells. **J. Cotton, A. Bhargava, J. Ferraz, M. Hollenberg, P. Beck and A. Buret.** Univ. of Calgary, Canada.
- 3:00 **56.6** AnnexinA2 regulates beta 1 integrin internalization and intestinal epithelial cell migration. **C.R. Rankin, R.S. Hilgarth, G. Leoni, K.D. Beste, M. Kwon, C.A. Parkos and A. Nusrat.** Emory Univ.
- 3:12 **56.7** Ezrin functionality and ischemia-reperfusion injury in transplantation. **M.J. Mangino, T. Tian and S.L. Lindell.** Virginia Commonwealth Univ.
- 3:24 **56.8** Cigarette smoke-stimulated epithelial-mesenchymal transition through Src activation. **H.J. Forman, H. Zhang, H. Liu, Z. Borok, K.J.A. Davies and F. Ursini.** Univ. of Southern California, Univ. of California Merced and Univ. of Padua.

- 3:36 **56.9** Improvement of defective cystic fibrosis airway epithelial repair after CFTR rescue. **N.T.N. Trinh, D. Adam, O. Bardou, P. Anik, É. Maillé, S. Lingée, P. Ferraro, M. Desrosiers, C. Coraux and E. Brochiero.** CRCHUM Hôtel-Dieu, Univ. of Montreal, Univ. Champagne Ardenne, Reims and CHUM Notre-Dame, Montreal.
- 3:48 **56.10** The inhibitory effect of an anti-DPP IV monoclonal antibody 6A3 on the DPP IV/polymeric fibronectin adhesion is most likely due to a conformational change. **H-C. Cheng, T-T. Hung, J-F. Liu and J-Y. Wu.** Col. of Med., Natl. Cheng Kung Univ., Taiwan.

SAT

## 57. TRAINEE WELCOME RECEPTION

## Special Session

(This session is not CME accredited.)

*(Sponsored by: ASIP Committee for Career Development, Women & Minorities)*

SAT. 4:00 PM—SAN DIEGO CONVENTION CENTER, 15A

All trainees and mentors are invited to attend a Welcome Reception immediately following the Excellence in Science award presentation at the Highlights: Graduate Student Research in Pathology Session. Please join us for a fun and informal social gathering—it's a great opportunity to network with old and new friends!

## 58. ASIP OUTSTANDING INVESTIGATOR AWARD LECTURE

SAT. 5:00 PM—SAN DIEGO CONVENTION CENTER, 16A

- 5:00 Introduction.
- 5:05 Lost in ubiquitination, found by mass spectrometry: identification of E3 ligase substrates controlling critical cellular events and cancer. **K. Elenitoba-Johnson.** Univ. of Michigan.

## Pharmacology and Experimental Therapeutics

## 59. DIVERSITY COMMITTEE WORKSHOP: BUILDING A CAREER IN PHARMACOLOGY: A FOCUS ON HEALTH DISPARITIES

## Symposium

SAT. 12:00 PM—SAN DIEGO CONVENTION CENTER, 2

CHAIR: M.I. DÁVILA-GARCÍA

- 12:00 Chair's introduction.
- 12:05 Science and disparities: meeting the challenge of the 21st century. **R. G. Robinson.** Consultant.

- 12:35 Lipotoxicity, type 2 diabetes and health disparities. **M. De Leon.** Loma Linda Univ. Sch. of Med.
- 1:10 Cancer drug discovery and health disparities. **Eileen J. Kennedy.** Univ. of Georgia Col. of Pharm.
- 1:40 Drug-plant interaction in the American Indian/Alaskan Native populations: no control of potential harm. **J. Yracheta.** Univ. of Washington Sch. of Pharm.
- 2:05 Drug abuse research: from molecular studies to differential treatment. **M. I. Davila-Garcia.** Howard Univ. Col. of Med.



**60. 2012 TEACHING INSTITUTE: THE USE OF SOCIAL MEDIA IN PHARMACOLOGY EDUCATION**

**Symposium**

SAT. 12:00 PM—SAN DIEGO CONVENTION CENTER, 3

CHAired: L.M. CRESPO

**Education**

- 12:00 TBD.
- 12:45 Wikis and Wikipedia as teaching tools. **J. Jemison.** Univ. of Vermont Col. of Vermont.
- 1:30 Editing and publishing on Wikipedia. **Lynn M. Crespo.** Univ. of South Carolina Sch. of Med., Greenville.

**61. GRADUATE STUDENT COLLOQUIUM: COMMUNICATION**

**Colloquium**

SAT. 2:45 PM—SAN DIEGO CONVENTION CENTER, 2

CHAired: L. SCHROTT, J.S. FEDAN, M.J. SEMINERIO

**Education**

- 2:45 **Keynote Speaker:** Get that job! How to ace your interview. **B. A. Fischer.** Survival Skills & Ethics Program, Univ. of Pittsburgh.
- 3:45 **Negotiating Session:** Negotiating your job offer: A hands-on exercise. **B. A. Fischer.** Survival Skills & Ethics Program, Univ. of Pittsburgh.

**62. ASPET BUSINESS MEETING AND OPENING AWARDS RECEPTION**

**Business Meeting**

SAT. 6:00 PM—SAN DIEGO CONVENTION CENTER, 20B/C

**Opening Reception**

7:30 PM—SAN DIEGO CONVENTION CENTER, CENTER TERRACE

## Physiology

**63. REFRESHER COURSE IN ENDOCRINOLOGY: DIABETIC COMPLICATIONS**

**Symposium**

(Sponsored by: APS Education Committee)

SAT. 8:00 AM—SAN DIEGO CONVENTION CENTER, 24

CHAired: C. WILLIAMS AND M. RYAN

**Education**

**Metabolic Diseases**

- 8:00 Brain-gut interactions. **S. Srinivasan.** Emory Univ.
- 8:50 Adipocyte-islet interactions. **S. Unniappan.** York Univ.
- 9:40 Islet-brain interactions. **S. C. Woods.** Univ. of Cincinnati.
- 10:30 Mechanisms of current drug therapies. **P. Thule.** Emory Univ. and Atlanta VA Med. Ctr.

**64. MICROCIRCULATORY SOCIETY PRESIDENT'S SYMPOSIUM. CATION CHANNELS IN VASCULAR CONTROL: ASIC, AND TRPV PROTEINS**

**Symposium**

(Sponsored by: The Microcirculatory Society)

SAT. 9:00 AM—SAN DIEGO CONVENTION CENTER, 26

CHAired: M. BOEGEHOLD

- 9:00 TRPV channels in cerebral arteries. **S. Earley.** Colorado State Univ.

- 9:30 Molecular sensors for hypertension, inflammation, and tissue injury: role of TRPV channels. **D. Wang.** Michigan State Univ. Col. of Human Med.
- 10:00 ASIC1 in pulmonary vascular smooth muscle function. **N. Jernigan.** Univ. of New Mexico.
- 10:30 Mechanisms of regulation of intraparenchymal cerebral arterioles. **J. Brayden.** Univ. of Vermont.
- 11:00 Discussion.

**65. OVERCOMING THE FEAR OF MAKING YOUR OWN TRANSGENIC AND KNOCKOUT MICE**

**Workshop**

SAT. 1:00 PM—SAN DIEGO CONVENTION CENTER, 27

CHAired: D. E. KOHAN AND M. DE CAESTECKER

**Education**

- 1:00 Conditional gene expression. **H. Bujard.** Heidelberg Univ.
- 1:30 Designing vectors for gene targeting. **T. Saunders.** Univ. of Michigan.
- 2:00 Optimizing transgene expression. **C. Sigmund.** Univ. of Iowa.
- 2:30 Key issues with mouse phenotyping. **V. Papaioannou.** Columbia Univ.

**66. PUBLIC OUTREACH AND ANIMAL RESEARCH: TOOLKIT FOR INVESTIGATORS****Symposium**

(Sponsored by: APS Animal Care and Experimentation Committee)

SAT. 1:00 PM—SAN DIEGO CONVENTION CENTER, 25B

CHAired: B. YATES

**Public Policy**

- 1:00 Introduction. **B. Yates**. Univ. of Pittsburgh.  
 1:10 Engaging the public about animal research: a scientist's perspective. **D. Ringach**. UCLA Jules Stein Eye Inst., David Geffen Sch. of Med.  
 1:40 Public outreach: a laboratory animal veterinarian's perspective and experience over a quarter of a century. **J. D. Young**. Cedars-Sinai Med. Ctr.  
 2:10 Why investigators and institutions should talk about animal research: a media relations perspective. **J. Newman**. Oregon Hlth. & Sci. Univ.  
 2:40 Discussion.

**67. MICROCIRCULATORY SOCIETY PRESIDENT'S SYMPOSIUM II/YOUNG INVESTIGATOR NOVEL TRENDS****Symposium**

(Sponsored by: The Microcirculatory Society)

SAT. 2:00 PM—SAN DIEGO CONVENTION CENTER, 26

CHAired: K. LUKASZWEICZ AND A. GOODWILL

Dedicated to the memory of Gabor Kaley, Ph.D., Professor of Physiology, New York Medical College, in honor of his positive impact on the careers of many young scientists.

- 2:00 A novel approach for imaging calcium events simultaneously in arteriolar vascular smooth muscle and endothelial cells. **P. Bagher, C.J. Garland and K.A. Dora**. Univ. of Oxford. (676.6)  
 2:15 The effects of circulating angiotensin II levels on vascular gene expression in normotensive rats. **J. Priestley, K. Fredrich, A. Beyer and J.H. Lombard**. Med. Col. of Wisconsin. (675.1)  
 2:30 Accelerated arteriogenesis in collateral arterial segments exposed to flow reversal after femoral arterial ligation. **J.K. Meisner, S. Sumer, J. Niu, J. Song and R.J. Price**. Univ. of Virginia. (682.8)  
 2:45 NG2 inhibition decreases endothelial cell sprouting along venules: a novel in situ angiogenesis assay to investigate multicellular interactions. **P.C. Stapor, T. Ahsan and W.L. Murfee**. Tulane Univ. (682.4)  
 3:00 The effect of network pattern alterations on microvascular resistance in hypertension. **M. Yang and W.L. Murfee**. Tulane Univ. (859.1)  
 3:15 Simulation of metabolic blood flow regulation in heterogeneous microvascular networks: effects of hematocrit variations. **B.C. Fry and T.W. Secomb**. Univ. of Arizona. (860.8)  
 3:30 Long-term effects of indocyanine green on lymphatic pump function. **M. Weiler and J.B. Dixon**. Georgia Tech. (677.1)

- 3:45 Ankle position modifies tibialis anterior muscle perfusion and oxygenation in the human leg. **R.B. Crater, B. Zhang and A.R. Hargens**. UCSD. (860.15)  
 4:00 The ratio of C-peptide to insulin is critical for low oxygen tension-induced ATP release from human erythrocytes. **J. Richards, A.H. Stephenson, M.L. Ellsworth and R.S. Sprague**. Saint Louis Univ. (860.24)  
 4:15 Simvastatin and GGTI-2133, a gernaylgeranyl transferase inhibitor, increase erythrocyte deformability, but inhibit low oxygen tension-induced ATP release. **K.M. Clapp, M.L. Ellsworth, R.S. Sprague and A.H. Stephenson**. Saint Louis Univ. (859.10)  
 4:30 Cilostazol, a phosphodiesterase 3 inhibitor, enhances prostacyclin receptor-mediated cAMP accumulation and ATP release in erythrocytes of healthy humans and humans with type 2 diabetes. **S. Knebel, E.A. Bowles, R.S. Sprague and A.H. Stephenson**. Saint Louis Univ. (676.11)  
 4:45 Reduced RhoA activity mediates the acute alcohol intoxication-induced reduction of lymphatic myogenic constriction independently of cytosolic [Ca<sup>2+</sup>]. **F.M. Souza-Smith, K.K. Kurtz and J.W. Breslin**. LSU Hlth. Sci. Ctr., New Orleans. (677.8)

**68. USING SOCIAL MEDIA TO COMMUNICATE ABOUT PHYSIOLOGY AND YOU****Symposium**

(Sponsored by: APS Communications Committee)

SAT. 3:00 PM—SAN DIEGO CONVENTION CENTER, 25C

CHAired: J. HICKS

**Career Development**

- 3:00 **Dr. Pascale Lane** – author of the blog *Pascale Lane's Stream of Thought: Urine is Golden*; <http://pascalelane.wordpress.com/>  
 3:40 **Isis the Scientist** – author of the popular blog *On Becoming a Domestic and Laboratory Goddess*; <http://isisthescientist.com/>  
 4:20 **Bora Zivkovic** – author of the blog *A Blog Around the Clock: Rhythms of Life in Meatspace and Cyberland*; <http://blogs.scientificamerican.com/a-blog-around-the-clock/>

**69. TOOLKIT FOR GENOMIC BIOMARKER DISCOVERY BY PHYSIOLOGISTS****Workshop**

SAT. 3:15 PM—SAN DIEGO CONVENTION CENTER, 27

CHAired: B. JOE AND L. MILLER

**Education**

- 3:15 Methods for large scale quantitative proteomics. **J. Hoffert**. NHLBI/NIH.  
 3:35 Bridging large scale systems biology research to physiological signaling pathways. **L. Miller**. NHLBI/NIH.  
 4:15 Methods to generate novel genetically engineered rat models. **A. Geurts**. Med. Col. of Wisconsin.

- 4:35 Application of large scale RNA sequencing. **M. Liang.** Med. Col. of Wisconsin.  
 4:55 Methods for large scale ChIP sequencing. **J. Zhu.** NHLBI/NIH.

### 70. WEH SECTION TRAINEE AWARD FINALISTS SESSION AND DATA DIURESIS

#### Award

*(Supported by an educational grant from Data Sciences, International and Juan Carlos Romero Foundation)*

*(Sponsored by: APS Water and Electrolyte Homeostasis Section)*

SAT. 3:15 PM—SAN DIEGO CONVENTION CENTER, 25A

CHAired: A. EL-MARAKBY

- 3:15 Renal medullary circadian clock genes are altered in endothelin B deficient rats. **J.S. Speed, M.A. Saleh and D.M. Pollock.** Georgia Hlth. Sci. Univ. and Mansoura Univ., Egypt. **(1069.11)**  
 3:30 Upregulation of renal medullary 20-HETE production opposes the development of hypertension in sleeping beauty transposon CYP4A1 transgenic Dahl S rats. **S. Murphy, F. Fan, R. Baker, A. Guerts, H. Jacob and R. Roman.** Univ. of Mississippi Med. Ctr. and Med. Col. of Wisconsin. **(1103.13)**  
 3:45 T lymphocytes promote autoimmune-associated hypertension. **K.W. Mathis, K.L. Wasson, C.W. Masterson and M.J. Ryan.** Univ. of Mississippi Med. Ctr. **(879.2)**

- 4:00 Inhibitor of complement activation attenuates placental ischemia-induced hypertension in rat. **K.E. Lillegard, A.C. Johnson, S.J. Lojovich, A.J. Bauer, H. Marsh, J.S. Gilbert and J.F. Regal.** Univ. of Minnesota Med. Sch. Duluth, Celldex Therapeut. Inc., Needham, MA and Univ. of Oregon. **(1097.4)**  
 4:15 Aminoimidazole carboxamide ribonucleotide administration attenuates placental-ischemia-induced hypertension and angiogenic imbalance in rats. **C.T. Banek, A.J. Bauer, M.B. Rasmussen, H.C. Dreyer and J.S. Gilbert.** Univ. of Oregon and Univ. of Minnesota Med. Sch. Duluth. **(1097.2)**  
 4:30 Female spontaneously hypertensive rats have higher expression of TGF- $\beta$  and Smad signaling in mesenteric arteries following the development of hypertension. **A.J. Tipton and J.C. Sullivan.** Georgia Hlth. Sci. Univ. **(880.1)**  
 4:45 Hyper-caloric diet enhances aortic endothelial function via increased NOS3 activity and expression in Dahl S rats. **F.T. Spradley, J.B. Musall and J.S. Pollock.** Georgia Hlth. Sci. Univ. **(878.4)**

### 71. PHYSIOLOGY IN PERSPECTIVE — THE WALTER B. CANNON MEMORIAL AWARD LECTURE

#### Lecture

*(Sponsored by: Sucampo AG)*

SAT. 5:30 PM—SAN DIEGO CONVENTION CENTER, 20A

*Title: The Wisdom of The Body Revisited: Tribute to Walter B. Cannon and His Concept of Homeostasis as Applied to Pathophysiology of Hypertension*

*Speaker: L. G. Navar.* Tulane Univ. Hlth. Sci. Ctr.

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# SUNDAY, APRIL 22

## Across Societies – Experimental Biology

### 72. MARC AND PROFESSIONAL DEVELOPMENT PROGRAMS

#### Workshop

SUN. 8:15 AM—SAN DIEGO CONVENTION CENTER, HALL D,  
CAREER CENTER

#### Career Development

The Experimental Biology 2012 Career Center activities have been arranged by the FASEB Office of MARC & Professional Development. Access to the Career Center is FREE to all registered EB 2012 meeting attendees.

- 8:15 Revealing your character through your resume. **J. Blumenthal.**
- 8:30 Developing your core message/"elevator pitch". **J. Lombardo.**
- 8:30 Making the case for graduate school. **H. Adams.**
- 9:00 Lab management. **S. Milgram, L. Conlan.**
- 9:30 Economics and your job search. **J. Tringali.**
- 10:00 Transforming your CV. **N. Saul.**
- 10:30 Sometimes it's who you know: winning at networking. **J. Blumenthal.**
- 11:00 Compensation negotiation for scientists moving into industry. **B. Lindstaedt.**
- 11:00 The academic job search in the life sciences: part 1. **A. Green.**
- 12:00 Career skills blitz.
- 1:00 The academic job search in the life sciences: part 2. **A. Green.**
- 1:00 Ten tough industrial interview questions; ten good responses. **J. Tringali.**
- 1:30 Ten ways to get lucky in the job search. **P. Clifford, J. Lombardo.**
- 1:30 How to get a job in science education and outreach. **S. Milgram, L. Conlan.**
- 2:30 Managing up. **S. Milgram, L. Conlan.**
- 3:00 Achieving your goals: goal setting strategies for scientific and career success. **B. Lindstaedt.**
- 3:00 The job talk. **A. Green.**
- 3:30 Negotiation strategies for scientists. **D. Behrens.**
- 4:00 Career decisions: how to select a career path that's best for you. **B. Lindstaedt.**
- 4:00 Navigating graduate work protocol, milestones, requirements. **H. Adams.**
- 4:00 How to get a job in science policy. **S. Milgram, L. Conlan.**
- 4:15 Making the connection: the relationship between the resume, the interview and the job. **J. Blumenthal.**

### 73. NIH K AWARDS

#### Seminar

SUN. 8:30 AM—SAN DIEGO CONVENTION CENTER, HALL D,  
CAREER CENTER

*CHAIRERD:* H. KHACHATURIAN, NIGMS/NIH

#### Career Development

#### NIH Grants Seminar Workshop Series

This presentation will focus on the NIH's new K99/00 Pathways to Independence Award (for postdoctoral scientists) and the K08 Mentored Clinical Scientist Development Award (for individuals with a health professional doctoral degree committed to a career in laboratory or field-based research.) The interactive discussion will give attendees an opportunity to ask questions of and obtain insight from an NIH representative. *EB 2012 registration is required to participate in the seminar.*

### 74. FORMULA FOR GRANT SUCCESS: PART I - SCIENTIFIC PEER REVIEW OF NIH GRANTS

#### Seminar

SUN. 10:00 AM—SAN DIEGO CONVENTION CENTER, HALL D,  
CAREER CENTER

*CHAIRERD:* A. M. COELHO, JR., GRANT SUCCESS ASSOCIATES INC.

#### Career Development

#### NIH Grants Seminar Workshop Series

Learn what is important to know and understand about a sponsoring agency's peer review process. Learn why this understanding peer review can enhance your chances of being funded. This presentation uses the scientific peer review at NIH as an example of what you need to know about peer review at any funding agency and how to use this information in preparation of your grant applications and competing successfully for funding. *EB 2012 registration is required to participate in the seminar.*

**75. FORMULA FOR GRANT SUCCESS: PART II - GRANT WRITING FOR SUCCESS****Seminar**

SUN. 2:00 PM—SAN DIEGO CONVENTION CENTER, HALL D,  
CAREER CENTER

*CHAIR*ED: A. M. COELHO, JR., GRANT SUCCESS ASSOCIATES INC.

**Career Development****NIH Grants Seminar Workshop Series**

This presentation focuses on the principles of Grant Writing for Success: and the common reasons that grant applications fail or succeed. Learn how to make an application meet the needs of the reviewers and the funding agency. Learn how to avoid the need for resubmission. Learn about sponsored agency resources and how to use them in the preparation of your application. *EB 2012 registration is required to participate in the seminar.*

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## Anatomy

**76. AAA GENERAL SESSION****Plenary**

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 8

Henry Gray/Lippincott Williams & Wilkins Scientific Achievement Award Lecture

8:00 **76.1** Vascular endothelial cells as a source of multipotent stem-like cells. **B.R. Olsen**. Harvard Sch. of Dent. Med.

**77. AAA GENERAL SESSION****Plenary**

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, 8

Henry Gray/Elsevier Distinguished Educator Award Lecture

9:00 **77.1** Open minds, open opportunities. **R.L. Drake**. Cleveland Clin. Lerner Col. of Med.

**78. GROSS ANATOMY FOR THE PHYSICIAN ASSISTANT****Plenary Symposium**

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 8

*CHAIR*ED: M. HANKIN

**Education & Teaching**

Henry Gray/Elsevier Distinguished Educator Award Symposium

10:30 Chair's introduction.

10:35 **78.1** History of the PA profession: from medical corpsmen to present day practitioners. **J.K. Pagel**. Cleveland Clin.

11:00 **78.2** Anatomy for physician assistants: a program director's perspective. **S. Luke**. Univ. of Mount Union, OH.

11:25 **78.3** Clinically oriented anatomy and physiology for a Master Physician Assistant Program. **B.C. Escobar-Poni**. Loma Linda Univ.

11:50 **78.4** Anatomy for physician assistants: how we tackle this beast. **J. Mabee**. USC Keck Sch. of Med.

12:15 Discussion.

**79. VASCULAR ENDOTHELIUM IN HEALTH AND DISEASE****Plenary Symposium**

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 9

*CHAIR*ED: B. OLSEN

**Cardiovascular**

Henry Gray/Lippincott Williams & Wilkins Scientific Achievement Award Symposium

10:30 Chair's introduction.

10:35 **79.1** VEGF signaling in health and disease. **L. Iruela-Arispe**. UCLA.

11:00 **79.2** Novel mechanisms in vascular permeability. **A. Fantin**. University Col. London.

11:25 **79.3** Targeting angiogenesis for bone repair. **T.L. Clemens**. Johns Hopkins Univ. and Baltimore VA Med. Ctr.

11:50 **79.4** Venous malformations: from causes to pathogenic mechanisms and murine models. **M.S. Vikkula**. Univ. Catholique de Louvain, Belgium.

12:15 Discussion.

**80. MORPHOMETRY AND APPLIED ANATOMY****Symposium***(Sponsored by: SBA and AAA)*

SUN. 2:30 PM—SAN DIEGO CONVENTION CENTER, 7A

CHAIR: R. HALTI CABRAL

- 2:30 Chair's introduction.
- 2:35 **80.1** Peripheral nerve morphometry: from neurosciences to clinical applications. **V.P.S. Fazan**. Sch. of Med. of Ribeirão Preto, Brazil.
- 3:00 **80.2** Ultrastructural analysis of experimental tenoplasty using bovine peritoneum. **T.S. Masuko**. Fed. Univ. of Bahia, Brazil.
- 3:25 **80.3** Myocardial bridges: from anatomy to clinical practice. **N.E.V.B. de Prates and R.H. Cabral**. Univ. of São Paulo and Metro. Univ. of Santos, Brazil.
- 3:50 **80.4** Clinical significance of organs vascularization: the role of vascular grafts for revascularization surgeries. **R.H. Cabral and N.E.V.B. Prates**. Univ. of São Paulo.
- 4:15 Discussion.

**81. GLOBAL POSITIONING SYSTEMS GUIDE NEURONAL MIGRATION AND SYNAPSE FORMATION****Hybrid Symposium***(Supported by an educational grant from Springer)*

SUN. 2:30 PM—SAN DIEGO CONVENTION CENTER, 7B

CHAIR: A. STRANAHAN

**Neurobiology**

- 2:30 Chair's introduction.
- 2:35 **81.1** Activation of brain Wnt signaling in vivo: effect on LTP and neurogenesis. **N.C. Inestrosa**. Catholic Univ. of Chile.
- 3:10 **81.2** Notch1 ablation induces molecular changes in plasticity genes that contribute to memory formation. **L. Alberi and N. Gaiano**. Univ. of Fribourg, Switzerland and Johns Hopkins Sch. of Med.
- 3:45 **81.3** Reelin signaling in the hippocampus and entorhinal cortex contributes to age-related alterations in cognitive function. **A.M. Stranahan**. Georgia Hlth. Sci. Univ.
- 4:00 Switch in amyloid clearance mechanisms leads to vascular fragility in cerebral amyloid angiopathy. **M.K. Zabel, M. Schrag, A. Crofton, S. Tung, H.V. Vinters and W.M. Kirsch**. Loma Linda Univ. and UCLA. (920.10)
- 4:15 The death of neurons derived from familial Alzheimer's disease pluripotent stem cells is no different from the death of neurons derived from normal controls. **M.A. Shaner, S.H. Yuan and L.S. Goldstein**. UCSD. (918.8)

**82. ANATOMICAL EDUCATION FOR ALLIED HEALTH CARE PROFESSIONALS****Symposium**

SUN. 2:30 PM—SAN DIEGO CONVENTION CENTER, 8

CHAIR: A. BURROWS

**Education & Teaching**

- 2:30 Chair's introduction.
- 2:35 **82.1** Incorporating biomechanics into an anatomy program with problem-based learning. **M. Habib**. Chatham Univ., PA.
- 3:00 **82.2** A view inside from the surface: living anatomy for medical illustration students. **G.P. Lees**. Johns Hopkins Sch. of Med.
- 3:25 **82.3** Designing gross anatomy education for athletic training students: planning for a continuum of care. **A.M. Burrows and P.G. Sammarone-Turocy**. Duquesne Univ.
- 3:50 **82.4** Gross anatomy instruction in chiropractic colleges: a local and global perspective. **J. Ball, M.P. Zumpano and K. Petrocco-Napuli**. New York Chiropractic Col.
- 4:15 Discussion.

**83. EPIGENETIC PLASTICITY IN HEALTH AND DISEASE****Hybrid Symposium**

SUN. 2:30 PM—SAN DIEGO CONVENTION CENTER, 9

CHAIR: F. DOMANN

- 2:30 Chair's introduction.
- 2:35 **83.1** The epigenetic basis of cell type specificity. **B. Futscher**. Univ. of Arizona.
- 3:00 **83.2** Metabolic regulation of epigenetic processes. **F.E. Domann**. Univ. of Iowa.
- 3:25 **83.3** Loss of maternal atrial natriuretic peptide programs cardiac and renal gene expression: role of GATA4 and Npr-1 in the fetal programming of cardiovascular health and disease. **D.W.J. Armstrong, M.Y. Tse, P.G. Wong and S.C. Pang**. Queen's Univ., Canada.
- 3:40 **83.4** Embryonic caffeine acts via A1 adenosine receptors to induce adverse effects in adulthood. **C.C. Wendler, D. Buscariollo, X. Fang, V. Greenwood and S. Rivkees**. Yale Univ., Vanderbilt Univ. and Univ. of Connecticut.
- 3:55 **83.5** Age-dependent expression of retinoic acid-related orphan receptor-alpha in the developing mouse cortex and hippocampus. **S. Taniguchi, C. Armoskus and H-W. Tsai**. California State Univ., Long Beach.
- 4:10 **83.6** microRNA-124 and its target gene are altered in the substantia nigra (SNc) of the brain of MPTP—mouse model of Parkinson's disease. **N. Kanagaraj, S.T. Dheen, Z.F. Peng, D.K. Srinivasan and S.S.W. Tay**. Natl. Univ. of Singapore.
- 4:25 Discussion.

**84. AAA YOUNG INVESTIGATOR AWARDS SYMPOSIUM****Special Session**

SUN. 5:00 PM—SAN DIEGO CONVENTION CENTER, 9

- 5:00 **84.1** Tectonics form a transition zone complex of ciliopathy proteins that regulate ciliary composition. **J. Reiter, F. Garcia-Gonzalo, K. Corbit, W. Dowdle and L. Yee.** UCSF.

- 5:30 **84.2** Evidence for a limbic cortical HPA-inhibitory network and its role in chronic stress-induced HPA axis hyperactivity. **J. Radley.** Univ. of Iowa.
- 6:00 **84.3** The cellular and molecular basis for planarian regeneration. **P. Reddien.** Whitehead Inst., MIT.
- 6:30 **84.4** Knocking *E. coli* off of their pedestals: understanding the strategies microbes exploit to generate morphological structures during their disease processes. **J.A. Guttman.** Simon Fraser Univ., Canada.

**Biochemistry and Molecular Biology****85. BREKKE FOR NEXT GENS, UNDERGRADUATE BREAKFAST WITH AWARD SCIENTIST, KIM ORTH****Special Session***(Supported by an educational grant from National Science Foundation)*

SUN. 7:00 AM—SAN DIEGO CONVENTION CENTER, 11A

**Invitation only.****86. AVANTI AWARD IN LIPIDS LECTURE****Award***(Supported by an educational grant from Avanti Polar Lipids, Inc.)*

SUN. 8:30 AM—SAN DIEGO CONVENTION CENTER, 6B

- 8:30 Introductory remarks. **W. Dowhan.**
- 8:35 **86.1** Lipin/phosphatidic acid phosphatase in lipid metabolism and cell physiology. **G.M. Carman.** Rutgers Univ.

**87. ASBMB PLENARY LECTURE***(Supported by an educational grant from Journal of Biological Chemistry)*

SUN. 9:05 AM—SAN DIEGO CONVENTION CENTER, 6B

- 9:05 Introductory remarks. **P. Baumann.**
- 9:10 **87.1** Metabolic specialization of mouse embryonic stem cells. **S.L. McKnight.** Univ. of Texas Southwestern Med. Ctr.

**88. HISTONE MODIFICATIONS AND THEIR RECOGNITION****Symposium**

SUN. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6F

*CHAIRERD: K. ZARET*

- 9:55 Chair's introduction.
- 10:00 **88.1** The fragile X mental retardation protein FMRP plays a role in the DNA damage response. **Y. Shi, R. Alpatov, U. Wagner, M. Nakamoto-Kinoshita, Z. Ye, Y. Luu, K.J. Armache, M.D. Simon, A. Stuetzer, E.L. Greer, Z. Wang, G-Q. Hu, F. Wu, C. Xu, W.N. Beavers, Y. Guo, C. Bian, P.T. Morrison, C.R. Vakoc, J. Min, W. Fischle, R.E. Kingston, K. Zhao, B. Ren and S.T. Warren.** Children's Hosp. Boston, Harvard Med. Sch., UCSD, Emory Univ. Sch. of Med., Massachusetts Gen. Hosp., Boston, Max Planck Inst. for Biol. Chem., Goettingen, NHLBI/NIH, Fudan Univ., China, Univ. of Toronto, Dana-Farber Cancer Inst. and Cold Spring Harbor Lab., NY
- 10:25 Identification and characterization of small molecules that inhibit binding of the third plant homeodomain finger of JARID1A to histone H3. **E.K. Wagner, R. Flemming, N. Nath and J. Denu.** Univ. of Wisconsin-Madison, Promega Corp. and Wisconsin Insts. for Discovery, Madison. **(533.2)**
- 10:40 **88.2** Enhancer mediated regulation of developmental gene expression. **J.K. Wysocka.** Stanford Univ.
- 11:05 An intrinsically unstructured domain in MBD2 recruits the histone deacetylase core complex of NuRD and modifies kinetics of DNA binding. **D.C. Williams, M. Desai, G.D. Ginder and N.M. Walavalkar.** Virginia Commonwealth Univ. **(731.5)**
- 11:20 An inhibitor of histone demethylases specifically blocks cancer growth in vitro and in vivo. **E.D. Martinez, L. Wang, A. Best, D. Varghese and J. Chang.** Univ. of Texas Southwestern Med. Ctr. **(535.15)**
- 11:35 **88.3** Structural biology of methylation-mediated epigenetic regulation. **D.J. Patel.** Mem. Sloan-Kettering Cancer Ctr.
- 12:00 Conclusion.

## 89. CONSTRUCTING NETWORKS

## Symposium

SUN. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6E

CHAired: P. SORGER

- 9:55 Chair's introduction.
- 10:00 **89.1** Physical host-pathogen networks. **N. Krogan**. UCSF.
- 10:25 Specific O-GlcNAcylated peptide enrichment with improved photocleavable chemical/enzymatic tagging methodology. **G. Han, J. Ma, X. Liu and G.W. Hart**. Johns Hopkins Sch. of Med. (776.7)
- 10:40 **89.2** Transcription factors and DNA regulatory elements. **M.L. Bulyk**. Brigham and Women's Hosp., Harvard Med. Sch.
- 11:05 Identifying drug response signatures using genome-scale metabolic network analysis of human cell line expression data. **D. Zielinski, M. Mo and B. Palsson**. UCSD. (983.6)
- 11:20 Comparative analysis of *M. pneumoniae* models using the cytoSEED plugin for metabolic model visualization. **N.L. Hazekamp, J. Kammeraad, B. Bockstege and M. DeJongh**. Hope Col., MI and Univ. of Notre Dame. (983.4)
- 11:35 **89.3** New opportunities and challenges in network biology. **T. Ideker**. UCSD.
- 12:00 Conclusion.

## 90. THE RIBOSOME AND EARLY FOLDING DECISIONS

## Symposium

SUN. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6D

CHAired: W. CLEMONS

- 9:55 Chair's introduction.
- 10:00 **90.1** Real-time dynamics of translation. **J.D. Puglisi, J. Chen, G. Kornberg, S. O'Leary, A. Petrov and A. Tsai**. Stanford Univ.
- 10:25 Different substrate-dependent transition states in the active site of the ribosome. **M.V. Rodnina, S. Kuhlenkötter, I. Wohlgemuth and W. Wintermeyer**. Max Planck Inst. for Biophys. Chem., Goettingen. (544.1)
- 10:40 **90.2** The role of Hsp90-R2TP complex in snoRNP assembly and ribosomal RNA processing. **W.A. Houry**. Univ. of Toronto.
- 11:05 The role of mitochondrial peptide deformylase in coordinating respiratory chain assembly. **B.J. Battersby, U. Richter, T. Lahtinen, P. Ruotsalainen, M. Myöhänen and P. Marttinen**. Univ. of Helsinki. (958.1)
- 11:20 A comprehensive analysis of lysine acetylation in ribosomal proteins. **H. Koc, H. Cimen, A. Stallard, Z.C. Koc and E.C. Koc**. Penn State, Altoona and University Park and Marshall Univ. Sch. of Med. (958.2)
- 11:35 **90.3** Dynamics of the SRP cycle: from scanning to targeting. **W. Wintermeyer, W. Holtkamp, S. Lee, T. Senyushkina, T. Bornemann and M.V. Rodnina**. Max Planck Inst. for Biophys. Chem., Goettingen.
- 12:00 Conclusion.

## 91. METABOLOMICS

## Symposium

SUN. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6C

CHAired: A. OSBOURN

- 9:55 Chair's introduction.
- 10:00 **91.1** Extensive in vivo metabolite-protein interactions revealed by large-scale systematic analyses. **M. Snyder, X. Li, T. Gianoulis, K. Yip and M. Gerstein**. Stanford Univ. and Yale Univ.
- 10:25 Targeting metabolism in liposarcomas. **D. Braas, H. Wu and H. Christofk**. UCLA. (551.6)
- 10:40 **91.2** Elucidating the proteolytic regulation of bioactive peptides. **A. Saghatelian**. Harvard Univ.
- 11:05 Cyclical C7-CoA esters derived from calcium levulinate, a pro-drug of abuse. **S.R. Harris, G-F. Zhang, S. Sadhukhan, M.A. Puchowicz, V.E. Anderson, G.P. Tochtrop and H. Brunengraber**. Case Western Reserve Univ. (551.1)
- 11:20 Examining the role of lipoprotein-associated phospholipase A2 in atherosclerosis. **T.E. Gilpatrick, J. Tomczak and B.J. Bahnson**. Univ. of Delaware. (561.1)
- 11:35 **91.3** Mechanisms of metabolic diversification in plants. **A.E. Osbourn**. John Innes Ctr., Norwich, U.K.
- 12:00 Conclusion.

## 92. ORGANISMAL METABOLISM

## Symposium

SUN. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6A

CHAired: J. RUTTER

- 9:55 Chair's introduction.
- 10:00 **92.1** Biological timekeeping in obesity and diabetes. **J.T. Bass**. Northwestern Univ., Chicago.
- 10:25 Ultrastructural modifications in the mitochondria of hypoxia-adapted *Drosophila melanogaster*. **D. Zhou, G. Perkins, S. Yin, J. Xue, S. Liu, M.H. Ellisman and G.G. Haddad**. UCSD, Beijing Inst. of Genomics and The Rady Children's Hosp., San Diego. (565.6)
- 10:40 **92.2** Exploring the *Plasmodium falciparum* metabolome. **M. Llinas**. Princeton Univ.
- 11:05 Exploring the role of an atypical kinase in ubiquinone biosynthesis. **G.E. Barber, J. Stefely and D.J. Pagliarini**. Univ. of Wisconsin-Madison. (565.12)
- 11:20 Biochemical characterization of pathogenic mutations in human mitochondrial tRNA-Ala and alanyl-tRNA synthetase. **J. Chihade, K. Her, M. Steinbach and K. France**. Carleton Col., MN. (565.18)
- 11:35 **92.3** Metabolic signals that drive cell growth and proliferation. **B. Tu and L. Cai**. Univ. of Texas Southwestern Med. Ctr.
- 12:00 Conclusion.



**93. GLYCOCONJUGATES IN PATHOGEN INVASION AND VIRULENCE****Symposium**

SUN. 9:55 AM—SAN DIEGO CONVENTION CENTER, 1B

CHAired: A. MENON

- 9:55 Chair's introduction.
- 10:00 **93.1** Lectin-mediated defense of the intestinal epithelial surface. **L. Hooper, S. Vaishnav and S. Mukherjee.** Univ. of Texas Southwestern Med. Ctr.
- 10:25 Receptor determinants for the avian coronavirus infectious bronchitis virus: roles of host cell lectins and glycans. **Y. Zhang and G. Whittaker.** Cornell Univ. (606.3)
- 10:40 **93.2** Biosynthesis and transport of cell wall glycolipids in mycobacteria. **M.J. McConville, A. Rainczuk, Y. Yamaro-Botte, J. Pyke, R. Coppel and P. Crellin.** Univ. of Melbourne and Monash Univ., Australia.
- 11:05 Nucleotide sugar transporters of *Trypanosoma brucei*: glycosylation and infectivity. **L. Liu, Y-X. Xu, B.A. Burleigh, J.D. Bangs and C.B. Hirschberg.** Boston Univ. Goldman Sch. of Dent. Med., Harvard Sch. of Publ. Hlth. and Univ. of Wisconsin-Madison. (606.1)
- 11:20 Towards a well defined meningitis vaccine: chemoenzymatic synthesis of meningococcal glycoconjugate vaccine candidates. **P. McCarthy, R. Saksena, D. Peterson, C-H. Lee, Y. An, J. Vionnet, J. Cipollo and W. Vann.** NIGMS/NIH and FDA, Bethesda. (794.5)
- 11:35 **93.3** Glycans of *Trypanosoma cruzi* virulence factors are effective targets for vaccine development. **I.C. Almeida, E.C. Veas, L. Ganiko, L.L. Nohara, K. Garza, L.S. Silva, L.R. Travassos, E.S. Nakayasu and A.F. Marques.** Univ. of Texas at El Paso and Fed. Univ. of São Paulo.
- 12:00 Conclusion.

**94. MAXIMIZING INSTITUTIONAL EFFECTIVENESS****Symposium**

SUN. 9:55 AM—SAN DIEGO CONVENTION CENTER, 1A

CHAired: J. BOND

- 9:55 Chair's introduction.
- 10:00 **94.1** Integrating undergraduate research/research training into the curriculum at research-intensive institutions. **P.J. Kennelly.** Virginia Tech.
- 10:25 *STEP into Science* at Medgar Evers College, a successful strategic plan. **M.A. Carroll, D. Skeete and E.J. Catapane.** Medgar Evers Col., NY. (619.2)
- 10:40 **94.2** Integrating undergraduate research/research training into the curriculum at primarily undergraduate institutions. **J.J. Provost.** North Dakota State Univ.
- 11:05 A laboratory course exploring the relationship between structure and function of yeast alcohol dehydrogenase 1. **M.O. Huff and B.V. Plapp.** Bellarmine Univ., KY and Univ. of Iowa. (619.4)
- 11:20 **94.3** Integrating undergraduate research/research training into the curriculum at a minority-serving institution. **C. Andraos-Selim.** Hampton Univ.
- 11:45 Conclusion.

**95. ALICE AND C.C. WANG AWARD IN MOLECULAR PARASITOLOGY SYMPOSIUM****Award**

SUN. 12:30 PM—SAN DIEGO CONVENTION CENTER, 6C

- 12:30 Introductory remarks. **J. A. Wells.**
- 12:35 **95.1** The RNA interference pathway from a trypanosome point of view. **E. Ullu.** Yale Univ. Sch. of Med.
- 1:05 **95.2** The mechanism and machinery of spliced leader RNA silencing, a stress-induced mechanism leading to programmed cell death in *Trypanosoma brucei*. **S. Michaeli.** Bar Ilan Univ., Israel.
- 1:35 **95.3** The intracellular parasite *Toxoplasma* injects polymorphic protein into the host cell that subvert host defenses including recruitment of host mitochondria and membrane attack by p47 GTPases. **L. Pernas, J.P. Boyle, M.A. Fleckenstein, M.L. Reese, S. Konen-Waisman, J.C. Howard, T. Steinfeldt and J.C. Boothroyd.** Stanford Univ., Univ. of Pittsburgh and Univ. of Cologne.
- 2:05 Conclusion.

**96. ASBMB AWARD FOR EXEMPLARY CONTRIBUTIONS TO EDUCATION LECTURE****Award**

(Sponsored by: ASBMB Education and Professional Development Committee)

SUN. 12:30 PM—SAN DIEGO CONVENTION CENTER, 6B

**Undergraduate Poster Competition awards will be presented during this lecture.**

- 12:30 Introductory remarks and awards presentation. **H. White and K. Cornely.**
- 12:45 **96.1** Content in the educational era of process. **J.G. Voet and D. Voet.** Swarthmore Col. and Univ. of Pennsylvania.

**98. WORKSHOP ON LIPID MAPS LIPIDOMICS TOOLS**

(Supported by an educational grant from LIPID MAPS)

SUN. 12:30 PM—SAN DIEGO CONVENTION CENTER, 11A

CHAired: E. FAHY

Workshop will highlight the diversity and unique structural and biochemical challenges of the lipidome, and provide users with a suite of convenient online tools for information retrieval and lipidomic data analysis. A brief overview, live demonstration and Q&A session of the online resources available on the LIPID MAPS website, including searchable lipid and gene/protein databases, structure drawing tools, mass-spectrometry prediction programs, lipid-related pathways, experimental protocols and consortium generated datasets will be presented. Workshop should be of interest to lipidomics researchers and bioinformaticists.

Lunch will be provided for the first 35 attendees.

## 99. TEACHING SESSION WITH STUART KORNFELD: MODELING THE MOLECULAR MACHINERY OF THE PROTEIN TRAFFICKING PATHWAY

### Special Session

SUN. 1:30 PM—SAN DIEGO CONVENTION CENTER, 6B

Meet Dr. Kornfeld and other researchers who have contributed to the field of protein trafficking. Physical models of key proteins will be used to frame the conversations about the recent discovery of essential features of the trafficking pathway.

## 100. ASBMB-MERCK AWARD LECTURE (2011)

### Award

(Supported by an educational grant from Merck)

SUN. 2:55 PM—SAN DIEGO CONVENTION CENTER, 6B

- 2:55            Introductory remarks. **J. A. Steitz.**  
 3:00    **100.1**    The spliceosome is a dynamic RNP machine.  
**C. Guthrie.** UCSF.

## 101. THE SPLICEOSOME: FITTING THE PIECES TOGETHER

### Symposium

SUN. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6F

CHAired: A. M. PYLE

- 3:45            Chair's introduction.  
 3:50    **101.1**    Spliceosome dynamics in the catalytic center.  
**C-K. Tseng, H-L. Liu and S-C. Cheng.** Acad. Sinica, Taipei.  
 4:15            A role for stem-loop 4 of U1 snRNA in splice site pairing. **S. Sharma, S. Wongpalee and D. Black.** HHMI and UCLA. (743.2)  
 4:30    **101.2**    Views of the dynamic human spliceosome.  
**M.S. Jurica.** Univ. of California, Santa Cruz.  
 4:55            Computational prediction of alternative splice site selection. **A. Busch and K.J. Hertel.** Univ. of California, Irvine. (748.2)  
 5:10            Integrative genome-wide analysis reveals cooperative regulation of alternative splicing by hnRNP proteins. **S.C. Huelga, A.Q. Vu, J.D. Arnold, T.Y. Liang, J.P. Donohue, L. Shiue, S. Hoon, S. Brenner, M. Ares, Jr. and G.W. Ye.** UCSD, Univ. of California, Santa Cruz and A\*STAR, Singapore. (748.1)  
 5:25    **101.3**    Co-transcriptional splicing and dynamic rearrangements in the spliceosome. **T.L. Johnson, S. Pradhan, E.C. Merkhofer and E. Soule.** UCSD.  
 5:50            Conclusion.

## 102. MECHANISM AND REGULATION OF DNA REPAIR

### Symposium

SUN. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6E

CHAired: P. SUNG

- 3:45            Chair's introduction.  
 3:50    **102.1**    Mechanism and regulation of DNA end processing. **L. Symington, H. Chen and S. Deng.** Columbia Univ. Med. Ctr.  
 4:15            Herpes simplex virus: manipulating DNA damage response pathways. **S.K. Weller, A.J. Schumacher and K.N. Mohni.** Univ. of Connecticut Hlth. Ctr. (932.2)  
 4:30    **102.2**    Structure and functions of the fission yeast Swi5-Sfr1 complex, an activator of Rad51 presynaptic filaments. **H. Iwasaki.** Tokyo Inst. of Technol.  
 4:55            FANCA has intrinsic affinity to nucleic acids with preference for single-stranded forms. **F. Yuan, L. Qian, X. Zhao, J.Y. Liu, L. Song, G. D'Urso, C. Jain and Y. Zhang.** Univ. of Miami Miller Sch. of Med. (539.15)  
 5:10            Structural basis for excision of deaminated and oxidized 5-methylcytosine by thymine DNA glycosylase. **A. Maiti, E. Pozharski and A.C. Drohat.** Sch. of med. and Sch. of Pharm., Univ. of Maryland Baltimore. (539.10)  
 5:25    **102.3**    Single molecule investigation of Rad51 and Srs2. **S. Myong, Y. Qiu, E. Antony and T. Iohman.** Univ. of Illinois, Urbana and Univ. of Washington.  
 5:50            Conclusion.

## 103. MITOCHONDRIAL DYNAMICS

### Symposium

SUN. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6D

CHAired: G. VOELTZ

- 3:45            Chair's introduction.  
 3:50    **103.1**    The behavior of mitochondria. **J. Nunnari.** Univ. of California, Davis.  
 4:15            Cardiac-specific deletion of prohibitin-2 in adult mice destabilizes mitochondrial proteins, nucleoids, and cristae morphology, resulting in lethal cardiomyopathy. **T. Gawlowski, J. Yan, C. Merkwirth, W. Dillmann, T. Langer and M. Hoshijima.** UCSD and Univ. of Cologne, Germany. (585.5)  
 4:30    **103.2**    Dynamics of mitochondria and mitochondrial DNA. **D. Chan, H. Ngo and H. Chen.** HHMI and Caltech.  
 4:55            Identification and characterization of novel factors regulating kinesin-1 activation and mitochondria dynamics. **K. Cho, H. Patil and P. Ferreira.** Duke Univ. Med. Ctr. (585.3)  
 5:10            Cardiac mitochondrial phenotype of the taz shRNA mouse model of human Barth syndrome. **C.H. Le, A.B. deMooy and A.J. Chicco.** Colorado State Univ. (586.3)  
 5:25    **103.3**    Mitochondrial fusion and division. **H. Sesaki.** Johns Hopkins Univ. Sch. of Med.  
 5:50            Conclusion.

**104. LIPID DROPLETS: A DYNAMIC SUBCELLULAR COMPARTMENT****Symposium**

SUN. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6A

CHAired: D. MUOIO

- 3:45 Chair's introduction.
- 3:50 **104.1** The function of fit proteins in triglyceride storage. **D.L. Silver**. Duke-Natl. Univ. of Singapore.
- 4:15 Characterization of lipid droplet and its regulation by caveolin-1 in endothelial cells. **A. Kuo, X. Zhang, K.D. Harrison and W.C. Sessa**. Yale Univ. (597.1)
- 4:30 **104.2** The cell biology of neutral lipid synthesis and storage. **T. Walther**. Yale Univ. Sch. of Med.
- 4:55 The COPI vesicle associated protein Arf1 GTPase-activation protein 1 is required for lipid droplet biogenesis. **J. Gannon, J. Fernandez-Rodriguez, L. Asp, A. Fazel, J.J.M. Bergeron and T. Nilsson**. McGill Univ. Hlth. Ctr. and Univ. of Gothenburg, Sweden. (597.2)
- 5:10 Live cell imaging of lipid droplet breakdown and growth in adipocytes. **H. Wolinski, M. Paar, C. Jüngst, N.A. Steiner, D. Kolb, A. Lass, R. Zimmermann, A. Zumbusch and S.D. Kohlwein**. Univ. of Graz, Austria, Univ. of Konstanz, Germany and Med. Univ. of Graz. (597.5)
- 5:25 **104.3** Control of lipolysis by perilipins. **D.L. Brasaemle**. Rutgers Univ.
- 5:50 Conclusion.

**105. WILL COMBINED MD-PHD TRAINING MAKE ME TWICE AS SUCCESSFUL?****Symposium**

(Sponsored by: ASBMB Minority Affairs Committee)

SUN. 3:45 PM—SAN DIEGO CONVENTION CENTER, 1B

CHAired: F. TALAMANTES

- 3:45 Chair's introduction.
- 3:50 **105.1** Contrasting the application process and daily life of MD, MD/PhD, and PhD career tracks. **A. Gutierrez-Hartmann**. Univ. of Colorado Anschutz Med. Campus.
- 4:25 **105.2** When one plus one equals 10: unique rewards and daunting challenges of being an MD-PhD clinician-scientist. **S.I. Hsu**. Col. of Med., Univ. of Florida.
- 4:55 **105.3** Lifestyles of physicians and scientists: balancing careers and family. **R.G. Lorenz**. Univ. of Alabama at Birmingham.
- 5:25 Panel discussion.
- 5:50 Conclusion.

**106. MAXIMIZING TEACHING EFFECTIVENESS****Symposium**

(Sponsored by: ASBMB Education and Professional Development Committee)

SUN. 3:45 PM—SAN DIEGO CONVENTION CENTER, 1A

CHAired: E. MARTIN

- 3:45 Chair's introduction.
- 3:50 **106.1** Educational uses of molecular visualization. **P.A. Craig, L.V. Michel and R.C. Bateman**. Rochester Inst. of Technol. and William Carey Univ., MS.
- 4:15 The effectiveness of images in the development of conceptual understanding in undergraduate biochemistry classes: what do we know? **R. Milner**. Univ. of Alberta. (616.1)
- 4:30 **106.2** Effective teaching and mentoring while publishing and (hopefully) having a life. **D.D. Wykoff**. Villanova Univ.
- 4:55 Probing and improving students' understanding of protein alpha helix structure using targeted assessment and classroom interventions. **J. Loertscher, V. Minderhout, J.E. Lewis and S.M. Villafane**. Seattle Univ. and Univ. of South Florida. (616.2)
- 5:10 Monkeys, beach balls, and Twinkies® using analogies to teach enzyme kinetics. **E.A. First**. LSU Hlth. Sci. Ctr., Shreveport. (616.3)
- 5:25 **106.3** The UAN: maximizing its utility to promote science education and outreach. **N. Grover and M.A. Benore**. Colorado Col. and Univ. of Michigan-Dearborn.
- 5:50 Conclusion.

**107. ASBMB BUSINESS MEETING**

SUN. 6:15 PM—SAN DIEGO CONVENTION CENTER, 11A

Find out what your Society is up to by attending the Business Meeting. The leadership wants to hear your ideas and receive feedback from members on how we're doing. ASBMB Council members will be on-hand to discuss issues and answer questions. Come and introduce yourself - this is a great networking opportunity!

**108. WELCOME RECEPTION SPONSORED BY THE ASBMB MINORITY AFFAIRS COMMITTEE****Special Event**

SUN. 6:30 PM—SAN DIEGO MARRIOTT MARQUIS &amp; MARINA, MARINA BALLROOM D

The ASBMB Minority Affairs Committee welcomes PI's, industry professionals, educators, young professionals and students to enjoy this networking and mentoring reception.

Graduate Minority Travel Award recipient research posters will be displayed at this event.

ASBMB members and Biochemistry attendees welcome.

## Nutrition

### 109. THE ROLE OF DIETARY COMPONENTS IN LEPTIN RESISTANCE

#### Symposium

(Supported by an educational grant from Research Diets Inc.)

(Sponsored by: Nutritional Sciences Council, Obesity RIS, Energy and Macronutrient Metabolism RIS, Nutrient-Gene Interaction RIS and Nutrition Translation RIS)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 20D

CHAIRED: J.R. VASSELLI

- 8:00 Role of fructose and over-nutrition in leptin resistance. **P. J. Scarpace**. Univ. of Florida.
- 8:30 Is there a metabolic explanation for carbohydrate-induced leptin resistance? **R. Harris**. Georgia Hlth. Sci. Univ.
- 9:00 The role of dietary triglycerides in leptin resistance. **J. R. Vasselli**. Obesity Res. Ctr., New York.
- 9:30 Nutrient influences and mechanisms in leptin resistance. **W. A. Banks**. VA GRECC and Univ. of Washington.

### 110. SUSTAINABILITY IN THE 21ST CENTURY—FOOD, NUTRITION, AGRICULTURE, ECONOMICS AND THE ENVIRONMENT

#### Symposium

(Supported by an educational grant from National Dairy Council)

(Sponsored by: Public Information Committee)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 31A/B/C

CHAIRED: N. AUJSTAD

COCHAIRED: J.M. GAZZANIGA-MOLOO

- 8:00 Agricultural sustainability in the 21st century. **D. Matlock**. Ctr. for Sustainability and the Global Envrn.
- 8:30 Life cycle analysis—from farm to table. **O. Jolliet**. Univ. of Michigan.
- 9:00 Agricultural capacity and localized food production to meet nutritional needs of a population. **C. Peters**. Tufts Univ.
- 9:30 Diet optimization—a translation of dietary guidance into culturally acceptable, affordable food plans. **A. Drewnowski**. Univ. of Washington.

### 111. UTILIZING A MULTILEVEL TEAM APPROACH: LESSONS LEARNED FROM THE VITAMIN D DRISSETTING ACTIVITY

#### Symposium

(Sponsored by: Nutritional Sciences Council)

(Cosponsored by: Medical Nutrition Council)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 29A/B

CHAIRED: N.E. MORAN

COCHAIRED: V.V. POTTER

#### Education

#### Public Policy

- 8:00 Dietary Reference Intakes for vitamin D: justification for a review of the 1997 values. **P. Coates**. ODS/NIH.
- 8:24 The role of the basic, laboratory scientist in multi-level teams to investigate vitamin D markers of inadequacy. **C. Ross**. Penn State.
- 8:48 The role of translational researchers in multi-level teams in investigating cancer risk as a marker of vitamin D inadequacy. **S. Clinton**. The Ohio State Univ.
- 9:12 The role of translational researchers in multi-level teams investigating bone health as a marker of vitamin D inadequacy. **S. Shapses**. Rutgers Univ.
- 9:36 Summary and segue to panel discussion.

### 112. MECHANISMS OF ACTION AND MOLECULAR TARGETS OF DIETARY BIOACTIVE COMPONENTS I

#### Minisymposium

(Sponsored by: Dietary Bioactive Components RIS)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 32B

CHAIRED: M. DUBICK

COCHAIRED: S. TALCOTT AND STUDENT CHAIR: L. FISHER

- 8:00 **112.1** Molecular targets for botanical compounds genistein and kaempferol to prevent diabetes. **D. Liu, Z. Fu and Y. Zhang**. Virginia Tech.
- 8:15 **112.2** Phytoestrogen genistein upregulates endothelial nitric oxide synthase expression via activation of cAMP-responsive element-binding protein in human aortic endothelial cells. **D. Liu, H. Si and H. Jiang**. Virginia Tech and Tennessee State Univ.
- 8:30 **112.3** Differential regulation of genes for intestinal cholesterol flux by epigallocatechin gallate and resveratrol in Caco-2 cells: potential role of histone deacetylases and sirtuins in intestinal cholesterol metabolism. **C. Wegner, Y. Park, S.I. Koo and J. Lee**. Univ. of Connecticut.
- 8:45 **112.4** Viscous dietary fibers added to a high fat diet decrease adiposity, improve glucose control and alter fuel utilization in obese rats. **D.A. Brockman, X. Chen and D.D. Gallaheer**. Univ. of Minnesota, St. Paul.

- 9:00 **112.5** Effects of bioactive salmon peptides and fatty acids on cellular transport and secretion of adiponectin. **V. DeClercq, B. d'Eon and R. McLeod.** Dalhousie Univ., Canada.
- 9:15 **112.6** Effects of maternal milk lactoferrin supplementation on neurodevelopment and neuroprotection. **B. Wang, P. Larvaron, E. Somm and S. Sizonenko.** Nestle Res. Ctr., Beijing, Xiamen Univ., China and Geneva Univ. Hosps.
- 9:30 **112.7** Inhibitory effects of metabolites of nobiletin and 5-hydroxy nobiletin on human lung cancer cells. **N. Charoensinphon, J. Zheng, P. Dong, P. Qiu, T. Tran and H. Xiao.** Univ. of Massachusetts Amherst and Ocean Univ. of China.
- 9:45 **112.8** Palmatine, a novel anti-adipogenic and anti-diabetic alkaloid from an Indian medicinal plant *Tinospora cordifolia*. **H.R. Vasanthi and S.M. Kannan.** Sch. of Life Sci., Pondicherry Univ. and Sri Ramachandra Univ., India.

### 113. REDEFINE OBESITY—BODY WEIGHT VERSUS ADIPOSITY

#### Minisymposium

(Sponsored by: Obesity RIS)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 32A

CHAired: D. HEBER

COCHAired: F. GREENWAY

- 8:00 Overview.
- 8:15 **113.1** Differences in resting metabolic rate and physical activity patterns in lean and overweight/obese pregnant women. **M.L. Ruebel, K. Shankar, T.M. Badger and A. Andres.** Arkansas Children's Nutr. Ctr. and Univ. of Arkansas for Med. Sci.
- 8:30 **113.2** Sarcopenic obesity among young adult Asian-American women: results from a serial-cross sectional study of multi-ethnic college aged adults in Southern California. **C.L. Carpenter, E. Yan, S. Chen, K. Hong, M.L. Deng, Z. Li and D. Heber.** David Geffen Sch. of Med. at UCLA.
- 8:45 **113.3** Increased fat and simple carbohydrate consumption results in obese prepubertal pigs without an increase in body weight. **H.F. Reeves, G.R. van Eyk, K.M. Seelenbinder, K.L. Price, T.L. Scheffler, D.E. Gerrard, J.M. Scheffler and J. Escobar.** Virginia Tech.
- 9:00 **113.4** Dietary fat and sugar induce obesity and impair glucose tolerance in prepubertal pigs. **G.R. van Eyk, K.D. Fisher, S.C. Kasten, T.L. Scheffler, K.L. Price, H.F. Reeves, D.E. Gerrard, J.M. Scheffler and J. Escobar.** Virginia Tech.
- 9:15 **113.5** Prediction models for assessment of abdominal adiposity. **J.H. Freeland-Graves, J.J. Lee, M. Yao and B. Xu.** Sch. of Human Ecol., Univ. of Texas at Austin.
- 9:30 Summary.

### 114. MICRONUTRIENT INTERVENTIONS

#### Minisymposium

(Sponsored by: Vitamins and Minerals RIS)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 30D

CHAired: H.H. SANDSTEAD

- 8:00 **114.1** Zinc, IGF-1, and food intervention in malnourished pregnant women on children body height after 6 years in Indonesia. **N.A. Daud.** Hasanuddin Univ., Indonesia.
- 8:15 **114.2** Effect of vitamin A fortified milk intake on total body vitamin A stores in Mexican preschoolers. **V. Lopez-Teros, L. Quihui-Cota, R.O. Mendez-Estrada, M.I. Grijalva-Haro, M. Valencia, J. Esparza-Romero, L. Rascon-Duran, O. Tortoledo-Ortiz, B. Pacheco-Moreno, M.H. Green and H. Astiazaran-Garcia.** CIAD, Hermosillo and Univ. of Sonora, Mexico and Penn State.
- 8:30 **114.3** Circulating insulin-like growth factor-1 is associated with vitamin A status and increased circulating hemoglobin during pregnancy in Nepalese women. **M.A. Arguello, K.J. Schulze, L.S-F. Wu, M.L. Dreyfuss, P. Christian and K.P. West, Jr.** Johns Hopkins Univ. Bloomberg Sch. of Publ. Hlth.
- 8:45 **114.4** The effect of iodine supplementation on status and cognition in iodine-deficient young adults. **S.A. Skeaff, P.C.E. Fitzgerald, K. Redman and T. Ruffman.** Univ. of Otago, New Zealand.
- 9:00 **114.5** Improvements in perceptual and cognitive performance linked to baseline iron status and consumption of a double-fortified salt. **M.J. Wenger, L. Murray-Kolb, J. Hammons, S. Venkatramanan and J.D. Haas.** Univ. of Oklahoma, Penn State, Cornell Univ. and Sch. of Dietetics and Human Nutr., McGill Univ.
- 9:15 **114.6** Effect of iodine-iron interactions on iodine status in double-fortified salt intervention with female Indian tea pluckers. **J. Hammons, S. Venkatramanan and J.D. Haas.** Cornell Univ. and Sch. of Dietetics and Human Nutr., McGill Univ.
- 9:30 **114.7** Iron supplementation recommendations during pregnancy: case study of WHO, CDC and India Government policies. **M.F. Young, A. Wendt, U. Ramakrishnan and R. Martorell.** Emory Univ.
- 9:45 **114.8** Iron supplementation during lactation increases hemoglobin without an increase in iron status or oxidative stress. **J.M. Jorgensen, Z. Yang, B. Lönnerdal, C.J. Chantry, L.H. Allen and K.G. Dewey.** Univ. of California, Davis, Natl. Inst. of Nutr. and Food Safety, China CDC, Beijing, Univ. of California Davis Med. Ctr., Sacramento and USDA, Davis.

Please Silence Your Cell Phones during Sessions

## 115. IMMUNE MODULATING NUTRACEUTICALS AND FUNCTIONAL FOODS

### Minisymposium

(Sponsored by: Nutritional Immunology RIS)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 30C

CHAired: S.R. SHAIKH

COCHAired: D. WU

- 8:00 **115.1** The effect of milk components on the immune response to a pneumonia vaccine: a randomized placebo-controlled clinical trial. **L.K. Fischer, J.B. German and M.E. Gershwin.** Univ. of California, Davis.
- 8:15 **115.2** Effects of edible mushrooms on plasma levels of anti-bovine collagen II IgG antibodies in DBA1 mice with collagen-induced arthritis. **S. Kuvibidila.** LSU Hlth. Sci. Ctr., New Orleans and Oklahoma State Univ.
- 8:30 **115.3** Dietary supplementation of *Lessertia frutescens* (*Sutherlandia*) enhanced host defense against *Listeria monocytogenes* in BALB/c mice. **C-H. Lu, W. Lei, J.D. Browning, Jr., P.A. Eichen and K.L. Fritsche.** Univ. of Missouri-Columbia.
- 8:45 **115.4** Whole-grain foods and gastrointestinal and immune health in adolescents: a randomized intervention. **B. Langkamp-Henken, C. Nieves, Jr., S-A. Girard, C. Hughes, M.C. Christman, W.J. Dahl, V. Mai, T. Boileau, S. Jonnalagadda and F. Thielecke.** Univ. of Florida, General Mills, Minneapolis and Cereal Partners Worldwide, Lausanne.
- 9:00 **115.5** Age modulates effect of fish oil on the immune response in an ovalbumin asthmatic murine model. **A. Histed, S. Lee, X. Du, D. Wu and S.N. Meydani.** USDA at Tufts Univ.
- 9:15 **115.6** Galactooligosaccharides decrease the probability of upper respiratory tract infection in aged adults, but it is dependent on mini-nutritional assessment score and the percentage of natural killer cells. **S-A. Girard, C. Nieves, Jr., E.C. Downes, M.C. Christman, V. Mai, W.J. Dahl, D.M. Duriancik, E.M. Gardner, P.L. Barkley and B. Langkamp-Henken.** Univ. of Florida and Michigan State Univ.
- 9:30 **115.7** Cranberry bioactives augment the activation status of THP-1 monocytes/macrophages. **R.A. Creasy, C. Khoo and S.S. Percival.** Univ. of Florida and Ocean Spray Cranberries Inc., Lakeville, MA.
- 9:45 Summary.

## 116. EPIGENETICS AND NUTRITION

### Minisymposium

(Sponsored by: Nutritional Epidemiology RIS)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 30B

CHAired: J. ZEMPLINI

COCHAired: S. ROSS

- 8:00 **116.1** Pregnancy status and choline intake alter DNA integrity, epigenetic marks and gene expression. **X. Jiang, J. Yan, A. West, C. Perry, O. Malysheva, H. Bar, M. Wells, S. Devapatla, E. Pressman and M. Caudill.** Cornell Univ., Cayuga Med. Ctr., Ithaca and Univ. of Rochester Med. Ctr.
- 8:15 **116.2** Expression of tumor suppressor genes in diet-induced liver injury: a model of the control of gene expression by gene-specific CpG island methylation. **S. Miszewski, R. Green and J.W. Miller.** Univ. of California, Davis, Sacramento.

- 8:30 **116.3** Folate modulates adipocyte promoter methylation and lipid filling and release. **J.S. Gouffon, M. Johnstone and M.B. Zemel.** Univ. of Tennessee, Knoxville.
- 8:45 **116.4** Holocarboxylase synthetase interacts physically with nuclear corepresso and histone deacetylases to mediate gene repression. **D. Liu and J. Zempleni.** Univ. of Nebraska-Lincoln.
- 9:00 **116.5** Biotinylation of K16 in histone H4 causes chromatin condensation. **M.P. Singh and J. Zempleni.** Univ. of Nebraska-Lincoln.
- 9:15 **116.6** Genistein represses invasion in an in vitro colon cancer metastasis model by transcriptionally upregulating metastasis repressor NDRG1. **Q. Li and H. Chen.** Univ. of Illinois at Urbana-Champaign.
- 9:30 **116.7** A genome-wide methylation study of vitamin D deficiency in African American adolescents. **H. Zhu, X. Wang, H. Shi, S. Su, G.A. Harshfield, B. Gutin, H. Snieder and Y. Dong.** Georgia Hlth. Sci. Univ. and Univ. Med. Ctr. Groningen, Netherlands.
- 9:45 **116.8** Genetic and environmental influences on body composition and obesity in Chinese children: a twin study in China. **J. Li, H. Liu, X. Liu and Y. Wang.** Johns Hopkins Univ. and Jiaying Maternity and Child Hlth. Care Hosp., China.

## 117. RISK FACTOR MODIFICATION IN CHRONIC DISEASE II

### Minisymposium

(Sponsored by: Aging and Chronic Disease RIS)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 30A

CHAired: C. TANGNEY

COCHAired: C. BALES

- 8:00 Overview.
- 8:15 **117.1** Effects of whole walnuts and walnut components on postprandial triglyceride response, plasma measures of antioxidant activity, and endothelial function in overweight and obese adults. **C.E. Berryman, S.G. West, J.A. Grieger, J.B. Blumberg and P.M. Kris-Etherton.** Penn State and USDA at Tufts Univ.
- 8:30 **117.2** Phase II randomized trial of walnut supplementation and subsequent influence on male reproductive health. **C.L. Carpenter, S.M. Henning, M. Seltzer, E. Peterson, L. Xun and W.A. Robbins.** David Geffen Sch. of Med. at UCLA and UCLA Sch. of Nursing.
- 8:45 **117.3** Effect of pulses as part of a low glycemic index diet compared to a high fiber diet on HbA1c and blood lipids in type 2 diabetes. **C.W.C. Kendall, L.S. Augustin, S. Mitchell, S. Sahye-Pudaruth, J. Coveney, A. Cerovic, S. Blanco and D.J.A. Jenkins.** Univ. of Toronto and St. Michael's Hosp.
- 9:00 **117.4** The effect of dietary pulses on lipids in controlled feeding trials: a systematic review and meta-analysis. **V. Ha, R.J. de Souza, J.L. Sievenpiper, V.H. Jayalath, J. Beyene, D.J.A. Jenkins and C.W.C. Kendall.** Univ. of Toronto and McMaster Univ., Canada.
- 9:15 **117.5** Effects of whole and refined grains on cardiometabolic risk factors in a controlled-feeding, weight-loss study: preliminary findings. **K.A. Harris, S. West, J.P. Vanden Heuvel, S. Jonnalagadda and P.M. Kris-Etherton.** Penn State and General Mills Inc., Minneapolis.
- 9:30 **117.6** Dietary flavanols maintain endothelial homeostasis. **C. Heiss.** Univ. Duesseldorf.
- 9:45 Summary.

**118. WHAT SHOULD I EAT? NUTRITIONAL EFFECTS OF FOODS****Minisymposium***(Sponsored by: Community and Public Health Nutrition RIS)*

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 29D

CHAired: W. SONG

COCHAired: S. JASTI

- 8:00 **118.1** Effects of rice consumption on selected indicators of nutritional status. **E.T. Kennedy and H. Luo.** Tufts Univ. Friedman Sch. of Nutr. Sci and Policy.
- 8:15 **118.2** Increasing seafood in the USDA food patterns increases eicosapentaenoic acid and docosahexaenoic acid and other nutrients. **K.M. O'Connell, K.J. Kuczynski, P.M. Guenther, E.B. Rimm, R. Pérez-Escamilla and P. Britten.** USDA, Alexandria, VA, Harvard Sch. of Publ. Hlth. and Yale Sch. of Publ. Hlth.
- 8:30 **118.3** Contributors to iodine status among children in the U.S. **C.G. Perrine, K.M. Sullivan, R. Flores-Ayala and L.M. Grummer-Strawn.** Ctrs. for Dis. Control and Prevent. and Emory Univ. Rollins Sch. of Publ. Hlth.
- 8:45 **118.4** Nutrient intakes and weight status of adult Canadian breakfast consumers versus non-consumers, and of those consuming breakfasts with versus without ready-to-eat cereal. **S.I. Barr, L. DiFrancesco and V.L. Fulgoni III.** Univ. of British Columbia, Source! Nutr., Toronto and Nutr. Impact LLC, Battle Creek, MI.
- 9:00 **118.5** Contribution of sugar-sweetened beverages and refined grains to dietary sugar among postpartum Latinas. **S. Vega-López, G.A.P. Pignotti, A. Nagle Williams, M. Belyea, K. Records, B.E. Ainsworth, P. Permana, D.V. Coonrod and C.S. Keller.** Arizona State Univ., Phoenix VA Hlth. Care Syst. and Maricopa Med. Ctr., Phoenix.
- 9:15 **118.6** Establishment of vitamin A requirement for Chinese children. **J. Zeng, P. Yao, J. Xu, L. Hao, Z. Li, G. Tang, W. Cao, X. Sun and X. Yang.** Sch. of Publ. Hlth., Tongji Med. Col., Huazhong Univ. of Sci. & Technol. and CDCP, Shenzhen and Shiyang, China, USDA at Tufts Univ. and Gillings Sch. of Global Publ. Hlth., Uni v.of North Carolina at Chapel Hill.
- 9:30 **118.7** Inflammation in postpartum women is inversely related to transferrin saturation, but is not correlated with ferritin or hepcidin. **J.M. Jorgensen, Z. Yang, B. Lönnerdal, C.J. Chantry, L.H. Allen and K.G. Dewey.** Univ. of California, Davis, Natl. Inst. of Nutr. and Food Safety, China CDC, Beijing, Univ. of California Davis Med. Ctr., Sacramento and USDA, Davis.
- 9:45 **118.8** Dietary behaviors and acculturation in South Asian college students. **S. Jasti and A. Sachmechi.** Queens Col. CUNY.

**119. LONGITUDINAL AND CROSS-SECTIONAL ANALYSIS OF ASSOCIATIONS BETWEEN DIET AND HEALTH OUTCOMES****Minisymposium***(Sponsored by: Nutritional Epidemiology RIS)*

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 29C

CHAired: A.E. MILLEN

COCHAired: L.M. TROY

- 8:00 **119.1** Healthy Mediterranean-like dietary pattern predicts reduced risk of acute myocardial infarction in women: the Epic-France (E3N) prospective cohort study. **N. Ahluwalia, L. Tondeur, M-C. Boutron and F. Clavel-Chaperon.** Fac. of Med., Univ. of Paris 13, INSERM U557, Bobigny and INSERM U1018, Villejuif.
- 8:15 **119.2** Whole-grain intake and risk of all-cause mortality among elderly men and women: the Cache County study on Memory, Health and Aging. **H. Wengreen, A. Quach, A. Cutler, R. Munger and C. Corcoran.** Utah State Univ.
- 8:30 **119.3** Frequency of candy consumption and dietary and health characteristics of adults age 19-50 years in the United States. **M.M. Murphy, L.M. Barraj, X. Bi, L. Shumow and A.R. Bodor.** Exponent Inc. and Natl. Confectioners Assn., Washington, DC.
- 8:45 **119.4** Association between dietary protein and energy intake, handgrip strength, and lean body mass in hypoalbuminemic maintenance hemodialysis patients. **T.R. Parsons, R. Bross, M.Z. Molnar and K. Kalantar-Zadeh.** Harbor-UCLA Med. Ctr.
- 9:00 **119.5** Dietary antioxidant density in usual diet improves inflammatory biomarkers in overweight postmenopausal women. **Y. Wang, M. Yang, T.M. Vance, S-G. Lee, C.G. Davis, O.K. Chun and S.I. Koo.** Univ. of Connecticut.
- 9:15 **119.6** Plasma vitamin D is associated with insulin sensitivity in youth with type 1 diabetes. **N. The, J.L. Crandell, J.M. Norris and E.J. Mayer-Davis.** Furman Univ., Gillings Sch. of Global Publ. Hlth. and Sch. of Nursing, Univ. of North Carolina at Chapel Hill and Univ. of Colorado Sch. of Publ. Hlth.
- 9:30 **119.7** Dietary protein and risk of elevated blood pressure in adolescent girls. **J.G. Buendia, S.R. Hasnain, M.R. Singer and L.L. Moore.** Boston Univ. Sch. of Med.
- 9:45 **119.8** Pre-pregnancy BMI impacts bone loss across pregnancy in adolescents. **B.E. Young, T. McNanley, B. Cooper, F. Witter, Z.L. Harris and K.O. O'Brien.** Cornell Univ., Univ. of Rochester Sch. of Med. and Johns Hopkins Sch. of Med.

## 120. PRESIDENTIAL SYMPOSIUM AND 2011 DANONE INTERNATIONAL PRIZE FOR NUTRITION: NUTRITION AND THE HUMAN GUT MICROBIOME: SEEKING A GLOBAL PERSPECTIVE

### Special Session

(Supported by an educational grant from Danone Institute International)

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 20D

CHAired: S.M. DONOVAN

COCHAired: J.I. GORDON

### Career Development

- 10:30 The human gut microbiome and nutrition. **J. I. Gordon.** Washington Univ. Sch. of Med.
- 11:00 Nursing the infant gut microbiota: an evolutionary link between milk glycans and infant born bifidobacteria. **D. Mills.** Univ. of California, Davis.
- 11:30 The influence of nutrition and the microbiome on metabolic phenotypes. **E. Holmes.** Imperial Col. London.
- 12:00 Efforts of the Bill and Melinda Gates Foundation. **A. Serazin.** Bill and Melinda Gates Foundation.
- 12:15 Moderated round-table discussion. **A. Serazin.** Bill and Melinda Gates Foundation.

## 121. FRUCTOSE, SUCROSE AND HIGH FRUCTOSE CORN SYRUP: RELEVANT SCIENTIFIC FINDINGS AND HEALTH IMPLICATIONS

### Symposium

(Supported by an educational grant from Corn Refiners Association)

(Sponsored by: Medical Nutrition Council (MNC))

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 20D

CHAired: P. KRIS-ETHERTON

- 3:00 Opening comments. **P. M. Kris-Etherton.** Penn State.
- 3:05 The biochemistry and metabolism of fructose, sucrose and high fructose corn syrup and other nutritive sweeteners and other implications for the food industry. **J. S. White.** White Tech. Res.
- 3:25 Fructose: pure, white, and harmful? Fructose, by any other name is a health hazard. **G. A. Bray.** Pennington Biomed. Res. Ctr.
- 3:45 The metabolic consequences of fructose: it's alcohol without the buzz? **R. Lustig.** UCSF.
- 4:05 Health implications of fructose, sucrose and high fructose corn syrup: What do we really know? **J. M. Rippe.** Rippe Lifestyle Inst.
- 4:25 What do government agencies consider in the debate over added sugars? **D. M. Klurfeld.** USDA, Beltsville.
- 4:45 Discussion.

## 122. FOOD INSECURITY AND HEALTH ACROSS THE LIFESPAN

### Symposium

(Sponsored by: Medical Nutrition Council)

(Cosponsored by: Aging and Chronic Disease RIS and Community and Public Health RIS)

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 31A/B/C

CHAired: M.A. JOHNSON

COCHAired: J.S. LESS

### Public Policy

- 3:00 Food insecurity across the life span is an ongoing national concern. **C. Gundersen.** Univ. of Illinois.
- 3:24 Food insecurity adversely influences childhood health and well-being. **J. T. Cook.** Boston Univ. Sch. of Med.
- 3:48 Food insecurity and chronic diseases: risks and managements problems. **B. Laraia.** UCSF.
- 4:12 Food insecurity and health care costs: research strategies using local, state, and federal data sources for older adults. **J. S. Lee.** Univ. of Georgia.
- 4:36 National initiatives to alleviate hunger in older Americans. **B. Hofland.** AARP Fndn.

## 123. ZINC NUTRITION: FROM DISCOVERY TO GLOBAL HEALTH IMPACT

### Symposium

(Supported by an educational grant from The Micronutrient Initiative and Albion)

(Sponsored by: History of Nutrition Committee)

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 29A/B

CHAired: H.H. SANDSTEAD

COCHAired: A.S. PRASAD

### Education

### Career Development

- 3:00 Introduction. The discovery of human zinc deficiency. **H. Sandstead.** Univ. of Texas Med. Branch.
- 3:10 History of zinc chemistry. **W. Maret.** King's Col. London.
- 3:35 History of zinc in agriculture. **F. Nielsen.** USDA, Grand Forks.
- 4:00 Progress in assessing dietary zinc as an indicator of population zinc status. **R. S. Gibson.** Univ. of Otago, New Zealand.
- 4:25 Progress in understanding the role of zinc in human nutrition. **K. M. Hambidge.** Univ. of Colorado Sch. of Med.
- 4:50 Discovery of zinc as an essential element for health: its impact 50 years later. **A. S. Prasad.** Wayne State Univ. Sch. of Med.



## 124. BIOAVAILABILITY, METABOLISM AND BIOMARKERS OF DIETARY BIOACTIVE COMPONENTS

### Minisymposium

(Sponsored by: Dietary Bioactive Components RIS)

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 32B

CHAired: T.C. WALLACE

COCHAired: J. BOMSER AND STUDENT CHAIR: B.A. WILSON

3:00 **124.1** The fetal programming of dietary fructose and saturated fat on hepatic quercetin glucuronidation in rats. **C-Y.O. Chen, N. Bryant, J. Blumberg and A. Serra.** USDA at Tufts Univ. and Univ. de Lleida, Spain.

3:15 **124.2** Phenolic acid concentrations in plasma and urine from men consuming green or black tea and their chemopreventive properties for colon cancer. **S.M. Henning, P. Wang, R. Vicinanza, N. Abgaryan, D. Moura de Oliveira, Y. Zhang, R-P. Lee, C.L. Carpenter, W. Aronson and D. Heber.** UCLA.

3:30 **124.3** Quercetin bioavailability and biotransformation are inversely related to vitamin C status in college-aged adults. **Y. Guo, E. Mah, T. Jallili and R.S. Bruno.** Univ. of Connecticut and Univ. of Utah.

3:45 **124.4** Metabolism of black tea theaflavins by gut microbiota. **S. Sang, H. Chen, S. Hayek, J. Rivera Guzman, C. Jobin and S. Ibrahim.** North Carolina A&T State Univ. and Univ. of North Carolina at Chapel Hill.

4:00 **124.5** The metabolism of polymethoxyflavone and its implication in colon cancer inhibition. **H. Xiao, J. Zheng, M. Song, Z. Zhong and M. Wang.** Univ. of Massachusetts Amherst.

4:15 **124.6** Dose response bioavailability of coffee chlorogenic acids in humans. **M. Renouf, C. Marmet, F. Giuffrida, G. Williamson and F. Dionisi.** Nestlé Res. Ctr., Lausanne.

4:30 **124.7** Bioaccessibility of pistachio polyphenols, carotenoids and tocopherols in the upper gastrointestinal tract. **G. Mandalari, C. Bisignano, A. Filocamo, S. Chessa, M. Saro', G. Torre, R.M. Faulks and P. Dugo.** Inst. of Food Res., Norwich, U.K. and Univ. of Messina, Italy.

4:45 **124.8** Determination of cranberry proanthocyanidin A2 in human plasma and urine using LC-MS/MS. **C.A. Zampariello, D.L. McKay, G. Dolnikowski, J. Blumberg and C-Y.O. Chen.** USDA at Tufts Univ.

## 125. OBESITY, INFLAMMATION AND CHRONIC DISEASE MODULATION BY DIETARY PHYTONUTRIENTS

### Minisymposium

(Sponsored by: Obesity RIS)

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 32A

CHAired: C. DAVIS

COCHAired: N. MATUSHESKI

3:00 **125.1** Association between dietary patterns and renal function indicators in type 2 diabetes. **M-C. Huang, H-R. Jhang, S-J. Shin and C-C. Hsu.** Kaohsiung Med. Univ. Hosp., Sch. of Med., Kaohsiung Med. Univ. and Natl. Hlth. Res. Insts., Zhunan, Taiwan.

3:15 **125.2** Increased monocyte Toll-like receptor activity in patients with metabolic syndrome. **H. Kaur, B. Adams-Huet, S. Devaraj and I. Jialal.** Univ. of California, Davis Med. Ctr., Univ. of Texas Southwestern Med. Ctr. and Baylor Col. of Med.

3:30 **125.3** Decrease of postprandial endothelial dysfunction by spice mix added to high fat meat patty in men with type 2 diabetes mellitus. **Z. Li, S.M. Henning, Y. Zhang, A. Zerlin, G. Thames, C-H. Tseng and D. Heber.** UCLA.

3:45 **125.4** Curcumin suppresses NOD1-mediated chemotactic genes expression in 3T3-L1 adipocytes. **P. Hu and L. Zhao.** Univ. of Tennessee, Knoxville.

4:00 **125.5** Flaxseed lignan supplementation improves markers of obesity in C57BL6 mice. **N.A. Ford and S.D. Hursting.** Univ. of Texas at Austin and M.D. Anderson Cancer Ctr., Smithville.

4:15 **125.6** Stearidonic acid-enriched soybean oil improved metabolic and omega-3 profile in obese Zucker rats. **J.E. Davis, J.M. Casey, E.S. Krul, D.N. Butteiger, D.A. Goldstein and W.J. Banz.** Southern Illinois Univ. and Solae LLC and Monsanto Co., St. Louis.

4:30 **125.7** META060 activates omega-3 fatty acid receptor GPR120, reduces weight gain, and increases insulin sensitivity in high-fat diet fed mice. **V.R. Konda, A. Desai, G. Darland, I.O.C.M. Vroegrijk, J.A. van Diepen, P.J. Voshol, J.S. Bland and M.L. Tripp.** MetaProteomics, Gig Harbor, WA, Leiden Univ. Med. Ctr., Netherlands and Univ. of Cambridge.

4:45 **125.8** Cinnamon polyphenols regulate high-fructose feeding and age-induced decreases in sirtuins in rat intestinal enterocytes. **B. Qin, M.M. Polansky and R.A. Anderson.** USDA, Beltsville, MD and Integrity Nutraceutical Intl., Spring Hill, TN.

## 126. B VITAMINS AND ONE-CARBON METABOLISM

### Minisymposium

(Sponsored by: Vitamins and Minerals RIS)

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30D

CHAired: J. MILLER

COCHAired: K.L. SCHALINSKE

3:00 **126.1** The reaction of HOCl and cyanocobalamin: corrin destruction and the liberation of cyanogen chloride. **D. Maitra, J. Byun, C.E.A. Souza, J. Banerjee, P.R. Andreana, S. Pennathur and H.M. Abu-Soud.** Wayne State Univ. and Univ. of Michigan.

3:15 **126.2** Cyanocobalamin treatment improves vitamin B12 status and peripheral neuroconduction in deficient Chilean elderly. **A. Brito, L.H. Allen, R. Verdugo, H. Sanchez, E. Hertrampf, C. Albala, L. Lera, J.L. Castillo, M. Lavados, S. Shahab-Ferdows and R. Uauy.** Univ. of California, Davis, Univ. of Chile, USDA, Davis and London Sch. of Hyg. & Trop. Med.

3:30 **126.3** Vision changes after space flight are related to alterations in folate-dependent one-carbon metabolism. **S.M. Smith, C.R. Gibson, T.H. Mader, K. Ericson, R. Ploutz-Snyder, M. Heer and S.R. Zwart.** NASA Johnson Space Ctr., Wyle Labs, Houston, Alaska Native Med. Ctr., Anchorage, Indiana Univ.-Purdue Univ., Fort Wayne, USRA/NASA, Houston, Univ of Bonn and Profil Inst. for Metab. Res., Neuss, Germany.

- 3:45 **126.4** Serum and red blood cell folate status of New Zealanders: results from a national nutrition survey. **K. Bradbury, C. Skeaff, S. Williams, J. Mann, R. Brown and W. Parnell.** Univ. of Otago, New Zealand.
- 4:00 **126.5** Increased mRNA expressions of atheroprotective proteins in the peripheral blood mononuclear cells of humans taking low-dose methotrexate. **E-P.I. Chiang, H-M. Chih, D-Y. Chen, J-L. Lan, H-Y. Chang, W-W. Chen and F-Y. Tang.** Natl. Chung Hsing Univ., Taichung Veterans Gen. Hosp. and China Med. Univ., Taiwan.
- 4:15 **126.6** Mouse betaine homocysteine S-methyltransferase deficiency reduces body fat. **Y. Teng, J.M. Ellis, R.A. Coleman and S.H. Zeisel.** Univ. of North Carolina at Chapel Hill and Johns Hopkins Univ.
- 4:30 **126.7** Choline dehydrogenase polymorphism rs12676 is a functional variation associated with changes in human sperm cell function. **A.R. Johnson, S. Lao, T. Wang, J. Galanko and S. Zeisel.** Univ. of North Carolina at Chapel Hill and Nutr. Res. Inst., Kannapolis, NC.
- 4:45 Summary.

## 127. NUTRITIONAL IMMUNOLOGY

### Minisymposium

(Sponsored by: Nutritional Immunology RIS)

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30C

CHAired: P.A. SHERIDAN

COCHAired: B. LANGKAMP-HENKEN

- 3:00 **127.1** Decreased response of influenza specific CD8<sup>+</sup> T cells from overweight and obese humans. **H. Paich, P. Sheridan and M. Beck.** Univ. of North Carolina at Chapel Hill.
- 3:15 **127.2** Age and nutritional status influence peripheral immune cell phenotypes in healthy men in rural Pakistan. **I. Alam and G. Pawelec.** Univ. of Tübingen, Germany.
- 3:30 **127.3** n-3 PUFAs reorganize B cell membrane rafts and molecular order accompanied by differential effects on B cell function. **B.D. Rockett, H. Teague, M. Harris and S.R. Shaikh.** East Carolina Univ. Brody Sch. of Med.
- 3:45 **127.4** Immunologic dysregulation and micronutrient deficiencies associated with risk of intrapartum hepatitis E infections in pregnant Bangladeshi women. **A.B. Labrique, S. Klein, B. Kmush, H. Ali, R. Engle, K. Schulze, R. Purcell, K.P. West, Jr. and K.E. Nelson.** Johns Hopkins Bloomberg Sch. of Publ. Hlth., JiVitA Proj., Johns Hopkins Univ.-Bangladesh and NIAID/NIH.
- 4:00 **127.5** Regulatory T cells: a mechanism for impaired immunity to influenza infection in obese mice? **J.J. Milner, H.A. Paich, P.A. Sheridan and M.A. Beck.** Univ. of North Carolina at Chapel Hill.
- 4:15 **127.6** The cytosolic branched-chain aminotransferase regulates T cell activation via mTOR signaling pathway. **E.A. Ananieva, C. Patel, J. Powell and S. Hutson.** Virginia Tech and Johns Hopkins Univ. Sch. of Med.
- 4:30 **127.7** Fat flu: the obese host in influenza virus evolution. **E. Karlsson and S. Schultz-Cherry.** St Jude Children's Res. Hosp.
- 4:45 **127.8** Energy restriction results in phenotypic and functional alterations to NK cells. **J.F. Clinthorne and E. Gardner.** Michigan State Univ.

## 128. MATERNAL PROGRAMMING OF GENE EXPRESSION

### Minisymposium

(Sponsored by: Nutrient-Gene Interaction RIS)

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30B

CHAired: E. UTHUS

COCHAired: C. ANDERSON

- 3:00 **128.1** Excess pregnancy weight gain and early energy-rich environment in swine program offspring for indications of metabolic syndrome. **E.J. Arentson, R. Potu, D. Ragland, K.K. Buhman, K.M. Ajuwon and S.S. Donkin.** Purdue Univ.
- 3:15 **128.2** Maternal low protein diet and postnatal high fat diet increases adipose imprinted gene expression. **K.J. Claycombe, E.O. Uthus and W.T. Johnson.** USDA, Grand Forks.
- 3:30 **128.3** Low dietary protein intake during pregnancy differentially affects mitochondrial copy number in stromal vascular cells from subcutaneous versus visceral adipose tissue in the offspring. **T. Johnson, E.O. Uthus and K.J. Claycombe.** USDA, Grand Forks.
- 3:45 **128.4** Maternal blueberry diet suppresses Wnt1-induced mammary tumor progression in offspring. **O. Rahal, J.M.P. Pabona, L. Hennings, R.L. Prior, T. Kelly, A. Al-Dwairi, F.A. Simmen and R.C.M. Simmen.** Univ. of Arkansas for Med. Sci. and Arkansas Children's Nutr. Ctr.
- 4:00 **128.5** RNA-seq analysis of placental gene expression: effect of maternal obesity. **K. Shankar, Y. Zhong, P. Kang, M.J. Ronis and H. Gomez-Acevedo.** Arkansas Children's Nutr. Ctr., Little Rock.
- 4:15 **128.6** Alterations in hepatic gene expression and genome-wide DNA methylation in rat offspring exposed to maternal obesity in utero. **S. Borengasser, Y. Zhong, H. Gomez-Acevedo, M.J. Ronis and K. Shankar.** Arkansas Children's Nutr. Ctr., Little Rock.
- 4:30 **128.7** DNA methylation in candidate genes as a biomarker for transgenerational risk of preeclampsia. **M.L. Wright, C.M. Anderson, E.O. Uthus and J.E. Ohm.** Col. of Nursing and Sch. of Med. and Hlth. Sci., Univ. of North Dakota and USDA, Grand Forks.
- 4:45 Summary.

## 129. APPLICATION OF NOVEL STATISTICAL METHODS FOR USE IN NUTRITIONAL EPIDEMIOLOGY

### Minisymposium

(Sponsored by: Nutritional Epidemiology RIS)

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30A

CHAired: Y. SONG

COCHAired: H. EICHER-MILLER

- 3:00 Overview.
- 3:15 **129.1** Combining self-report dietary assessment instruments to reduce the effects of measurement error. **D.N. Midthune, R.J. Carroll, A.F. Subar, L.S. Freedman, F.E. Thompson and V. Kipnis.** NCI/NIH, Texas A&M Univ. and Gertner Inst. for Epidemiol. and Publ. Hlth. Policy, Tel Hashomer, Israel.

- 3:30 **129.2** A three-part mixed-effects model to estimate usual total nutrient distributions from food and dietary supplements. **K.W. Dodd, J. Verkaik-Kloosterman, A. Dekkers, P. vantVeer and M. Ocke.** NCI/NIH, Natl. Inst. for Publ. Hlth. and Envrn., Bilthoven and Wageningen Univ., Netherlands.
- 3:45 **129.3** Comparison food and nutrient intake estimates modeled using 14-day diaries to estimates derived from two 24-hour recalls. **L.M. Barraj, J. Srinivasan, L. Brookmire, X. Bi and M. DiNovi.** Exponent Inc., Washington, DC and FDA, College Park, MD.
- 4:00 **129.4** Development of a method for estimating long-term intake of foods and nutrients. **L.M. Barraj, M. Murphy, C. Scrafford, X. Bi and M. DiNovi.** Exponent Inc., Washington, DC and FDA, College Park, MD.
- 4:15 **129.5** Confirmatory factor analysis in nutrition and obesity research: beyond dietary patterns. **J.L. Lemacks and J. Ilich-Ernst.** Florida State Univ.
- 4:30 **129.6** Weighting the factors associated with children obesity: an international perspective toward a unified model. **D. Gregori, I. Baldi and M. Ghidina.** Univ. of Padua, OBEY-AD Coop. Study Gp., Padua and Zeta Res. srl, Trieste.
- 4:45 Summary.

### 130. BREASTFEEDING, EARLY CHILD FEEDING, DIET AND GROWTH TRENDS

#### Minisymposium

(Sponsored by: International Nutrition Council (INC))

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 29D

CHAired: K. PETERSON

COCHAired: M. YOUNG

- 3:00 **130.1** Concordance with the WHO guidelines for early child feeding through the first six months of life in a sample of infants of the Guatemalan highlands. **I. van Beusekom, M. Vossenaar, G. Montenegro-Bethancourt, C.M. Doak and N.W. Solomons.** CeSSIAM, Guatemala City and VU Univ., Amsterdam.
- 3:15 **130.2** Early wasting in India: a public health challenge. **M.F. Young and R. Martorell.** Emory Univ.
- 3:30 **130.3** Secular trends in female adult stature in relationship to gross domestic product around time of birth. **J.L. Self and A.D. Stein.** Emory Univ.
- 3:45 **130.4** Early life growth trajectories and future risk for overweight. **J.C. Jones-Smith, B. Laraia, L.M. Neufeld and L.C.H. Fernald.** Univ. of California, Berkeley and The Micronutrient Initiative, Ottawa.
- 4:00 **130.5** Targeted messages delivered by nurses and radio improved infant and young child feeding in Mexico. **E.C. Monterrosa, E.A. Frongillo, T. Gonzalez-Cossio, A. Bonvecchio, M.A. Villanueva, J. Thrasher and J.A. Rivera.** Univ. of South Carolina and Natl. Inst. of Publ. Hlth., Cuernavaca.
- 4:15 **130.6** Overweight duration and diabetes risk among Filipino women. **A.B. Feranil, N.R. Lee and L.S. Adair.** Univ. of San Carlos Ofc. of Popul. Studies, Philippines and Univ. of North Carolina at Chapel Hill.
- 4:30 **130.7** Long-term dietary patterns in China, 1991-2009. **C. Batis, B. Zhang and B.M. Popkin.** Univ. of North Carolina at Chapel Hill, Inst. of Nutr. and Food Safety, Beijing.

- 4:45 **130.8** A high-fat meat, dairy and sweets pattern is negatively associated with BMI in Mexican preschool children. **K.E. Peterson, Y. Jiang, Z. Zhang, B.N. Sanchez, A.S. Ettinger, A. Cantoral, S.K. Park and M.M. Tellez-Rojo.** Univ. of Michigan Sch. of Publ. Hlth., Yale Sch. of Publ. Hlth. and Natl. Inst. of Publ. Hlth., Cuernavaca.

### 131. INNOVATIVE TOOLS FOR ASSESSMENT OF DIET, PHYSICAL ACTIVITY, AND RELATED BEHAVIORS

#### Minisymposium

(Sponsored by: Nutritional Epidemiology RIS)

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 29C

CHAired: C. BOUSHEY

- 3:00 **131.1** Development of the Healthy Eating Index-2010. **P.M. Guenther, K.M. O'Connell, J. Reedy, S.I. Kirkpatrick, H.A.B. Hiza and K.J. Kuczynski.** USDA, Alexandria, VA and NCI/NIH.
- 3:15 **131.2** The carbon isotope ratio of RBC alanine is a biomarker of sugar-sweetened beverage intake. **D.M. O'Brien, K. Choy and S.H. Nash.** Univ. of Alaska Fairbanks.
- 3:30 **131.3** Dermal carotenoids as measured by resonance Raman spectroscopy as a biomarker of response to a fruit/vegetable intervention study. **L. Jahns, L. Whigham, L. Johnson, S. Mayne, B. Cartmel, I. Ermakov and W. Gellermann.** USDA, Grand Forks, Yale Sch. of Publ. Hlth. and Univ. of Utah.
- 3:45 **131.4** Food photo records for assessing daily food intake using a smart phone application in college students. **A. Suzuki, B.T. Pope, D. Roe, B.J. Orr, N.C. Merchant, S.B. Going and N. Hongu.** Univ. of Arizona.
- 4:00 **131.5** Comparison of cooperation between image capture and digital recording of evening meals among adults. **T.E. Schap, M.M. Franks and C.J. Boushey.** Purdue Univ. and Univ. of Hawaii Cancer Ctr.
- 4:15 **131.6** Feasibility of accelerometers for measuring children's daily physical activity. **S.E. Schaefer, M. Van Loan, L.H. Allen and J.B. German.** Univ. of California, Davis and USDA, Davis.
- 4:30 **131.7** The National Cancer Institute's automated self-administered 24-hour dietary recall. **A.F. Subar, S.I. Kirkpatrick, B. Mittl, T.P. Zimmerman, F.E. Thompson, C. Bingley, G. Willis, S. McNutt and N. Potischman.** NCI/NIH and Westat, Rockville, MD.
- 4:45 Summary.

**Visit The Exhibits**

**Sunday–Tuesday**

**9:00 AM–4:00 PM**

## Pathology

### 132. CAREER DEVELOPMENT WORKSHOP AND BREAKFAST: GETTING YOUR DREAM JOB: PREPARING YOUR CV AND MANAGING YOUR INTERVIEW

#### Workshop

(Supported by an educational grant from Intersociety Council for Pathology Information)

(Sponsored by: ASIP Committee for Career Development, Women and Minorities and the FASEB Minority Access to Research Careers (MARC) Office)

SUN. 7:00 AM—SAN DIEGO MARRIOTT MARQUIS & MARINA, LAGUNA

CHAired: R. BARRIOS AND T. SANDER

#### Career Development

Need to prepare or improve your CV/Resume? Job interview coming up?

Regardless of the career that you choose, preparing your CV/Resume and interviewing well is a necessary skill. Your CV/resume and interview should accurately reflect your achievements, accomplishments, and provide a great first impression of YOU. For practical advice on improving your CV/Resume and Interviewing Skills, you are invited to attend "Getting Your Dream Job: Preparing Your CV/Resume and Managing Your Interview". This program offers a unique opportunity for trainees and scientists at all levels. You will leave this session with tools that will help you format your CV for academia and write a resume for industry. You will also gain valuable strategies when interviewing for both academic and industry positions. Please join us for an entertaining learning experience that will enhance various aspects of your professional development.

- 7:00 Welcome breakfast and opening remarks. **R. Barrios.** The Methodist Hosp. Syst.
- 7:10 How to prepare a curriculum vitae for academia. **T. Sander.** Children's Hosp. of Wisconsin.
- 7:35 How to write a resume for industry. **E. Galbreath.** Amgen Labs.
- 8:00 Managing your interview: part I: the academic job interview. **L. M. McManus, M. E. Sobel, C. C. Yates.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio, ASIP, Univ. of Pittsburgh Sch. of Med.
- 8:30 Managing your interview: part II: the industry job interview. **E. Galbreath, T. Sander, R. Barrios.** Amgen Inc., Children's Hosp. of Wisconsin, The Methodist Hosp. Syst.

### 133. COMPUTATIONAL PHENOMICS: THE POTENTIAL OF HIGH-THROUGHPUT, WHOLE-ANIMAL IMAGE ANALYSIS FOR ELUCIDATING GENE FUNCTION AND CHEMICAL TOXICITY

#### Symposium

SUN. 8:30 AM—SAN DIEGO CONVENTION CENTER, 17A

CHAired: K.C. CHENG AND A. MADABHUSHI

#### Imaging

- 8:30 The potential role of high-throughput synchrotron microCT imaging of zebrafish in computational phenomics. **K. C. Cheng.** Penn State Hershey Col. of Med.
- 9:00 Tol2 transposon-based gene trap mutagenesis and high-throughput capillary-based imaging for the zebrafish phenome project. **S. C. Ekker.** Mayo Clin.
- 9:30 Fish and chips: high-throughput imaging for the zebrafish phenome project. **M. F. Yanik.** MIT.
- 10:15 Roles of multimodal registration and correlative analysis in phenomics. **A. Madabhushi.** Rutgers Univ.
- 10:45 The importance and potential of computational phenomics in ecotoxicology. **D. E. Hinton.** Duke Univ.

### 134. MOLECULAR AND CELLULAR BASIS OF DISEASE: LIVER PATHOBIOLOGY, SESSION 1: LIVER DEVELOPMENT, STEM CELLS AND REGENERATION

#### Symposium

(Sponsored by: ASIP Liver Pathobiology Scientific Interest Group)

SUN. 8:30 AM—SAN DIEGO CONVENTION CENTER, 16A

#### Liver Pathobiology

- 8:30 The biology of the Foxl1 progenitor cell lineage in liver injury and repair. **L. E. Greenbaum.** Thomas Jefferson Univ.
- 9:00 Role of Developmental morphogens in adult liver regeneration. **A. M. Diehl.** Duke Univ. Med. Ctr.
- 9:30 microRNAs as drivers of liver regeneration. **H. Willenbring.** UCSF.
- 10:00 Initiation and termination pathways of liver regeneration. **G. K. Michalopoulos.** Univ. of Pittsburgh Med. Sch.
- 10:03 Neuroendocrine regulation of biliary proliferation. **G. Alpini.** Texas A&M Hlth. Sci. Ctr.
- 11:00 **134.1** Wnt/ $\beta$ -catenin pathway is activated by thyroid hormone and is required for its hepatomitogenic activity. **M. Fanti, A. Perra, M. Pibiri, M. Schwartz, S.P. Monga, G.M. Ledda-Columbano and A. Columbano.** Univ. of Cagliari, Italy, Univ. of Tuebingen, Germany and Univ. of Pittsburgh.
- 11:15 **134.2** Effect of trichloroethylene exposure on autoimmune-mediated cholangitis in NOD.c3c4 mice. **B.P. Sullivan, K.M. Kassel and J.P. Luyendyk.** Univ. of Kansas Med. Ctr.

**135. REGULATION OF EPITHELIAL JUNCTIONS IN DEVELOPMENT AND DISEASES****Symposium**

SUN. 8:30 AM—SAN DIEGO CONVENTION CENTER, 16B

CHAired: A. IVANOV AND A. NUSRAT

**Epithelial Pathobiology**

- 8:30 Regulation and signaling of the cadherin/catenin adhesion system. **C. Gottardi**. Northwestern Univ. Feinberg Sch. of Med.
- 9:15 Catenins of the p120-subfamily at junctions and in the nucleus. **P. D. McCreia**. Univ. of Texas MD Anderson Cancer Ctr.
- 10:00 Unraveling relationships between intercellular junction proteins and epithelial homeostasis. **A. Nusrat**. Emory Univ.
- 10:45 Regulation of blood-testis barrier: an unexpected turn of events. **C. Y. Cheng**. Population Council, New York.

**136. INFLAMMATION AND IMMUNOPATHOLOGY****Minisymposium**

SUN. 8:30 AM—SAN DIEGO CONVENTION CENTER, 17B

CHAired: J. HOMEISTER

COCHAired: B. MCCORMICK

**Inflammation**

- 8:30 **136.1** Th17 lymphocyte adhesion to endothelium is highly dependent on E-selectin and ICAM-1 mediated interactions. **P. Alcaide, E. Maganto-Garcia, G. Newton, R. Travers, K.J. Croce, D-X. Bu, F.W. Lusinskas and A.H. Lichtman**. Tufts Med. Ctr. and Tufts Univ. Sch. of Med. and Brigham and Women's Hosp.
- 8:45 **136.2**  $\alpha(1,3)$ -Fucosylation alters STAT3-dependent IL-17 production in vivo. **L.C. Mackey, J.M. Rose and J.W. Homeister**. Univ. of North Carolina at Chapel Hill.
- 9:00 **136.3** The proteoglycan biglycan enhances antigen-specific T cell activation potentially via MyD88 and TRIF pathways and triggers autoimmune perimyocarditis. **H-J. Gröne, S. Wang, M. Papatriantafyllou, Z. Kaya, S. Burgdorf, M.F. Young, L. Schaefer and Z.V. Popovic**. German Cancer Res. Ctr., Univ. Hosp. and Ruprecht-Karls Univ., Heidelberg, Univ. Hosp. Bonn, NIDCR/NIH and Goethe Univ. Clin., Frankfurt am Main.
- 9:15 **136.4** Secondary lymphoid organs and CCR7 are dispensable for intestinal Th17 and Foxp3<sup>+</sup> Treg cell differentiation. **D. Geem, O. Medina, W. Kim, C. Huang, R. Newberry and T.L. Denning**. Emory Univ. and Washington Univ. Sch. of Med.
- 9:30 **136.5** Proinflammatory macrophage ablation in CD11b-diphtheria toxin receptor transgenic mice impairs skeletal muscle regeneration. **H. Wang, L. Porter, Z. Sarwar, L.M. McManus and P.K. Shireman**. Univ. of Texas Hlth. Sci. Ctr. at San Antonio and South Texas Veterans Hlth. Care Syst.
- 9:45 **136.6** Compromised intestinal barrier induces adaptive immune responses that protect from colitis. **M. Khounlotham, W. Kim, E. Peatman, S. Koch, P. Nava, O. Medina-Contreras, A. Nusrat, T.L. Denning and C.A. Parkos**. Emory Univ. and Auburn Univ.

- 10:00 **136.7** A role for galectin-9 in neutrophil trafficking. **D. Cooper, A.J. Iqbal, T. Niki, M. Hirashima and M. Perretti**. Barts and The London Med. Sch., GalPharma Co. Ltd., Kagawa and Kagawa Univ., Japan.
- 10:15 **136.8** Interleukin 10 prevents apoptosis of brain endothelium during bacteremia. **D. Londono and C. Diego**. Massachusetts Gen. Hosp.
- 10:30 **136.9** CX3CR1 regulates intestinal macrophage homeostasis, bacterial translocation and colitogenic TH17 responses in mice. **O. Medina-Contreras, D. Geem, O. Laur, I.R. Williams, S.A. Lira, A. Nusrat, C.A. Parkos and T.L. Denning**. Emory Univ. and Mount Sinai Sch. of Med.
- 10:45 **136.10** Prolyl-oligopeptidase inhibition ameliorates experimental hypertension and decreases inflammatory cytokines in mice lacking angiotensin converting enzyme N domain activity. **F.S. Ong, X.Z. Shen, S. Fuchs and K.E. Bernstein**. Cedars-Sinai Med. Ctr.
- 11:00 **136.11** The role of SOD-2 in a mouse model of multiple sclerosis. **T. Inoue, T. Majid, A. Quick, R.G. Pautler and C. Beeton**. Baylor Col. of Med.
- 11:15 **136.12** Cell surface localization and shedding of the candidate tumor suppressor ligand Ecrq4 after neutrophil activation and polarization. **N. Lopez, X. Dang, M. Krzyzaniak, B. Eliceiri, R. Coimbra and A. Baird**. UCSD.

**137. MECHANISMS OF CARDIAC PATHOBIOLOGY****Minisymposium**

SUN. 8:30 AM—SAN DIEGO CONVENTION CENTER, 15B

CHAired: L.M. BUJA

COCHAired: M.S. WILLIS

**Cardiac Pathobiology**

- 8:30 **137.1** Effects of growth hormone administration on cardiac remodeling process in rats with aortic stenosis-induced heart failure. **A.R.R. Lima, R. Damatto, D. Campos, P. Martinez, D. Guizoni, C. Bonomo, M. Cezar, F. Silva, S. Zanati, A. Campana, K. Okoshi and M. Okoshi**. Botucatu Med. Sch. - UNESP, Brazil.
- 8:45 **137.2** Enhanced aldosterone synthesis and insufficient activation of cyp2c9-EET pathway in the brain play a pivotal role in salt-induced sympathetic activation in mice with pressure overload. **K. Ito, Y. Hirooka and K. Sunagawa**. Kyushu Univ., Japan.
- 9:00 **137.3** Central sympathoinhibition improves left ventricular function and survival during the transition from hypertrophy to heart failure in Dahl salt-sensitive rats. **N. Honda, Y. Hirooka, R. Matsukawa, K. Itou and K. Sunagawa**. Kyushu Univ. Grad. Sch. of Med. Sci., Japan.
- 9:15 **137.4** Effects of maternal nutrition excess on fetal cardiac mitochondrial transcripts and protein at 0.9 g in non-human primates. **S.P. Pereira, P.J. Oliveira, L.A. Cox, P.W. Nathanielsz and M.J. Nijland**. Univ. of Texas Hlth. Sci. Ctr. at San Antonio, Ctr. for Neurosci. and Cell Biol., Coimbra, Portugal and TX Biomed, San Antonio.

- 9:30 **137.5** Absence of microRNA-155 protects against pressure overload-induced cardiac inflammation and failure. **B. Schroen, M. Corsten, B.J. Janssen, E.E. Creemers, Y.M. Pinto, S. Zacchigna, M. Giacca, E. Vigorito, T. Thum, P. Carmeliet, M. Mayr, L. de Windt, E. Lutgens, M. de Winther, A. Papageorgiou and S. Heymans.** Maastricht Univ., Netherlands, Acad. Med. Ctr., Amsterdam, Intl. Ctr. for Genet. Engin. and Biotechnol., Trieste, Babraham Inst., Cambridge, Hannover Med. Sch., Germany, Vesalius Res. Ctr., VIB, and KU Leuven, Belgium and King's Col. London.
- 9:45 **137.6** Muscle RING finger-1 inhibits thyroid receptor $\alpha$  transcriptional activity and thyroid hormone-dependent cardiac hypertrophy. **K.M. Wadosky, M. Zungu, M. Portman and M.S. Willis.** Univ. of North Carolina at Chapel Hill, Univ. of Washington and Seattle Children's Hosp.
- 10:00 **137.7** STIM1 silencing prevents pressure-overload induced cardiac hypertrophy in mice. **L.O. Benard, D. Jeong, D.S. Matasic, E. Kohlbrenner, R.J. Hajjar and J-S. Hulot.** Mount Sinai Sch. of Med.
- 10:15 **137.8** Conduction abnormalities in metabolically stressed CD36 deficient mouse. **M.S. Sulkin, T.A. Pietka, N.A. Abumrad and I.R. Efimov.** Washington Univ. in St. Louis.
- 10:30 **137.9** Insights into anti-cancer agent-induced cardiotoxicity. **P. Weerasinghe, R. Brown and L.M. Buja.** Univ. of Texas Med. Sch. at Houston.
- 10:45 **137.10** Adiponectin deficiency accentuates high fat diet-induced cardiac hypertrophy and contractile dysfunction through regulation of autophagy. **R. Guo and J. Ren.** Univ. of Wyoming Sch. of Pharm.
- 11:00 **137.11** Over expression of dimethylarginine dimethylaminohydrolase-1 slows progression fibrocalcific aortic valve stenosis in hypercholesterolemic mice. **B. Zhang, E.A. Oehler, C.M. Roos, A. Arghami and J.D. Miller.** Mayo Clin.
- 11:15 **137.12** Fibroblast growth factor-2 exerts protective effects on cardiac mitochondria. **W. Srisakuldee, B.E. Nickel and E. Kardami.** Univ. of Manitoba and Inst. Cardiovasc. Sci., Winnipeg.

### 138. 12TH ANNUAL CAREER DEVELOPMENT PROGRAM AND LUNCH: FUNDAMENTAL BASICS FOR SUCCESS: HOW TO WRITE AWARD-WINNING GRANTS

#### Special Session

(Sponsored by: ASIP Committee for Career Development, Women & Minorities, American Association of Anatomists and the FASEB Minority Access to Research Careers)

SUN. 11:45 AM—SAN DIEGO MARRIOTT MARQUIS & MARINA, PRESIDIO 1

CHAired: T.A. REAVES AND J.S. REUBEN

#### Career Development

Have a great idea but can't seem to find a way to bring it to life? Most grant workshops focus on the mechanics of grant writing but for practical advice on translating your scientific brainstorm into fundable research plans, you are invited to attend "Fundamental Basics for Success: How to write award winning grants". This program offers an opportunity for trainees and scientists at all levels to improve their written communication skills. Whether you

are applying for funding from NIH, NSF or private agencies, you will leave this session with tools and strategies that will assist you with your grantsmanship and career development. Come prepared for an informative learning session that will help you jump-start your research enterprise!

Pre-registration is required for this session. A limited number of tickets will be available for purchase in the ASIP Office (San Diego Convention Center, Room 18) on Saturday, April 21 from 3:00pm - 5:00pm and on Sunday, April 22 immediately preceding the luncheon.

- 11:45 Lunch is served.
- 12:00 Introduction and announcements. **T. A. Reaves.** Med. Univ. of South Carolina.
- 12:05 Developing ideas into fundable research grant proposals. **M. S. Willis.** Univ. of North Carolina at Chapel Hill.
- 12:35 Funding mechanisms at NIH and other agencies. **K. K.H. Svoboda.** Texas A&M Hlth. Sci. Ctr./Baylor Col. of Dent.
- 1:05 Grants that get scored...and funded. **C. A. Parkos.** Emory Univ.
- 1:35 Questions and wrap-up. **J. S. Reuben.** Univ. of South Carolina Sch. of Med.-Greenville.

### 139. MOLECULAR AND CELLULAR BASIS OF DISEASE: LIVER PATHOBIOLOGY, SESSION 2: LIVER INJURY, FIBROSIS AND HEPATOCELLULAR CANCER

#### Symposium

(Sponsored by: ASIP Liver Pathobiology Scientific Interest Group)

SUN. 2:00 PM—SAN DIEGO CONVENTION CENTER, 16A

CHAired: S.P. MONGA

#### Liver Pathobiology

- 2:00 Origin and source of myofibroblasts in hepatic fibrosis. **D. Brenner.** UCSD.
- 2:30 FXR and bile acids: roles in liver regeneration and pathogenesis of hepatocellular carcinoma. **U. M. Apte.** Univ. of Kansas Med. Ctr.
- 3:00 Role of S-adenosylmethionine in the pathogenesis, treatment and prevention of hepatocellular carcinoma. **S. C. Lu.** Keck Sch. of Med., Univ. of Southern California.
- 3:30 Novel mechanisms of liver tumorigenesis: biological and therapeutic implications. **S. P.S. Monga.** Univ. of Pittsburgh Med. Sch.
- 4:00 Identification of Shp2 as a tumor suppressor in hepatocarcinoma. **G-S. Feng.** UCSD.
- 4:30 **139.1** A cell permeable hairpin peptide inhibits hepatitis C viral NS5A-mediated translation and virus production. **R. Khachatoorian, V. Arumugaswami, P. Ruchala, E.M. Maloney, S. Raychaudhuri, E. Miao, A. Dasgupta and S.W. French.** UCLA, Northridge and Los Angeles and Cedars-Sinai Med. Ctr.
- 4:45 **139.2** The proton pump inhibition removes alcoholic fatty liver disease via inactivation of TLR signaling pathway. **H. Matsumoto, S. Okazaki, K. Tateda, K. Mizuo, R. Katada, A. Ishizaka and S. Watanabe.** Sapporo Med. Univ. Sch. of Med.

**140. RESOLUTION OF INFLAMMATION****Symposium**

SUN. 2:00 PM—SAN DIEGO CONVENTION CENTER, 17A

CHAired: S.P. COLGAN AND A.S. NEISH

**Inflammation**

- 2:00 Novel mediators and mechanisms in resolution of inflammation, organ regeneration and pain. **C. N. Serhan**. Brigham and Women's Hosp.
- 3:00 Macrophage regulation of resolving inflammation and tissue repair. **W. J. Janssen**. Univ. of Colorado Denver.
- 4:00 Defective inflammation resolution in atherosclerosis. **I. Tabas**. Columbia Univ.

**141. BLOOD VESSEL CLUB****Special Session**

SUN. 2:00 PM—SAN DIEGO CONVENTION CENTER, 16B

CHAired: D.S. MILSTONE

**Vascular Biology**

Many cellular and molecular mechanisms that regulate vasculogenesis and angiogenesis have been elucidated. These include defining the importance of endothelial "tip", "stalk" and "phalanx" cells in vascular sprouting, tube formation and blood flow; the crucial initiating and modulating role of tissue oxygen tension; the contribution of several vascular growth factors and their receptors; identifying intracellular signaling pathways triggered by these and other events; and exploring the importance of the spatio-molecular context and the numerous specific morphogenic signals provided by the extracellular matrix. However, the properties of new blood vessels in physiologic and pathologic settings are complex and distinct and their contributions to the initiation and resolution of both healing and tissue destructive responses remains in many cases enigmatic. While manipulating endogenous and designing exogenous vasculogenic and angiogenic interventions are promising approaches to preventing and treating a wide variety of vascular diseases and to facilitating applications of regenerative medicine success will require new experimental approaches, better understanding of the underlying biologic mechanisms involved and new ways to manipulate the properties of vascular cells and tissues in vitro and in vivo. Blood Vessel Club 2012 will provide a unique setting, consistent with its interactive and less formal origins, to present and discuss the most recent results in these rapidly progressing fields and in other areas of vascular biology. To this end the format will include two "full-length" presentations by investigators advancing the scientific and methodologic boundaries of vascular development and bioengineering plus several shorter presentations of "breaking work" (including "late breaking abstracts") from a variety of laboratories working in these and other areas. Vigorous discussion and debate among the speakers and audience is encouraged.

- 2:00 The angiogenic microenvironment: probing the cellular and molecular interactions that regulate vascular sprouting. **C. C.W. Hughes**. Univ. of California, Irvine.
- 2:45 "Blitzes" chosen from regular and late-breaking abstracts.
- 3:17 Critical signaling pathways in vascular morphogenesis. **L. Iruela-Arispe**. UCLA.
- 4:02 "Blitzes" chosen from regular and late-breaking abstracts.

**142. BREAST CANCER: MOLECULAR TARGETS AND TREATMENT STRATEGIES****Minisymposium**

SUN. 2:00 PM—SAN DIEGO CONVENTION CENTER, 17B

CHAired: P. CARPENTER

COCHAired: I. BARONE

**Neoplasia**

- 2:00 **142.1** Growth of triple negative human breast cancer cells is regulated by the OGF-OGFr axis. **I.S. Zagon, N.K. Porterfield and P.J. McLaughlin**. Penn State Col. of Med.
- 2:20 **142.2** A designer artificial transcription factor stably reprograms cancer cells by targeted DNA methylation. **A.G. Rivenbark, S. Stolzenburg, B.D. Strahl and P. Blancafort**. Univ. of North Carolina at Chapel Hill.
- 2:40 **142.3** Inhibitory effect of adiponectin on breast cancer cell growth: evidences of the crucial role of ER $\alpha$  expression. **L. Mauro, M. Pellegrino, F. De Amicis, C. Giordano and S. Andò**. Univ. of Calabria, Italy.
- 3:00 **142.4** Migration of breast cancer cell lines in response to pulmonary laminin 332: implications for metastasis. **P.M. Carpenter, S.S. Hua, C. Xiao, T. Ngo and P.D. Gershon**. Univ. of California, Irvine, Orange and Irvine.
- 3:20 **142.5** Neuropeptide Y stimulates VEGF production and secretion and promotes angiogenesis in murine and human breast cancer. **P.J. Medeiros and D.N. Jackson**. Univ. of Western Ontario.
- 3:40 **142.6** Kaiso: a key regulator in EMT and cancer progression. **J.D. Jones, H. Wang, P. He, W.E. Grizzle, T. Turner and C. Yates**. Tuskegee Univ. and Univ. of Alabama at Birmingham.
- 4:00 **142.7** Estrogen receptor-positive breast cancer cells drive CAFs to secrete leptin and support tumor invasiveness. **I. Barone, S. Catalano, L. Gelsomino, S. Panza, S. Marsico, C. Giordano, D. Bonofiglio, I. Casaburi, K.R. Covington, S. Fuqua and S. Andò**. Univ. of Calabria, Italy and Baylor Col. of Med.
- 4:20 **142.8** Reprogramming the cancer epigenome by metabolic transduction. **J.S. Byun and K. Gardner**. NCI/NIH.

**143. PULMONARY PATHOBIOLOGY****Minisymposium**

SUN. 2:00 PM—SAN DIEGO CONVENTION CENTER, 15B

CHAired: N. LUKACS AND J. LINDEN

**Pulmonary Pathobiology**

- 2:00 **143.1** Diesel particulate matter induces receptor for advanced glycation end-products expression by pulmonary macrophages. **C.S. Curtis, T.D. Earley and P.R. Reynolds**. Brigham Young Univ.
- 2:15 **143.2** Sulfur mustard aerosol inhalation injury in rat lungs via Fas-mediated apoptosis. **R. Ray, D. Andres, B. Keyser, A. Appell, B. Benton, D. Kniffin and T. Hamilton**. U.S. Army Med. Res. Inst. of Chem. Def., Aberdeen Proving Ground, MD.
- Abstract 143.3 moved to the end of Sunday Poster Session 658.**

- 2:45 **143.4** Capsaicin induces apoptosis in human small cell lung cancer via the TRPV pathway. **C.M. Crabtree, A.M. Dom, J.K. Lau, K.C. Brown, B.S. Shiflett, T.R. Witte, W.E. Hardman and P. Dasgupta.** Joan C. Edwards Sch. of Med., Marshall Univ.
- 3:00 **143.5** ApolipoproteinA-1 expression attenuates cigarette smoke or elastase-generated emphysema in mice. **S-W. Park, E.H. Lee, E-j. Lee, H.J. Kim, A.S. Jang, S-T. Uh, Y.H. Kim and C-S. Park.** Soonchunhyang Univ. Bucheon Hosp., Seoul Hosp. and Cheonan Hosp., South Korea.
- 3:15 **143.6** Inhibition of NOX1 oxidase exacerbates influenza A virus-induced lung inflammation. **S. Selemidis, H.J. Seow, B. Broughton, S. Bozinovski, A. Vinh, J. Stambas, C.G. Sobey, G. Drummond and R. Vlahos.** Monash Univ., Melbourne Univ. and Deakin Univ., Australia.
- 3:30 **143.7** Adenosine A2A receptor activation attenuates Th1 and Th17 polarization in the airway. **H. Pei, R. Ken, N. Huynh and J. Linden.** La Jolla Inst. for Allergy and Immunol.
- 3:45 **143.8** Evidence for proliferation of airway-delivered donor type II cells in lungs of recipient mice following intratracheal bleomycin. **P.M. Wang and W.J. Martin II.** NICHD/NIH.
- 4:00 **143.9** Hyperoxia-induced retinal microvasculopathy correlates with lung injury and inflammation in neonatal mice. **O.J. Mezu-Ndubuisi, N.M. Reddy, J. Wanek, P-y. Teng, M. Shahidi and S.P. Reddy.** Univ. of Illinois at Chicago.
- 4:15 **143.10** Dissecting the fetal development of cystic fibrosis tracheal abnormalities. **D.K. Meyerholz, D.A. Stoltz, P.B. McCray, Jr. and M.J. Welsh.** Univ. of Iowa.

#### 144. ROUS-WHIPPLE AWARD LECTURE

SUN. 5:00 PM—SAN DIEGO CONVENTION CENTER, 16B

##### Vascular Biology

- 5:00 Introduction.
- 5:05 The many roles of VEGF in the adult. **P. A. D'Amore.** Schepens Eye Res. Inst, Harvard Med. Sch.

#### 145. LIVER PATHOBIOLOGY AT CLUB HEPATOMANIA

##### Poster Discussion

(Sponsored by: ASIP Liver Pathobiology Scientific Interest Group)

SUN. 6:30 PM—SAN DIEGO MARRIOTT MARQUIS & MARINA, TORREY PINES 2/3

CHAIRER: S.P. MONGA AND K. NEJAK-BOWEN

##### Liver Pathobiology

Club Hepatomania is the official reception and poster discussion session for the ASIP liver interest group. This informal event brings together established researchers, junior faculty and trainees in the hepatic field, which enables forming new and strengthening old collaborations, networking, exploring job opportunities and at the same time discussing high impact and timely research in the discipline of liver pathobiology.

- P1 **145.1** Platelet derived growth factor receptor  $\alpha$  in liver development. **P. Awuah, A. Misse and S. Monga.** Univ. of Pittsburgh Sch. of Med.

- P2 **145.2**  $\beta$ -Catenin suppression induces CYP2b10 expression by activating CAR activity. **J. Yang, A. Misse and S.P. Monga.** Univ. of Pittsburgh.
- P3 **145.3** Cell proliferation in liver in response to iron overload is dependent on  $\beta$ -catenin in male mice. **S.P. Monga, A. Misse, E. Ramos and T. Ganz.** Univ. of Pittsburgh and UCLA.
- P4 **145.4** Full-length HGF mRNA persists after genetic recombination in mice. **K.N. Nejak-Bowen, A.V. Orr, W.C. Bowen, Jr. and G.K. Michalopoulos.** Univ. of Pittsburgh.
- P5 **145.5** Global gene expression changes in regenerating mouse liver following concurrent inhibition of MET and EGFR. **S. Paranjpe, W. Bowen, V. Bhawe, J. Luo, A. Orr and G. Michalopoulos.** Univ. of Pittsburgh.
- P6 **145.6** Analysis of lymphocyte specific protein-1 expression in normal primary rat hepatocytes and liver following partial hepatectomy. **K. Koral, S. Paranjpe, W. Mars, J. Jongstra and G. Michalopoulos.** Univ. of Pittsburgh and Univ. Hlth. Network, Toronto.
- P7 **145.7** Profiling candidate housekeeping genes for data normalization in chronic ethanol treated rat liver regeneration model. **E. Juskeviciute, R. Vadigepalli and J.B. Hoek.** Thomas Jefferson Univ.
- P8 **145.8** Pharmacological evaluation of IMMMP, a new immunomodulator drug, in chronic liver damage in rat. **L. Rodríguez-Fragoso, U. Osuna Martínez and J. Reyes Esparza.** Autonomous Univ. of State of Morelos, Mexico.
- P9 **145.9** Effect of immunomodulator metalloproteinase in acute toxic hepatitis induced with CCl<sub>4</sub> in rats. **L. Rodríguez-Fragoso, L. Torres-Aguilar and J. Reyes-Esparza.** Autonomous Univ. of State of Morelos, Mexico.
- P10 **145.10** Methionine adenosyltransferase 2A positively regulates Bcl-2 expression in a ubiquitin-conjugating enzyme 9-dependent manner. **M.L. Tomasi and S.C. Lu.** Keck Sch. of Med. of Univ. of Southern California.
- P11 **145.11** Protective effect of *Perilla* leaf extract and its constituents on t-BHP-induced oxidative stress in liver. **S-Y. Yang, C-O. Hong, Y-C. Koo, M-H. Nam and K-W. Lee.** Korea Univ.
- P12 **145.12** LXR agonists protect against saturated fatty acid-induced cytotoxicity in liver cells. **D. Wang, Y. Wei and M. Pagliassotti.** Colorado State Univ.
- P13 **145.13** Fatty acid-mediated endoplasmic reticulum stress in the liver in vivo: differential response to saturated and unsaturated fatty acids. **A. Nivala, L. Reese, E. Hemenway, C. Gentile and M.J. Pagliassotti.** Colorado State Univ.
- P14 **145.14** miR24-2 inhibits human liver cancer growth through Smad2/Smad4-mediated induction of P21/CIP1/WAF1. **D. Lu, C. Han and T. Wu.** Tulane Univ. Sch. of Med. and Tongji Univ. Sch. of Life Sci. and Technol., China.
- P15 **145.15** Structural and functional implications of plakoglobin compensation due to  $\beta$ -catenin loss in the liver. **E.D. Wickline and S.P. Monga.** Univ. of Pittsburgh.
- P16 **145.16** Role of glutamine synthetase as a surrogate marker in predicting  $\beta$ -catenin mutated hepatocellular carcinoma. **J.M. Lee, S. Singh and S.P.S. Monga.** Univ. of Pittsburgh Sch. of Med.
- P17 **145.17** Ethanol and hydrogen peroxide modify the expression of EGFR-Tyr845 in hepatic cells WRL68. **L. Rodríguez-Fragoso, E. Alvarez Ayala and J. Reyes Esparza.** Autonomous Univ. of State of Morelos, Mexico.
- P18 **145.18** Glutamine synthetase plays a dual role in the dependence of human cancer cells from glutamine. **M. Chiu, S. Tardito, R. Franchi Gazzola, M.G. Bianchi, J. Uggeri and O. Bussolati.** Univ. of Parma.



P19 **145.19** Detection and quantification of 7,12-dimethylbenzanthracene in the liver and adipose tissue by HPLC. **P. Jesus, N. Gonçalves, J. Costa, F. Pereira, M. Pereira and S. Cabrita.** Univ. of Coimbra, Portugal.

#### 146. DER SCHADENKLUB—CELL INJURY SCIENTIFIC INTEREST GROUP NETWORKING RECEPTION

(This session is not CME accredited)

##### Poster Discussion

(Sponsored by: ASIP Cell Injury Scientific Interest Group)

SUN. 6:30 PM—SAN DIEGO MARRIOTT MARQUIS & MARINA, MARINA BALLROOM E

CHAired: C.C. YATES-BINDER AND M.S. WILLIS

##### Cell and Tissue Injury

ASIP Cell Injury Scientific Interest Group (SIG) invites all to attend the Cell Injury program event at Experimental Biology 2012. On Sunday, April 22, 2012 from 6:30PM – 8:30PM there will be a social, which will include a poster session featuring cutting-edge research from ASIP investigators. The Cell Injury SIG was created to give a forum for investigators studying how tissues respond to stress by repair, cell death, and remodeling. “Der Schadenklub” will provide complimentary wine and cheese to all in attendance.

- P1 Overexpression of claudin-6, -7 or -9 modifies the activation of MMP-2 and MMP-9. **A.C. Torres Martinez, L.F. Montañó Estrada and E.P. Rendon-Huerta.** Fac. of Med., UNAM, Mexico City. (833.1)
- P2 Response of dorsal root ganglion tissue to chronically stimulated electrodes. **C. Kolarcik, E. Rost, I. Albrecht, X. Luo, K. Catt, D.J. Weber and X.T. Cui.** Univ. of Pittsburgh. (656.10)
- P3 Endotoxin-stimulated hepatic stellate cells promote survival of hepatocytes in endotoxemia by inducing endoplasmic reticulum stress and autophagy. **C.R. Gandhi, C. Huang and D.B. Stolz.** VA Pittsburgh Healthcare Syst. and Univ. of Pittsburgh. (396.2)
- P4 Growth factor retention on decellularized rat liver matrices derived from normal and regenerating liver. **T. Shupe, C. Zimmerman and B.E. Petersen.** Wake Forest Inst. for Regen. Med. (274.10)
- P5 Cellular confluence and cohesion regulates CXCL11/IP9 expression during keratinocyte re-epithelialization. **A.C. Huen and A. Wells.** Univ. of Pittsburgh Med. Ctr. and VA Pittsburgh Healthcare Syst. (56.3)
- P6 L-Glutamine enhances wound healing in human colonic epithelial cells. **S. Benton, L. Hao, D. Merlin, H. Laroui and T.R. Ziegler.** Emory Univ. and Georgia State Univ. (833.5)
- P7 Ethanol and hydrogen peroxide modify the expression of EGFR-Tyr845 in hepatic cells WRL68. **L. Rodríguez-Fragoso, E. Alvarez Ayala and J. Reyes Esparza.** Autonomous Univ. of State of Morelos, Mexico. (145.17)
- P8 Role of HMGB1 in doxorubicin-induced myocardial apoptosis and its regulation pathway. **Y. Yao, G. Zhang, Y. Zhang and T. Rui.** Affiliated People's Hosp. of Jiangsu Univ. and Zhenjiang Inst. of Cardiovasc. Dis., China. (1036.16)
- P9 mdx Mice have a defect in autophagy that is restored by rapamycin-loaded nanoparticle treatment. **A.J. Li, K.P. Bibee, J.N. Marsh, C.C. Wehl and S.A. Wickline.** Washington Univ. in St. Louis. (396.5)
- P10 Phosphorylation of cytokeratin fibers alters their response to mechanical extension. **G. Fois, M. Weimer, E.T. Felder, X. Zheng, B. Tobias, T. Seufferlein, P. Dietl and E. Felder.** Ulm Univ., Ulm Univ. Hosp. and Univ. Clin. for Int. Med. I, Halle, Germany. (656.12)
- P11 Ezrin functionality and ischemia-reperfusion injury in transplantation. **M.J. Mangino, T. Tian and S.L. Lindell.** Virginia Commonwealth Univ. (56.7)
- P12 Modulation of autophagy by bile acids in hepatocytes and liver. **S.J. Manley, G. Guo, U. Apte and W-X. Ding.** Univ. of Kansas Med. Ctr. (396.4)
- P13 Reduction in the intestinal epithelial glutathione redox potential may regulate proliferation in the neonatal murine gut. **A. Richardson, L.S. Myers, S-C. Song, L. Ray, A. Berardinelli, J. Hansen and P.W. Denning.** Emory Univ. Sch. of Med. (833.7)
- P14 Insights into anti-cancer agent-induced cardiotoxicity. **P. Weerasinghe, R. Brown and L.M. Buja.** Univ. of Texas Med. Sch. at Houston. (137.9)
- P15 Impact of adenosine signaling on mutant LRRK2 induced neuronal injury. **E. Steer and C. Chu.** Univ. of Pittsburgh Sch. of Med. (1035.10)
- P16 Heavy metal scavenger metallothionein mitigates deep hypothermia-induced myocardial contractile anomalies: role of autophagy. **S. Jiang and J. Ren.** Univ. of Wyoming. (396.1)
- P17 Anti-inflammatory peptide F markedly reduces oxidized fatty acids in the brain of LDL receptor deficient mouse on a high fat diet. **S. Vazirian, A.D. Navab, L. Vakili, S. Safarpour, M. Haghnegahdar, G. Marvizi, P. Bakhtiari and J. Swartz.** UCLA and UCLA, Bakersfield. (833.6)
- P18 Peritoneal mechanobiology and metastatic success in epithelial ovarian cancer. **R.J. Burkhalter, Y. Liu, M. Marszow, Z. Sun, G.A. Meininger, D. Wagner and M.S. Stack.** Univ. of Missouri-Columbia and Univ. of Notre Dame. (656.11)
- P19 Clozapine induces mitochondrial alterations and the secretion of proinflammatory cytokines in insulin-sensitive cell types. **V. Contreras-Shannon, D.L. Heart, S. Maffi, G. Catano and C. Walss-Bass.** St. Mary's Univ. and Univ. of Texas Hlth. Sci. Ctr. at San Antonio. (833.9)
- P20 The effect of the antipsychotic, clozapine, on monocyte mitochondria function and cytokine production. **D.L. Heart, V. Contreras-Shannon and C. Walss-Bass.** St. Mary's Univ. and Univ. of Texas Hlth. Sci. Ctr. at San Antonio. (833.12)
- P21 Initial lesions of the elastic fibers and extracellular matrix in varicose veins: an immunohistochemical and confocal microscopy study. **J. Regadera, P. Prachaney, G. España, L. Condezo-Hoyos, M. Rubio, M.C. Gonzalez, A.L. Lopez de Pablo and S.M. Arribas.** Autonomous Univ. of Madrid, Fac. of Med., Khon Kaen Univ., Thailand and Hosp. Moncloa, Madrid. (833.15)

## Pharmacology and Experimental Therapeutics

### 147. EMERGING CONCEPTS IN G PROTEIN-DEPENDENT PLC REGULATION AND PHYSIOLOGY

#### Symposium

(Sponsored by: The Division for Molecular Pharmacology)

SUN. 9:30 AM—SAN DIEGO CONVENTION CENTER, 2

CHAired: A. SMRCKA

- 9:30 Kinetic scaffolding mediated by a phospholipase C-beta and Gq signaling complex. **T. K. Harden.** Univ. of North Carolina at Chapel Hill.
- 10:00 Synergistic regulation of phospholipase C beta isoforms as a coincidence detector for GPCR activation. **E. Ross.** Univ. of Texas Southwestern Med. Ctr.
- 10:30 Role for PLC $\beta$ 1b in Gq driven cardiac hypertrophy. **E. Woodcock.** Baker Med. Res. Inst., Prahran, Australis.
- 11:00 PLCe as a localized signal integrator downstream of GPCRs and RTKs. **A. V. Smrcka.** Univ. of Rochester Sch. of Med.
- 11:30 Signaling mechanisms for neutrophil chemotaxis regulation. **D. Wu.** Yale Univ.

### 148. PHARMACOLOGY AND THERAPEUTIC POTENTIAL OF HISTAMINE H3 AND H4 RECEPTOR LIGANDS

#### Symposium

(Sponsored by: The Divisions for Drug Discovery, Development & Regulatory Affairs; Molecular Pharmacology; Neuropharmacology; Behavioral Pharmacology; and Integrative Systems, Translational & Clinical Pharmacology)

SUN. 9:30 AM—SAN DIEGO CONVENTION CENTER, 3

CHAired: R. THURMOND

- 9:30 Pharmacology of histamine receptors. **R. Leurs.** Vrije Univ. Fac. of Sci., Amsterdam.
- 10:00 Therapeutic potential of histamine H3 receptor ligands. **J-C. Schwartz.** Bioprojet Biotech, France.
- 10:30 Molecular and cell biology of the histamine H4 receptor. **T. Werfel.** Hannover Med. Sch., Germany.
- 11:00 Novel antihistamines that target the histamine H4 receptor. **R. L. Thurmond.** Johnson & Johnson Pharmaceut. R&D LLC.
- 11:30 Efficacy of a histamine H3 receptor antagonist (JNJ-39220675) and pseudoephedrine versus placebo in the prophylactic treatment of seasonal allergic rhinitis in an EEC model: randomized, three-way cross-over study. **W. T. Barchuk.** Janssen R&D LLC.

### 149. NEUROPSYCHOLOGICAL CORRELATES OF STIMULANT TREATMENT FOR ADHD IN ADOLESCENTS AND ADULTS

#### Symposium

(Sponsored by: The Divisions for Behavioral Pharmacology and Neuropharmacology)

SUN. 9:30 AM—SAN DIEGO CONVENTION CENTER, 4

CHAired: C. ADVOKAT

- 9:30 What do we know about the cognitive effects of stimulant drugs in adults? **C. Advokat.** LSU.
- 10:00 Chronic methylphenidate treatment in adolescent monkeys: effects on brain dopamine systems and drug reinforcement. **L. J. Porrino.** Wake Forest Univ. Sch. of Med.
- 10:30 Treatment outcome in attention-deficit/hyperactivity disorder, with medication, behavioral treatment, and their combination. **W. E. Pelham, Jr.** Florida Intl. Univ.
- 11:00 Interventions for cognitive control impairments in ADHD: developmental considerations. **J. Schweitzer.** Univ. of California, Davis Sch. of Med.
- 11:30 Acute tolerance to methylphenidate: age-related differences in children, adolescents, and adults. **J. M. Swanson.** Univ. of California, Irvine Sch. of Med.

### 150. ROLE OF PHARMA COGENETICS IN ONCOLOGY

#### Symposium

(Sponsored by: The Divisions for Toxicology; Drug Metabolism; and Integrative Systems, Translational & Clinical Pharmacology)

SUN. 9:30 AM—SAN DIEGO CONVENTION CENTER, 5A

CHAired: E.P. BLACK AND H. SWANSON

- 9:30 Impact of CY2D6 polymorphisms on patient response to tamoxifen. **M. Goetz.** Mayo Clin.
- 10:05 Utilizing gene expression signatures to predict response to targeted therapies in lung and colorectal cancer. **E. P. Black.** Univ. of Kentucky Col. of Pharm.
- 10:40 A personalized medicine case study in NSCLC: crizotinib story. **H. Sakul.** Pfizer.
- 11:15 Activation of AMP-dependent kinase and treatment of lung cancers. **R. G. Moran.** Virginia Commonwealth Univ.
- 11:50 Discussion.

Please Silence Your Cell Phones during Sessions

**151. MULTI-TARGET AGENTS: THE YIN AND YANG OF RATIONAL DRUG DISCOVERY****Symposium**

(Sponsored by: The Divisions for Neuropharmacology; Toxicology; Molecular Pharmacology; and Drug Discovery, Development & Regulatory Affairs)

SUN. 9:30 AM—SAN DIEGO CONVENTION CENTER, 5B

CHAired: A. CROSS AND M.W. WOOD

- 9:30 Chair's introduction.
- 9:35 Navigating the kinome. **M. Vieth.** Lilly Res. Labs.
- 10:10 When simple agonism is not enough: emerging modalities of GPCR ligands. **G. Milligan.** Univ. of Glasgow.
- 10:45 Network pharmacology modeling in systems biology. **A. L. Hopkins.** Univ. of Dundee.
- 11:20 Evaluation and analysis of a dense multifunctional psychiatric drug space. **M. W. Wood.** AstraZeneca Pharmaceut. LP.
- 11:55 Discussion.

**152. BUILDING A PHARMACOLOGY COURSE FROM SCRATCH: BENEFITS AND PITFALLS OF A CUT AND PASTE PHARMACOLOGY COURSE****Symposium**

(Sponsored by: The Division for Pharmacology Education)

SUN. 9:30 AM—SAN DIEGO MARRIOTT MARQUIS & MARINA, MARRIOTT HALL SALON 5

CHAired: J. SZAREK

- 9:30 Coordinating development of a pharmacology course using materials from volunteer faculty across North America. **L. Wojnowski.** Johannes Gutenberg Univ. Mainz, Germany.
- 10:00 Preparing materials for use at sites other than your own medical school. **P. G. Anderson.** Univ. of Alabama at Birmingham.
- 10:30 Facilitating learning anywhere, anytime using mobile devices. **J. Bartlett.** Duke Univ. Med. Ctr.
- 11:00 Does it work? Student and faculty perspectives. **J. L. Szarek.** Commonwealth Med. Col., PA.
- 11:30 Panel discussion. Should we develop a national repository of pharmacology topics? **D. Bailey.** Univ. of Western Ontario.

**153. JULIUS AXELROD LECTURE**

SUN. 2:00 PM—SAN DIEGO CONVENTION CENTER, 2

The Julius Axelrod Award in Pharmacology, presented annually for significant contributions to understanding the biochemical mechanisms underlying the pharmacological actions of drugs and for contributions to mentoring other pharmacologists, was established to honor the memory of the eminent American pharmacologist who shaped the fields of neuroscience, drug metabolism and biochemistry and who served as a mentor for numerous eminent pharmacologists around the world. Dr. Elaine Sanders-Bush was selected for her innovative and rigorous research that has shaped the field of serotonin receptors, GPCR function, and by extension, neuropharmacology in general.

- 2:00 Introduction. **D. Sibley.** NINDS/NIH.
- 2:05 From farm to pharm: a journey with serotonin. **E. Sanders-Bush.** Vanderbilt Univ. Sch. of Med.

**154. JULIUS AXELROD SYMPOSIUM: NOVEL INSIGHTS INTO THE REGULATION OF SEROTONIN FUNCTION****Symposium**

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 2

CHAired: E. SANDERS-BUSH

- 3:00 Modulation of serotonin homeostasis by integrin signaling pathways. **A. Carneiro.** Vanderbilt Univ. Sch. of Med.
- 3:50 Allosteric regulation of serotonin 5-HT<sub>2C</sub> receptor function. **K. A. Cunningham.** Univ. of Texas Med. Branch.
- 4:40 Role of Barrestrins in agonist-directed serotonin 5-HT<sub>2A</sub> receptor signaling in vivo. **L. Bohn.** The Scripps Res. Inst., Jupiter, FL.

**155. THE BEHAVIOR OF PAIN****Symposium**

(Sponsored by: The Divisions for Behavioral Pharmacology; Drug Discovery, Development & Regulatory Affairs; and Neuropharmacology)

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 3

CHAired: T. MARTIN

- 3:00 TBD.
- 3:30 Translating pain research from the laboratory to the clinic. **J. Mao.** Massachusetts Gen. Hosp.
- 4:00 The role of drug self-administration as a tool for preclinical pain research. **T. J. Martin.** Wake Forest Univ. Hlth. Sci.
- 4:30 Pain-depressed behaviors as novel tools for addressing analgesic efficacy in laboratory animals. **S. S. Negus.** Virginia Commonwealth Univ.
- 5:00 Future directions and challenges in the development of novel therapies for pain. **F. Porreca.** Univ. of Arizona Col. of Med.

**Visit The Exhibits**

Sunday–Tuesday

9:00 AM–4:00 PM

### 156. ROLE OF NUCLEAR RECEPTORS IN LIPID DYSREGULATION AND OBESITY-RELATED DISEASES

#### Symposium

(Sponsored by: The Divisions for Drug Metabolism; Integrative Systems, Translational & Clinical Pharmacology; Toxicology)

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 5A

CHAired: J. CHIANG AND H. SWANSON

- 3:00 Introduction. **H. Swanson**. Univ. of Kentucky Col. of Med.  
 3:10 PXR and CAR as therapeutic targets for obesity type 2 diabetes. **W. Xie**. Univ. of Pittsburgh Sch. of Pharm.  
 3:45 Bile acid-activated receptors in regulating lipid and glucose metabolism. **S. Fiorucci**. Univ. of Perugia, Italy.  
 4:20 Tissue specific functions of the farnesoid X receptor in liver and intestine. **G. L. Guo**. Univ. of Kansas Med. Ctr.  
 4:55 Impact of selective estrogen receptor beta ligands on obesity. **R. Narayanan**. GTx, Inc.

### 157. EMERGING ROLE OF HEME OXYGENASE IN CARDIOVASCULAR AND METABOLIC DISEASES

#### Symposium

(Sponsored by: The Divisions for Cardiovascular Pharmacology and Integrative Systems, Translational & Clinical Pharmacology)

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, 5B

CHAired: N. ABRAHAM

- 3:00 Heme oxygenase induced adiponectin upregulation in epicardial fat ameliorates ischemia-induced cardiac dysfunction. **S. J. Peterson**. New York Med. Col.  
 3:20 Molecular regulation of heme oxygenase. **A. Agarwal**. Univ. of Alabama at Birmingham.  
 3:40 EET-agonist regulates mesenchymal stem cell-derived adipocytes through activation of heme oxygenase-1. **N. G. Abraham**. Univ. of Toledo.

- 4:00 Heme oxygenase and blood pressure regulation. **D. E. Stec**. Univ. of Mississippi Med. Ctr.  
 4:20 Role of heme oxygenase and its metabolites in the regulation of cerebral vascular function. **C. Leffler**. Univ. of Tennessee Hlth. Sci. Ctr., Memphis.  
 4:40 NMR EBC metabonomic to assess the nutraceutical effect in COPD: a pilot study of oral administration of a curcumin-based herbal preparation. **G. Scapagnini, N.G. Abraham, S. Davinelli, G. de Laurentiis, D. Paris, D. Melck, A. Motta, S. Matteo and A. Bianco**. Univ. of Molise, Italy and Univ. of Toledo. (239.6)  
 4:55 Insufficient HO1 response to ischemic stress correlates with increased inflammation and reduced survival of EPCs in diabetic patients. **Y. Issan, E. Hochhauser, R. Kornowski, D. Leshem-Lev, E. Lev, R. Sharoni, L. Vanella, N. Puri, M. Laniado-Schwartzman, N.G. Abraham and E. Porat**. Felsenstein Med. Res., Tel Aviv Univ. and Rabin Med. Ctr., Israel, Univ. of Toledo and New York Med. Col. (1114.11)  
 5:10 Discussion.

### 158. ADAPTING TBL TECHNIQUES TO TEACH PHARMACOLOGY TO GRADUATE, PROFESSIONAL AND MEDICAL STUDENTS

#### Symposium

(Sponsored by: The Division for Pharmacology Education)

SUN. 3:00 PM—SAN DIEGO MARRIOTT MARQUIS & MARINA, MARRIOTT HALL SALON 5

CHAired: R.S. KUMAR

- 3:00 Revisiting concepts of Team based learning. Addressing concerns. **R. S. Kumar**. St Matthew's Univ. Sch. of Med., Grand Cayman Islands.  
 3:30 Exploring the advances in technology to augment outcomes in TBL. **J. L. Szarek**. Commonwealth Med. Col., PA.  
 4:00 Use of TBL sessions in an introductory graduate pharmacology courses. **G. Dunaway**. Southern Illinois Univ. Sch. of Med.  
 4:30 Group activity.

## POSTER PRESENTERS: UPLOAD YOUR POSTER

Where: E-Poster Counter, Hall D Lobby

Deadline: Wed., April 25, 3:30 PM

Uploaded posters will be available online to all registered attendees following the meeting at [www.experimentalbiology.org](http://www.experimentalbiology.org)

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## Physiology

### 159. A COMPLEX INTERPLAY COMING TOGETHER TO BUILD THE HEART

#### Symposium

(Sponsored by: APS Cardiovascular Section)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 22

CHAired: M. KRENZ AND L. POLO-PARADA

#### Physiology of Development

- 8:00 Patterns of mechanical forces and cardiac morphogenesis. **B. J. Damon.** Med. Univ. of South Carolina.
- 8:20 Conduction through the developing heart. **D. Sedmera.** Charles Univ., Prague.
- 8:40 Cardiac regional electrical specialization during development. **L. Polo-Parada.** Univ. of Missouri-Columbia.
- 9:00 Growth signaling in the ventricular wall. **M. Krenz.** Univ. of Missouri-Columbia.
- 9:20 Contribution of the lymphatics to building the heart. **M. Watanabe.** Case Western Reserve Univ. Sch. of Med.
- 9:40 Cell layer stratification during valve leaflet maturation. **J. Lincoln.** Nationwide Children's Hosp., The Ohio State Univ.

### 160. AIR POLLUTION — FRIEND OR FOE TO THE CARDIOPULMONARY SYSTEMS?

#### Symposium

(Sponsored by: APS Hypoxia Group)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 28B

CHAired: L. E. WOLD

#### Hypoxia and Oxidative Stress

- 8:00 Air pollution and heart dysfunction in humans and animals. **M. T. Kleinman.** Univ. of California, Irvine.
- 8:30 Pulmonary dysfunction and air pollution. **J. Godleski.** Harvard Sch. of Publ. Hlth.
- 9:00 Variations in susceptibility to air pollution-induced pulmonary health effects. **U. P. Kodavanti.** US EPA, Research Triangle Park.
- 9:30 Mechanisms of air pollution-mediated cardiotoxicity. **L. E. Wold.** The Ohio State Univ.

### 161. BRAIN INSULIN: THE FORGOTTEN METABOLIC PARTNER OF LEPTIN?

#### Symposium

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 24

CHAired: K. RAHMOUNI AND V. BROOKS

- 8:00 Insulin: how your brain uses it to regulate food intake and body weight. **D. J. Clegg.** Univ. of Texas Southwestern Med. Ctr.
- 8:30 The importance of brain insulin action to hepatic glucose metabolism in the conscious dog. **D. S. Edgerton.** Vanderbilt Univ.

9:00 Sympathetic effects of brain insulin: mechanisms and consequences. **K. Rahmouni.** Univ. of Iowa Carver Col. of Med.

9:30 Brain insulin: a master regulator of baroreflex function? **V. Brooks.** Oregon Hlth. & Sci. Univ.

### 162. EMERGING PARADIGMS IN INFLAMMATION AND MICROVASCULAR DYSFUNCTION: NOVEL INSIGHTS AND FUTURE TRENDS

#### Symposium

(Sponsored by: APS Cardiovascular Section)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 28A

CHAired: S. CHAKRABORTY AND M. MUTHUCHAMY

#### Inflammation and Immune Responses

- 8:00 Inflammatory chemokine mediated trafficking of immune cells in atherosclerosis. **G. J. Randolph.** Washington Univ. Sch. of Med.
- 8:30 Immune cells, preconditioning, and prevention of postischemic microvascular dysfunction and parenchymal cell injury. **R. J. Korthuis.** Univ. of Missouri-Columbia.
- 9:00 New perspectives in lymphatic inflammation and immune cell modulation. **D. C. Zawieja.** Texas A&M Hlth. Sci. Ctr. Col. of Med.
- 9:30 Inflammatory responses to cardiovascular risk factors. **D. N. Granger.** LSU Hlth. Sci. Ctr., Shreveport.

### 163. IMMUNE CELLS AND THEIR ROLE IN THE REGULATION OF BLOOD PRESSURE AND SODIUM HOMEOSTASIS

#### Featured Topic

(Sponsored by: APS Water and Electrolyte Homeostasis Section)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 25B

CHAired: P. MARVAR AND K. W. MATHIS

#### Blood Pressure Regulation

#### Inflammation and Immune Responses

- 8:00 Macrophages and salt-dependent volume regulation. **J. Titze.** Nikolaus Fiebiger Ctr. for Molec. Med., Erlangen.
- 8:30 Stress, hypertension, and inflammation. **P. Marvar.** Emory Univ. Sch. of Med.
- 9:00 Alterations of T cell receptor V $\beta$  chain usage in angiotensin II-induced hypertension. **D. Trott, W. Chen and D. Harrison.** Vanderbilt Univ. Med. Ctr. (879.3)
- 9:15 T lymphocytes infiltrating the kidney of Dahl SS rats are activated and differentiated. **N. Rudemiller, H. Lund, C. Guo, M. Flister, C. De Miguel and D.L. Mattson.** Med. Col. of Wisconsin and Georgia Hlth. Sci. Univ. (879.1)

- 9:30 Placental ischemic stimulated CD4<sup>+</sup> T helper cells increase blood pressure and placental and renal oxidative stress during pregnancy. **K. Wallace, J. Scott, S. Novotny, J. Heath, J. Moseley and B. LaMarca.** Univ. of Mississippi Med. Ctr. (879.7)
- 9:45 T lymphocytes promote autoimmune-associated hypertension. **K.W. Mathis, K.L. Wasson, C.W. Masterson and M.J. Ryan.** Univ. of Mississippi Med. Ctr. (879.2)

## 164. INNOVATIVE USE OF TECHNOLOGY FOR TEACHING AND STUDENT ASSESSMENT IN PHYSIOLOGY

### Featured Topic

(Sponsored by: APS Teaching of Physiology Section)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 25A

CHAired: C. GOPALAN

### Education

- 8:00 The use of novel Camtasia videos to improve performance of at-risk students. **C.J. Miller.** Univ. of Louisville. (519.2)
- 8:20 Teaching student to use social media to do scientific research. **J. Krontiris-Litowitz.** Youngstown State Univ. (519.3)
- 8:40 Integrating emerging technologies into formal education for assessment. **K.L. Clase, K. Halverson, J. Rickus and R. Heyden.** Purdue Univ., Univ. of Southern Mississippi and Educ. Consultant, Boston. (519.1)
- 9:00 Integration of technology and science education: a collaborative workshop for instructors. **B.C. Hurtt, B.H. Kipp and K. Dutta.** McGraw-Hill Higher Educ., IA, Grand Valley State Univ., MI and Univ. of New England, ME. (519.4)
- 9:20 Technology in teaching physiology using team-based learning. **C. Gopalan.** St. Louis Col. of Pharm.

## 165. MICRORNAs IN HUMAN DISEASE AND AS NOVEL THERAPEUTICS

### Symposium

(Sponsored by: APS Physiologists in Industry Committee)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 27

CHAired: R. L. PERSINGER

COCHAired: J. T. LILES

### Translational Physiology

- 8:00 microRNA control of human disease. **D. MacKenna.** Regulus Therapeutics.
- 8:30 microRNAs as novel therapeutics in cardiovascular disease. **E. van Rooij.** Miragen Therapeutics.
- 9:00 Therapeutic microRNA targets in cancer. **E. G. Marcusson.** Regulus Therapeutics.
- 9:30 microRNA regulation of acute kidney injury and renal failure. **Z. Dong.** Georgia Hlth. Sci. Univ.

## 166. PUBLISHING 101: HOW TO GET YOUR WORK PUBLISHED IN APS JOURNALS AND AVOID MINEFIELDS ALONG THE WAY

### Symposium

(Sponsored by: APS Publications Committee)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 25C

CHAired: H. RAFF AND R. SCHEMAN

### Career Development

- 8:00 Preparing your work for publication in APS journals: choosing a journal, authorship and peer review. **H. Raff.** Med. Col. of Wisconsin.
- 8:30 Ethical minefields I: plagiarism and data duplication. **K. Barrett.** UCSD.
- 8:50 Ethical minefields II: image manipulation. **C. Bennett.** APS.
- 9:10 Meet the Editors Panel. **A. Greene and W. Stanley.** Med. Col. of Wisconsin and Univ. of Maryland Baltimore.

## 167. RED BLOOD CELL MECHANISMS OF TISSUE BLOOD FLOW CONTROL: PHYSIOLOGICAL INSIGHTS IN HEALTH AND DISEASE

### Symposium

(Sponsored by: The Physiological Society, UK — *The Journal of Physiology*)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 26

CHAired: J. GONZÁLEZ-ALONSO

- 8:00 Regulation of blood flow distribution in skeletal muscle: role of erythrocyte-released ATP. **M. L. Ellsworth.** St. Louis Univ.
- 8:30 Contribution of erythrocyte-derived NO metabolites to vasodilatation of the human circulation. **R. Patel.** Univ. of Alabama at Birmingham.
- 9:00 ATP as a mediator of erythrocyte-dependent regulation of skeletal muscle blood flow in humans. **J. González-Alonso.** Brunel Univ., U.K.
- 9:30 Contribution of intravascular versus interstitial ATP and NO metabolites in the regulation of human skeletal muscle blood flow. **Y. Hellsten.** Univ. of Copenhagen.

## 168. STEM CELL BIOLOGY 2012: BASIC SCIENCE AND TRANSLATIONAL ADVANCES

### Symposium

(Sponsored by: The Society for Experimental Biology and Medicine)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 20A

CHAired: M. L. ADOMO AND M. J. FRIEDLANDER

### Translational Physiology

- 8:00 Nonhuman primate induced pluripotent stem cells in regenerative medicine. **P. Hornsby.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.

- 8:30 Generation of clinically-compliant dopaminergic neurons from pluripotent stem cells for Parkinson's disease therapy. **X. Zeng**. Buck Inst. for Res. on Aging.
- 9:00 Use of stem cells for islet regeneration in diabetes. **R. Kulkarni**. Joslin Diabetes Ctr.
- 9:30 Tissue-specific stem cells in aging and cancer. **A. Wagers**. Joslin Diabetes Ctr.

### 169. TRANSLATIONAL BIOMARKERS OF HYPERTENSION: INSIGHTS FROM ANIMAL MODELS

#### Featured Topic

(Sponsored by: APS Physiological Genomics Group)

SUN. 8:00 AM—SAN DIEGO CONVENTION CENTER, 23

CHAired: B. JOE

#### Blood Pressure Regulation

#### Inflammation and Immune Responses

- 8:00 Lessons from rat knockout and related genetically-engineered models of hypertension. **H. Jacob**. Med. Col. of Wisconsin.
- 8:25 Progress on positional cloning and validation of genomic biomarkers of hypertension. **B. Joe**. Univ. of Toledo Col. of Med.
- 8:45 Genetic regulation and functional relevance of the *p67<sup>phox</sup>* gene in salt-sensitive hypertension. **D. Feng, C. Yang, J. Lazar, D.L. Mattson, P. O'Connor and A.W. Cowley, Jr.** Med. Col. of Wisconsin. (874.1)
- 9:00 Mapping a novel blood pressure quantitative trait locus within a congenic strain spanning a single annotated gene containing segment on rat chromosome 10. **R. Pillai, S. Kumarasamy, Y. Nie, S.Y. Woolwine, P. Farms, K. Gopalakrishnan and B. Joe**. Univ. of Toledo Col. of Med. and Life Sci. (874.2)
- 9:15 Long-term interactions between the ACE/Ang II/AT1a receptor axis and the ACE2/Ang(1-7)/Mas receptor axis in wild-type C57BL/6J and AT1a receptor-knockout mice. **B.N. Ellis, X.C. Li, E. Miguel-Qin and J.L. Zhuo**. Univ. of Mississippi Med. Ctr. (874.3)
- 9:30 (Pro)renin receptor deletion prevents the development of DOCA-salt hypertension in neuron-specific (pro)renin receptor knockout mice. **W. Li, H. Peng, A. Ichihara and Y. Feng**. Tulane Univ. and Tokyo Women's Med. Univ. (874.4)
- 9:45 The GNAI2 gene: a candidate biomarker of hypertension that determines salt-resistance versus salt-sensitivity in rat models. **R.D. Wainford and D.R. Kapusta**. LSU Hlth. Sci. Ctr., New Orleans and Boston Univ. (874.5)

### 170. AUTONOMIC CONTROL OF VISCERAL FUNCTIONS

#### Featured Topic

(Sponsored by: APS Neural Control and Autonomic Regulation Section)

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 25C

CHAired: R. A. TRAVAGLI

- 10:30 Brainstem control of cardiovascular regulation and homeostasis. **M. C. Andresen**. Oregon Hlth. & Sci. Univ.
- 11:00 Plasticity of brainstem circuits controlling gastrointestinal functions. **K. N. Browning**. Penn State Col. of Med.
- 11:30 Central TRPV1 signaling regulates systemic blood glucose levels and hepatic PEPCK protein expression. **J.D. O'Hare, K. Miyata, T.L. Fourrier, A.M. Krantz, A.V. Derbenev and A. Zsombok**. Tulane Univ. (701.5)
- 11:45 Hydrogen peroxide modulates membrane properties in second-order nucleus tractus solitarius neurons. **T.D. Ostrowski, E.M. Hasser, C.M. Heesch and D.D. Kline**. Univ. of Missouri-Columbia. (701.7)
- 12:00 Calcium permeability in NMDA receptors in NTS baroreceptive neurons is not decreased at low temperature in Syrian hamsters, a hibernating species. **S-i. Sekizawa, J. Horowitz, B. Horwitz and C. Chen**. Univ. of California, Davis. (701.4)
- 12:15 POMC-GLP-2R signaling and action in the control of feeding behavior and gastric motility. **X. Guan, X. Shi, D. Li, X. Li, Y. Wang, B. Chang and L. Chan**. Baylor Col. of Med. and Univ. of Texas MD Anderson Cancer Ctr. (701.16)

### 171. CLAUDE BERNARD DISTINGUISHED LECTURESHIP OF THE APS TEACHING OF PHYSIOLOGY SECTION

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 27

#### Education

Title: Reflections on the Teaching and Learning of Science in the Late 20<sup>th</sup> and Early 21<sup>st</sup> Centuries

Speaker: **W. Galey**. HHMI, Chevy Chase.

### 172. CONTROL OF VASCULAR TONE BY EXTRALUMINAL NUCLEOTIDES

#### Symposium

(Sponsored by: APS Cardiovascular Section)

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 26

CHAired: B. S. KIRBY AND S. P. MORTENSEN

#### Blood Pressure Regulation

- 10:30 Sympathetic activation by purinergic receptors in humans. **L. I. Sinoway**. Penn State Univ. Col. of Med.
- 11:00 Contribution of P2 receptors to the exercise pressor reflex. **M. P. Kaufman**. Penn State Col. of Med.
- 11:30 Role of interstitial nucleotides in skeletal muscle vasodilation. **M. Nyberg**. Univ. of Copenhagen.

**Visit The Exhibits**

Sunday–Tuesday

9:00 AM–4:00 PM

12:00 Adenosine and related substances in exercise hyperemia. **J. M. Marshall.** The Med. Sch., Birmingham, U.K.

### 173. DISRUPTION TO CENTRAL SYMPATHETIC CONTROL MECHANISMS: IMPLICATIONS FOR OBESITY-RELATED HYPERTENSION

#### Featured Topic

(Sponsored by: APS Central Nervous System Section)

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 22

CHAired: D. D. SARTOR AND S. D. STOCKER

#### Blood Pressure Regulation

##### Central Control of Homeostasis

- 10:30 Sympathetic nervous system overactivity in human obesity—causes and consequences. **E. Lambert.** Baker IDI Heart and Diabetes Inst., Melbourne.
- 11:00 Flip side: are attenuated sympathoinhibitory responses in obesity linked to hypertension? **D. Sartor.** Univ. of Melbourne.
- 11:30 Inhibition of brain endoplasmic reticulum stress attenuates hypertension in diet-induced obesity. **A.L. Mark, C.N. Young, S.D. Butler, M. Guraju and R.L. Davisson.** Weill Cornell Med. Col., Univ. of Iowa and Cornell Univ. (705.1)
- 11:45 Enhanced activation of sympathetic nerve activity and arterial pressure by the hypothalamic paraventricular nucleus in obese Zucker rats. **D.A. Huber and A.M. Schreihof.** Univ. of North Texas Hlth. Sci. Ctr. (705.3)
- 12:00 Arcuate nucleus injection of anti-insulin affibody prevents sympathetic response to circulating insulin. **B. Luckett, J. Frielle, L. Wolfgang and S.D. Stocker.** Penn State Col. of Med. and Gettysburg Col. (705.5)
- 12:15 Role of leptin and insulin on renal sympathetic nerve activity in high fat fed rabbits. **K. Lim, S.L. Burke, B. Barzel, J.A. Armitage and G.A. Head.** Baker IDI Heart & Diabetes Inst., Melbourne and Monash Univ., Australia. (705.6)

### 174. FRONTIERS IN MECHANOBIOLOGY

#### Symposium

(Sponsored by: The Biomedical Engineering Society)

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 24

CHAired: S. CHIEN AND T. HSIAI

- 10:30 The role of myosin II motors and F-actin dynamics in the mechanics of cell migration and invasion. **J. C. Lasheras.** UCSD.
- 10:55 Mechanobiology as a tool in the design of biological machines. **W. J. Polacheck.** MIT.
- 11:20 Mechanosensitive miRNAs and their role in atherosclerosis. **H. Jo.** Georgia Tech.
- 11:45 Glyco-mechanobiology in the vasculature. **S. Simon.** Univ. of California, Davis.
- 12:10 Hemodynamics and the initiation of abdominal aortic aneurysm formation. **W. R. Taylor.** Emory Univ. and Georgia Tech.

### 175. HUGH DAVSON DISTINGUISHED LECTURESHIP OF THE APS CELL AND MOLECULAR PHYSIOLOGY SECTION

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 20A

CHAired: M. KNEPPER

#### Transporters and Ion Channels

Title: After the Interlude: Cell-Level Systems Biology in the 21st Century

Speaker: **M. A. Knepper.** NHLBI/NIH.

### 176. HYPERTENSION: MECHANISMS AND CONSEQUENCES

#### Featured Topic

(Sponsored by: APS Water and Electrolyte Homeostasis Section)

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 25B

CHAired: C. MORENO-QUINN AND E. M. GEORGE

#### Blood Pressure Regulation

- 10:30 Modulation of transient receptor potential canonical channel 3 activity by a novel pharmacological agonist and antagonist in normotensive and hypertensive rats. **C.G. Schnackenberg, M.H. Costell, R.E. Bernard, X. Xu, D.G. Washburn, S. Manns and J.P. Marino, Jr.** GlaxoSmithKline. (875.1)
- 10:45 Relaxin lowers plasma levels of asymmetric dimethylarginine during chronic angiotensin II infusion. **J.M. Sasser, M.W. Cunningham and C. Baylis.** Univ. of Florida. (875.6)
- 11:00 Deletion of the antioxidant enzyme methionine sulfoxide reductase-A impairs autonomic regulation and exacerbates angiotensin-induced hypertension and end-organ damage. **R. Sabharwal, R.N. El Accaoui, M.K. Davis, J.A. Goeken, R.M. Weiss, F.M. Abboud, D.K. Meyerholz and M.W. Chappelle.** Univ. of Iowa and VA Med. Ctr. (875.7)
- 11:15 Identifying Plekha7, an adherens junction protein, as a regulator of protein excretion in the kidney. **B. Endres, C. Moreno, J. Lombard, H.J. Jacob and A. Geurts.** Med. Col. of Wisconsin. (875.8)
- 11:30 Role of the sympathetic nervous system in mediating hypertension in a model of polycystic ovary syndrome in rats. **R. Lima, R. Maranon and J.F. Reckelhoff.** Univ. Estad. de Cien. da Saude de Alagoas, Brazil and Univ. of Mississippi Med. Ctr. (875.14)
- 11:45 Mice with targeted deletion of NBCe2 are hypertensive. **H. Damkier, A. Rojek, H.L. Christensen, N.K. Iversen, E-M. Füchtbauer, T. Wang and J. Praetorius.** Aarhus Univ., Denmark. (875.4)
- 12:00 Activation of Na<sup>+</sup>/H<sup>+</sup> exchanger in the macula densa enhances tubuloglomerular feedback in spontaneously hypertensive rats. **Y. Fu, Y. Lu, Y. Ge, L.A. Juncos and R. Liu.** Univ. of Mississippi Med. Ctr. (875.12)
- 12:15 The PPAR- $\gamma$  agonist rosiglitazone increases angiotensin-converting enzyme 2 promoter activity in neurons. **M. Scroggin, K.B. Pedersen and E. Lazartigues.** LSU Hlth. Sci. Ctr., New Orleans. (875.13)



## 177. LUNG ION CHANNELS AND FLUID HOMEOSTASIS

### Featured Topic

(Sponsored by: APS Respiration Section)

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 25A

CHAired: S. Matalon and W. Kuebler

### Transporters and Ion Channels

- 10:30 Regulation of alveolar fluid transport by gaseous mediators. **R. Morfy**. Univ. of Giessen Lung Ctr.
- 10:45 Regulation of lung epithelial ion channels by hypochlorous acid. **A. Lazrak**. Univ. of Alabama at Birmingham.
- 11:00 NADPH oxidase regulates alveolar epithelial sodium channel activity and lung fluid balance in vivo via O<sub>2</sub>-signaling. **M.N. Helms, P. Goodson, L. Jain and M. Koval**. Emory Univ. (696.4)
- 11:15 Active transepithelial Cl<sup>-</sup> secretion promotes hydrostatic lung edema. **E.A. Solymosi, S.M. Kaestle, I. Vadász, L. Wang, R. Morfy and W.M. Kuebler**. Charité, Berlin, St. Michael's Hosp., Toronto, Univ. of Giessen Lung Ctr., German Heart Inst., Berlin and MPI Heart and Lung Res., Bad Nauheim. (696.10)
- 11:30 Regulation of ion transport and ASL height by the anti-inflammatory mediator, lipoxin A4 in normal and cystic fibrosis bronchial epithelium. **V. Urbach, G. Higgins, M. Al-Alawai, R.W. Costello, P. McNally, V. Verriere and B.J. Harvey**. Natl. Children Res. Ctr., Dublin and Royal Col. of Surgeons, Ireland. (696.9)
- 11:45 Influenza M2 inhibits CFTR activity through its ion channel function. **J.D. Londino, C. Atkins, J. Noah, A. Lazrak and S. Matalon**. Univ. of Alabama at Birmingham and Southern Res. Inst. (696.8)
- 12:00 Role of matrix metalloproteinases 2 and 9 in TRPV4-induced lung injury. **P.C. Villalta, P. Rocic and M.I. Townsley**. Univ. of South Alabama. (696.12)
- 12:15 Mechanosensing by K<sub>ATP</sub> channels and PECAM-1 contributes to superoxide generation in mouse model of lung ischemia. **J. Noel, N. Hong, K. DeBolt, A.B. Fisher and S. Chatterjee**. Univ. of Pennsylvania. (696.13)

## 178. MICROVASCULAR PERMEABILITY: PARACELLULAR VERSUS TRANSCELLULAR TRANSPORT

### Featured Topic

(Sponsored by: APS Cardiovascular Section)

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 28A

CHAired: D. Lominadze and M. O'Donnell

- 10:30 Introduction.
- 10:35 Blood-brain barrier ion transporters in cerebral ischemia. **M. O'Donnell**. Univ. of California, Davis.
- 10:55 Paracellular occludin oligomeric assemblies at tight junctions of the blood brain barrier are altered by central and peripheral pathologies. **T. P. Davis**. Univ. of Arizona Col. of Med.

- 11:15 Co-regulation of transcellular and paracellular leak across microvascular endothelium by dynamin and Rac. **W.L. Lee, S. Armstrong, V. Khajooe, C. Wang, T. Wang, J. Tigdi, J. Yin, W.M. Kuebler, M. Gillrie, S. Davis and M. Ho**. Univ. of Toronto and Univ. of Calgary, Canada. (862.1)
- 11:30 Sphingolipids signal rapid loss of P-glycoprotein transport activity at the blood-brain barrier. **D.S. Miller, C.R. Campos, B.T. Hawkins and R. Cannon**. NIEHS/NIH, Research Triangle Park and Univ. of Washington Sch. of Med. (862.2)
- 11:45 Increased formation of functional caveolae due to increased content of fibrinogen. **N. Muradashvili, S.J. Khundmiri, R.L. Benton and D. Lominadze**. Univ. of Louisville. (862.3)
- 12:00 Novel role of local lamellipodia in endothelial barrier function. **J.W. Breslin**. LSU Hlth. Sci. Ctr., New Orleans. (862.6)
- 12:15 Infection of human pericytes by HIV-1 disrupts the integrity of the blood-brain barrier. **M. Toborek and S. Nakagawa**. Univ. of Miami Miller Sch. of Med. and Univ. of Kentucky Med. Ctr. (862.7)

## 179. MOLECULAR AND CELLULAR THERAPY FOR CARDIOVASCULAR DISEASE

### Symposium

(Sponsored by: APS Physiological Genomics Group)

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 23

CHAired: Z. Sun and S. C. Mockrin

- 10:30 ACE2 as a novel target for CVD therapeutics. **M. K. Raizada**. Univ. of Florida Col. of Med.
- 10:50 Klotho: a novel therapeutic target for cardiovascular disease. **Z. Sun**. Univ. of Oklahoma Hlth. Sci. Ctr.
- 11:20 Next generation regenerative therapies. **A. Terzic**. Mayo Clin.
- 11:40 Anti-hypertrophic actions of cardiac overexpression of BNP and CD-NP. **Y. Ikeda**. Mayo Clin.
- 12:00 National Heart, Lung, and Blood Institute resources to advance molecular and cellular therapies. **S. C. Mockrin**. NHLBI/NIH.

## 180. THE ROLE OF OXYGEN METABOLISM FOR THE DEVELOPMENT OF KIDNEY DISEASE

### Symposium

(Sponsored by: APS Renal Section)

SUN. 10:30 AM—SAN DIEGO CONVENTION CENTER, 28B

CHAired: F. Palm and P. K. Carmines

### Hypoxia and Oxidative Stress

#### Translational Physiology

- 10:30 Renal oxygen metabolism in health and disease. **F. Palm**. Georgetown Univ.
- 11:00 Deranged oxygen metabolism in the renal complications of diabetes. **J. S. Pollock**. Georgia Hlth. Sci. Univ.
- 11:30 Oxygen metabolism and hypertensive kidney damage. **W. J. Welch**. Georgetown Univ.

12:00 Hypoxia inducible factor in chronic kidney disease and renal cell carcinoma. **M. Nangaku**. Univ. of Tokyo Sch. of Med.

### 181. ENDOPLASMIC RETICULUM STRESS AND VASCULAR PHYSIOPATHOLOGY

#### Symposium

(Sponsored by: APS Endocrinology and Metabolism Section)

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, 28B

CHAired: K. MATROUGI AND E. WILSON

#### Inflammation and Immune Responses

- 3:30 Endoplasmic reticulum stress and microvascular dysfunction in hypertension. **K. Matrougui**. Tulane Univ.
- 4:00 Regulation of the UPR in obesity-induced type 2 diabetes. **L. Larose**. McGill Univ.
- 4:30 The role of ER stress/UPR in the microvascular endothelial dysfunction. **M. Trojanowska**. Boston Univ.
- 5:00 Unfolded protein response in the vascular wall. **S. Karabina**. Univ. of Pierre and Marie Curie, Paris.

### 182. ERNEST H. STARLING DISTINGUISHED LECTURESHIP OF THE APS WATER AND ELECTROLYTE HOMEOSTASIS SECTION

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, 24

Title: The Female Paradox: Resistance and Vulnerability in Hypertension and Renal Vascular Disease

Speaker: **K. Sandberg**. Georgetown Univ.

### 183. FUNCTIONAL INTEGRATION IN THE HYPOTHALAMIC PARAVENTRICULAR NUCLEUS

#### Symposium

(Sponsored by: APS Central Nervous System Section)

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, 28A

CHAired: A. WATTS AND G. AGUILERA

#### Transporters and Ion Channels

#### Central Control of Homeostasis

- 3:30 Regulation of CRH gene transcription in neuroendocrine neurons. **G. Aguilera**. NICHD/NIH.
- 4:00 Signaling mechanisms that coordinate synthesis and release programs in paraventricular neuroendocrine neurons. **A. Watts**. Univ. of Southern California.
- 4:30 Inter-population signaling mechanisms within the paraventricular nucleus: role in the generation of coordinated neurohumoral homeostatic responses. **J. Stern**. Georgia Hlth. Sci. Univ.
- 5:00 Paraventricular pre-autonomic neurons and cardiovascular function. **G. M. Toney**. Univ. of Texas Hlth. Sci. Ctr. at San Antonio.

### 184. MICROCIRCULATORY SOCIETY LANDIS AWARD LECTURE

(Sponsored by: The Microcirculatory Society)

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, 23

Title: Tales from the Microcirculation: Oxygen Transport and Its Regulation

Speaker: **R. N. Pittman**. Virginia Commonwealth Univ.

### 185. NCAR TRAINEE FEATURED TOPIC

#### Featured Topic

(Sponsored by: APS Neural Control and Autonomic Regulation Section)

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, 22

CHAired: J. CARTER AND R. SABHARWAL

- 3:30 ACE2 shedding: a new mechanism for neurogenic hypertension. **H. Xia, S. Sriramula, M. Scroggin, K. Chhabra and E. Lazartigues**. LSU Hlth. Sci. Ctr., New Orleans. (893.1)
- 3:45 Neuronal uptake and subcellular localization of functional nanoformulated copper/zinc superoxide dismutase. **E.G. Rosenbaugh, D.S. Manickam, E.V. Batrakova, A.V. Kabanov and M.C. Zimmerman**. Univ. of Nebraska Med. Ctr. (893.2)
- 4:00 Greater autonomic support of blood pressure in older women. **J.N. Barnes, E.C. Hart, T.B. Curry, W.T. Nicholson, J.H. Eisenach, B.G. Wallin, N. Charkoudian and M.J. Joyner**. Mayo Clin., Sahlgren Acad., Gothenburg Univ., Sweden and U.S. Army Res. Inst. of Environ. Med., Natick, MA. (893.11)
- 4:15 Sex differences in sympathetic neural responses to 24-hour sleep deprivation in humans. **H. Yang, J.J. Durocher, R.A. Larson, J.P. DellaValla and J.R. Carter**. Michigan Technol. Univ. and Androscoggin Valley Hosp., Berlin, NH. (893.12)
- 4:30 Low-dose aspirin augments carotid-cardiac baroreflex sensitivity during concurrent muscle mechanoreflex and metaboreflex activation in humans. **R. Drew, M.D. Muller, M. Herr, C. Blaha, J. Mast, T. Nicklas and L.I. Sinoway**. Penn State Col. of Med. (893.13)
- 4:45 Role of group 1 metabotropic glutamate receptors in the hypothalamic paraventricular nucleus in sympathetic and blood pressure control during water deprivation. **W. Holbein, M. Bardgett, M.A. Andrade, M. Herrera-Rosales, A.S. Calderon and G.M. Toney**. Univ. of Texas Hlth. Sci. Ctr. at San Antonio. (893.3)
- 5:00 (Pro)renin receptor over-expression induces angiotensin II-independent NADPH oxidase activation through PI3K - ERK signaling in neuronal cells. **H. Peng, W. Li, D. Seth, N.L. Gabriel and Y. Feng**. Tulane Univ. (893.4)
- 5:15 Downregulation of AT1 receptor in the RVLM induced by mesenchymal stem cells treatment prevent the hypertension and sympathetic hyperactivity in 2K-1C Wistar rats. **E.B. Oliveira-Sales, E. Maquigussa, P. Semedo, L.G. Oliveira, N.O.S. Câmara, C.T. Bergamaschi, M.A. Boim and R.R. Campos**. Fed. Univ. of São Paulo. (893.5)

**186. STRESS-RELATED RESPIRATORY DISORDERS: FROM CLINICAL MANIFESTATIONS TO ABNORMAL CHEMOSENSITIVITY**

- 4:30 WNK1 activates SGK1 to regulate ENaC activity. **M. H. Cobb**. Univ. of Texas Southwestern Med. Ctr.  
 5:00 WNK activates NCC through SPAK/OSR1 kinase. **P. A. Welling**. Univ. of Maryland Sch. of Med.

**Symposium***(Sponsored by: APS Respiration Section)*

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, 25A

CHAired: L. GARGAGLIONI AND R. KINKEAD

**Physiology of Development**

- 3:30 Neuroendocrine response to stress and respiratory regulation: in search of intersections. **R. Kinkead**. Laval Univ., Canada.  
 4:00 Panic disorder, separation anxiety, early separation, suffocation alarm, opiodergic system. **D. Klein**. Columbia Univ.  
 4:30 Panic disorder: response to respiratory challenge tests and acute and long-term treatment. **A. Nardi**. Fed. Univ. of Rio de Janeiro.  
 5:00 The locus coeruleus: a gateway to understanding stress-related respiratory disorders. **L. Gargaglioni**. Sao Paulo State Univ.

**187. SYSTEMS BIOLOGY OF CARDIOVASCULAR GENOMES AND PROTEOMES****Symposium***(Sponsored by: APS Cardiovascular Section)*

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, 26

CHAired: J. LOSCALZO AND T. VONDRISKA

**Translational Physiology**

- 3:30 Systems analyses of oxidant stress in the vasculature. **J. Loscalzo**. Brigham and Women's Hosp./Harvard Med. Sch.  
 4:00 Implications of genomic networks for pathogenesis of atherosclerosis. **A. J. Lusis**. UCLA.  
 4:30 Stem cell-based cardiac repair: a systems perspective. **A. Terzic**. Mayo Clin.  
 5:00 Proteomic analysis of cardiac disease: mechanistic insights. **J. Van Eyk**. Johns Hopkins Sch. of Med.

**188. THE ROLE OF NOVEL WNK SIGNALING PATHWAY IN THE REGULATION OF SODIUM CHANNEL AND TRANSPORTERS****Symposium***(Sponsored by: APS Cell and Molecular Physiology Section)*

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, 25B

CHAired: H. CAI

**Transporters and Ion Channels**

- 3:30 WNK regulates NKCC through SPAK/OSR1 kinase. **E. Delpire**. Vanderbilt Univ. Med. Ctr.  
 4:00 WNK4 regulates NCC through a ERK1/2 signaling pathway. **H. Cai**. Emory Univ. Sch. of Med.

**189. WHAT DO COMPETENCIES HAVE TO DO WITH MY TEACHING?****Symposium***(Sponsored by: APS Teaching of Physiology Section)*

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, 25C

CHAired: V.L. MCCLEARY AND K.A. SUKALSKI

**Education**

- 3:30 Introduction. **V. L. McCleary**. Univ. of North Dakota Sch. of Med. and Hlth. Sci.  
 3:40 Historical overview of competencies. **K. A. Sukalski**. Univ. of North Dakota Sch. of Med. and Hlth. Sci.  
 3:50 Panel discussion: Administrative perspectives of competencies. **J. M. Matz, V. L. McCleary, K. A. Sukalski and D.U. Silverthorn**. Mercy Col. of Hlth. Sci., IA, Univ. of North Dakota and Univ. of Texas at Austin.  
 4:10 How competencies shape my teaching. **J. M. Matz, V. L. McCleary, K. A. Sukalski**. Mercy Col. of Hlth. Sci., IA, Univ. of North Dakota.  
 4:45 The time project. **D. U. Silverthorn**. Univ. of Texas at Austin.  
 5:00 Small group discussions led by presenters.  
 5:20 Questions/summary.

**190. YOUNG INVESTIGATOR AWARD FEATURED TOPIC: REGULATION OF TRANSPORT KIDNEY INTERCALATED CELLS****Featured Topic***(Sponsored by: APS Renal Section)*

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, 27

CHAired: N. PASTOR-SOLER AND S. PETROVIC

**Translational Physiology****Transporters and Ion Channels**

- 3:30 Vacuolar H<sup>+</sup>-ATPase regulation by kinases in kidney intercalated cells. **N. Pastor-Soler**. Univ. of Pittsburgh.  
 4:00 Physiological aspects of renal K<sup>+</sup>:Cl<sup>-</sup> cotransporters regulation. **Z.C. Melo, N. Vazquez, G. Gamba and A. Mercado**. Natl. Inst. of Med. Sci. and Nutr. Salvador Zubirán UNAM and Natl. Inst. of Cardiol. Ignacio Chávez, Mexico City. **(867.32)**  
 4:15 Bicarbonate transport drives Na-independent K secretion via BK- $\alpha/\beta$ 4 in  $\beta$ -intercalated cells. **R.J. Cornelius, L.I. Hatcher, K.M. Echtenkamp, J.I. Contreras and S.C. Sansom**. Univ. of Nebraska Med. Ctr. and Univ. of Nebraska at Omaha. **(867.3)**  
 4:30 K<sup>+</sup> homeostasis is maintained with knockdown of big-conductance K<sup>+</sup> channel in principal cells of connecting tubule/collecting duct. **T. Rieg, R. Lukowski, J.A. Dominguez, M. Sharik, P. Ruth and V. Vallon**. UCSD, VA San Diego Healthcare Syst., Univ. of Tübingen and Univ. of Colorado Anschutz Med. Campus. **(867.4)**

- 4:45 Subunit-specific regulation of V-ATPase expression in purified intercalated cells from B1-deficient mice. **L. Vedovelli, J.T. Rothmel, K.E. Finberg, C.A. Wagner, D. Brown and T.G. Paunescu.** Massachusetts Gen. Hosp. and Harvard Med. Sch., Duke Univ. Sch. of Med. and Inst. of Physiol. and Zurich Ctr. for Integrative Human Physiol. **(689.1)**
- 5:00 Purinergic signaling reciprocally contributes to the TRPV4-mediated mechano-sensitive response in the aldosterone-sensitive distal nephron. **M. Mamenko, O.L. Zaika, R.G. O'Neil and O. Pochynyuk.** Univ. of Texas Hlth. Sci. Ctr. at Houston. **(867.21)**
- 5:15 Fluorescence imaging reveals differences in mitochondrial function along the collecting duct. **H.R. Courtneidge, C. Crawford, A.M. Hall and C.M. Peppiatt-Wildman.** UCL Ctr. for Nephrol., U.K. and Royal Vet. Col., London. **(867.27)**

### 191. WATER AND ELECTROLYTE HOMEOSTASIS SECTION NEW INVESTIGATOR AWARD LECTURE

SUN. 4:30 PM—SAN DIEGO CONVENTION CENTER, 24

*Title:* Relaxin Protects against Cardio-Renal Disease: Role of Nitric Oxide

*Speaker:* **J. M. Sasser.** Univ. of Mississippi Med. Ctr.

### 192. THE HENRY PICKERING BOWDITCH MEMORIAL AWARD LECTURE

SUN. 6:00 PM—SAN DIEGO CONVENTION CENTER, 20A

*Title:* microRNAs and Systems Molecular Medicine

*Speaker:* **M. Liang.** Med. Col. of Wisconsin.

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## Physiology InFocus

### Physiology in Medicine

#### 193. PHYSIOLOGY OF OBESITY, CARDIOMETABOLIC DISEASE, AND THERAPEUTIC WEIGHT LOSS

##### Symposium

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, 20A

*CHAIR:* J. HALL AND A. SCHREIHOFFER

##### Translational Physiology

- 3:30 Central nervous system fuel sensing: implications for the regulation of energy balance and treatment for obesity. **R. Seeley.** Univ. of Cincinnati Col. of Med.

- 4:00 Leptin-melanocortin system and control of cardiovascular metabolic functions in obesity. **J. E. Hall.** Univ. of Mississippi Med. Ctr.
- 4:30 Impact of maternal obesity on fetal programming. **K. L. Grove.** Oregon Hlth. & Sci. Univ.
- 5:00 Dieting, drugs and surgery: the complex physiology of therapeutic weight loss. **L. M. Kaplan.** Massachusetts Gen. Hosp.

## POSTER PRESENTERS: UPLOAD YOUR POSTER

Where: E-Poster Counter, Hall D Lobby

Deadline: Wed., April 25, 3:30 PM

Uploaded posters will be available online to all registered attendees following the meeting at [www.experimentalbiology.org](http://www.experimentalbiology.org)

# MONDAY, APRIL 23

## Across Societies – Experimental Biology

### 194. MARC AND PROFESSIONAL DEVELOPMENT PROGRAMS

#### Workshop

MON. 8:30 AM—SAN DIEGO CONVENTION CENTER, HALL D, CAREER CENTER

#### Career Development

The Experimental Biology 2012 Career Center activities have been arranged by the FASEB Office of MARC & Professional Development. Access to the Career Center is FREE to all registered EB 2012 meeting attendees.

- 8:30 Successful behaviors for winning an interview. **J. Blumenthal.**
- 9:00 Developing your core message/"elevator pitch". **J. Lombardo.**
- 9:00 Ten tough industrial interview questions; ten good responses. **J. Tringali.**
- 9:00 How to get a job in government: bench. **S. Milgram, L. Conlan.**
- 10:00 Postdocs: what should you be looking for and how to find them. **A. Green.**
- 10:00 Sometimes it's who you know: winning at networking. **J. Blumenthal.**
- 10:00 How to get a job in government: non-bench. **S. Milgram, L. Conlan.**
- 10:15 Making the grade: job talk/chalk talk. **D. Behrens.**
- 11:00 Compensation negotiation for scientists moving into industry. **B. Lindstaedt.**
- 12:00 Career skills blitz.
- 1:00 The industrial hiring process: learn the nuances, get the offer. **J. Tringali.**
- 1:00 The right attitude and behaviors while job searching: from the resume to the job offer. **J. Blumenthal.**
- 1:15 Utilizing LinkedIn in the PhD job search. **A. Green.**
- 1:30 How to continue your training at NIH. **S. Milgram, L. Conlan.**
- 2:00 Achieving your goals: goal setting strategies for scientific and career success [interactive]. **B. Lindstaedt.**
- 2:00 Talking about yourself: interviewing well. **N. Saul.**
- 2:30 Revealing your character through your resume. **J. Blumenthal.**
- 2:30 Becoming a mentor. **S. Milgram, L. Conlan.**
- 3:00 Career decisions: how to select a career path that's best for you. **B. Lindstaedt.**
- 3:45 CV → resume. **A. Green.**
- 4:00 Job search in academia and industry. **D. Behrens.**
- 4:00 Fundamentals for managing the postdoctoral experience. **H. Adams.**
- 4:00 Successful behaviors for winning an interview. **J. Blumenthal.**

### 195. NIH K AWARDS

#### Seminar

MON. 8:30 AM—SAN DIEGO CONVENTION CENTER, HALL D, CAREER CENTER

CHAired: H. KHACHATURIAN, NIGMS/NIH

#### Career Development

#### NIH Grants Seminar Workshop Series

This presentation will focus on the NIH's new K99/00 Pathways to Independence Award (for postdoctoral scientists) and the K08 Mentored Clinical Scientist Development Award (for individuals with a health professional doctoral degree committed to a career in laboratory or field-based research.) The interactive discussion will give attendees an opportunity to ask questions of and obtain insight from an NIH representative. *EB 2012 registration is required to participate in the seminar.*

### 196. FORMULA FOR GRANT SUCCESS: PART I - SCIENTIFIC PEER REVIEW OF NIH GRANTS

#### Seminar

MON. 10:00 AM—SAN DIEGO CONVENTION CENTER, HALL D, CAREER CENTER

CHAired: A. M. COELHO, JR., GRANT SUCCESS ASSOCIATES INC.

#### Career Development

#### NIH Grants Seminar Workshop Series

Learn what is important to know and understand about a sponsoring agency's peer review process. Learn why this understanding peer review can enhance your chances of being funded. This presentation uses the scientific peer review at NIH as an example of what you need to know about peer review at any funding agency and how to use this information in preparation of your grant applications and competing successfully for funding. *EB 2012 registration is required to participate in the seminar.*

### 197. FORMULA FOR GRANT SUCCESS: PART II - GRANT WRITING FOR SUCCESS

#### Seminar

MON. 2:00 PM—SAN DIEGO CONVENTION CENTER, HALL D, CAREER CENTER

CHAired: A. M. COELHO, JR., GRANT SUCCESS ASSOCIATES INC.

#### Career Development

#### NIH Grants Seminar Workshop Series

This presentation focuses on the principles of Grant Writing for Success: and the common reasons that grant applications fail or succeed. Learn how to make an application meet the needs of the reviewers and the funding agency. Learn how to avoid the

need for resubmission. Learn about sponsored agency resources and how to use them in the preparation of your application. *EB 2012 registration is required to participate in the seminar.*

## Anatomy

### 198. TISSUE ENGINEERING, REGENERATION AND REPAIR

#### Platform

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 7A

CHAired: R. MARCUCIO

#### Regeneration/Tissue Engineering

- 8:00 **198.1** Developing a completely biological tissue-engineered blood vessel for clinical use. **N. L'Heureux**. Cytograft Tissue Engineering, Novato, CA.
- 8:15 Adult stem cell mobilization to enhance intramembranous bone regeneration in the mouse. **M.A. McNulty, K.W. Christopherson, A.S. Virdi, K. Sena, R.R. Frank and D.R. Sumner**. Rush Univ. Med. Ctr. (15.2)
- 8:30 **198.2** Injectable extracellular matrix-derived hydrogel for cardiac repair. **K. Christman**. UCSD.
- 8:45 **198.3** Age-dependent impairments in rat bladder regeneration. **D. Burmeister, C. Peyton, T. AbouShwareb, C. Bergman, K-E. Andersson and G. Christ**. Wake Forest Univ.
- 9:00 **198.4** Bioactive nanomaterials for enhanced wound healing. **R.S. Balkawade and D.K. Mills**. Louisiana Tech Univ.
- 9:15 Tissue engineering bone by recapitulating developmental and repair programs offers improved biological outcomes. **C.S. Bahney, D. Hu, T. Miclau and R. Marcucio**. UCSF. (917.7)
- 9:30 **198.5** Nano-fibrous microspheres with sustained growth factor delivery for bone regeneration. **X. Liu**. Baylor Col. of Dent.
- 9:45 **198.6** Notch signaling through the Jagged-1 ligand regulates mesenchymal progenitor differentiation and tissue regeneration. **K.D. Hankenson**. Univ. of Pennsylvania.

### 199. MICRORNAS IN STEM CELLS AND CANCER

#### Minisymposium

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 7B

CHAired: R. HARTLEY

#### Regulatory RNA Mini-Meeting

- 8:00 Chair's introduction.
- 8:05 **199.1** microRNAs to pathways in stem cells and cancer. **R. Blelloch, D. Subramanyam, C. Melton, R. Judson and C. Belair**. UCSF.
- 8:30 **199.2** Enabling Xenopus oocytes and embryos to perform RNAi. **M. Sheets, E. Lund, S. Blaser Imboden and J. Dahlberg**. Univ. of Wisconsin-Madison.
- 8:55 microRNA-RNA binding protein face off in cancer. **R. Hartley**. Univ. of New Mexico.
- 9:20 **199.4** Non-coding RNAs: from scientist to patient and back. **G. Carlin**. Univ. of Texas MD Anderson Cancer Ctr.
- 9:45 Discussion.

### 200. ANATOMY EDUCATION BREAKFAST ROUNDTABLES

#### Special Session

(Supported by an educational grant from Elsevier, Inc.)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 11A

CHAired: C. ECKEL

#### Education & Teaching

- 8:00 Chair's introduction.
- 8:30 Applying the Ideas from The Carnegie Study of Medical Education to Guide Medical School Reform. **Bridget O'Brien**. UCSF.
- 9:00 General discussion.

### 201. THE NUCLEUS: NEW INSIGHTS AND UNDERSTANDING

#### Symposium

(Supported by an educational grant from Hamilton Thorne, Inc.)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 9

CHAired: M. ALLIEGRO

#### Cell Biology

- 8:00 Chair's introduction.
- 8:05 **201.1** The nucleolus: a disappearing, forgotten, and (maybe) misnamed organelle. **M.C. Alliegro**. Marine Biol. Lab., Woods Hole, MA.
- 8:30 **201.2** The expanded repertoire of a classical intranuclear domain. **T. Pederson**. Univ. of Massachusetts Med. Sch.
- 8:55 **201.3** The lamins are major determinants of nuclear architecture. **R. Goldman, S. Adam, A.E. Goldman, V. Butin-Israeli and T. Shimi**. Northwestern Univ. Feinberg Sch. of Med.
- 9:20 **201.4** The evolution of the nucleus. **J.A. Lake**. UCLA.
- 9:45 Discussion.

### 202. REACTIVATION OF EMBRYONIC PROCESSES IN REGENERATION AND REPAIR

#### Symposium

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 7A

CHAired: M. DUNNWALD AND J. HELMS

#### Regeneration/Tissue Engineering

- 10:30 **202.1** Regeneration of the drosophila epidermal barrier after wounding. **W. McGinnis and M. Juarez**. UCSD.
- 10:30 **202.2** Translating insights from development into regenerative medicine with a focus on Wnt biology. **J.A. Helms**. Stanford Univ.

- 10:30 **202.3** Mesenchymal stem cell niches in tooth growth and repair. **P. Sharpe**. King's Col. London.
- 10:30 **202.4** Interferon regulatory factor 6, a novel transcriptional regulator of embryonic development and wound healing. **M. Dunnwald, L.C. Biggs, M. Le, L. Rhea, A. Kinoshita, J.C. Murray and B.C. Schutte**. Univ. of Iowa and Michigan State Univ.

### 203. CELL BIOLOGY AND REGULATORY RNAS

#### Minisymposium

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 7B

CHAired: K. PRASANTH

#### Regulatory RNA Mini-Meeting

##### Cell Biology

- 10:30 Chair's introduction.
- 10:35 **203.1** A new class of intron-derived long noncoding RNAs. **G. Carmichael, L. Yang and L-L. Chen**. Univ. of Connecticut Hlth. Ctr. and Shanghai Insts. for Biol. Sci., China.
- 11:00 **203.2** Role of cancer-associated nuclear-retained RNA in pre-mRNA splicing regulation. **K.V. Prasanth, V. Tripathi, X. Zong, Z. Shen and S.G. Prasanth**. Univ. of Illinois at Urbana-Champaign.
- 11:25 **203.3** A microRNA pulldown approach uncovers regulation of p53 activity and growth factor signaling by miR-34a. **A. Lal, M. Thomas, F. Navarro, X.L. Li and J. Lieberman**. NCI/NIH and Harvard Med. Sch.
- 11:50 **203.4** Repeat RNAs in chromosome regulation and mis-regulation in cancer. **J.B. Lawrence, L.L. Hall and D.M. Carone**. Univ. of Massachusetts Med. Sch.
- 12:15 Discussion.

### 204. TEACHING INNOVATIONS IN ANATOMY I

#### Platform

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 8

CHAired: B. SINGH

#### Education & Teaching

- 10:30 Benefit assessment of premedical anatomical study for medical students. **N. Harper, N.S. Livdahl, J. Jensen and D.A. Morton**. Univ. of Utah Sch. of Med. (12.1)
- 10:45 Revamping anatomy education: student-authored dissection manual significantly improves learning and academic performance. **D. Tetzl, J. Neira, J. Ramirez, L. Grossmann and P. Bernd**. Columbia Univ. Col. of P&S and SUNY Downstate Med. Ctr. Col. of Med. (12.3)
- 11:00 **204.1** Combining ultrasound and gross anatomic dissection in teaching 3-D anatomy: effectiveness in a first year medical course curriculum. **A.M. Yee, J. Hwang, A.S. Pagano and S. Marquez**. SUNY Downstate Col. of Med. and Mount Sinai Sch. of Med.
- 11:15 **204.2** An innovative approach teaching 650 medical students in the anatomy course at St. George's University in Grenada. **M. Loukas, R. Hage, D. Burns, R. Jordan, B. Curry, F. Brahim, E. Marshall, K. Bubb, A. Wade and R. George**. St. George's Univ., Grenada.
- 11:30 **204.3** Predictors of performance in anatomical sciences courses: what really matters? **R.S. Lufler**. Tufts Univ. Sch. of Med.

- 11:45 **204.4** The use of gaze tracking to quantify learning. **A.C. Zumwalt, M. Wice and P. Bergethon**. Boston Univ. Sch. of Med.
- 12:00 **204.5** The 'unskilled and unaware' effect is linear in a real-world anatomy setting. **G.M. Finn and M.A. Sawdon**. Sch. of Med. & Hlth., Durham Univ., U.K.
- 12:15 **204.6** Anatomy knowledge: a critical component of clinical care. **M.D. Lazarus, V.M. Chincilli and G.L. Kauffman, Jr.** Penn State Col. of Med. and Milton S. Hershey Med. Ctr.

### 205. THE EXQUISITE LITTLE BRAINS OF BIG INSECTS

#### Symposium

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 9

CHAired: J. HILDEBRAND

##### Neurobiology

- 10:30 Chair's introduction.
- 10:35 **205.1** The evolution of insect brains and why big may be better. **N.J. Strausfeld**. Univ. of Arizona.
- 11:00 **205.2** Regulation of form and function in the nervous system of honey bees. **S.E. Fahrbach**. Wake Forest Univ.
- 11:25 **205.3** Evolution and specializations of insect eyes: twisted-wing insects and larval diving beetles. **E.K. Buschbeck**. Univ. of Cincinnati.
- 11:50 **205.4** Learning from insect brains: CNS processing of behaviorally significant odors. **J.G. Hildebrand**. Univ. of Arizona.
- 12:15 Discussion.

### 206. LUNG DEVELOPMENT AND THE ORIGINS OF DISEASE

#### Symposium

(Cosponsored by: Developmental Dynamics)

MON. 2:30 PM—SAN DIEGO CONVENTION CENTER, 7A

CHAired: D. ORNITZ

##### Developmental Biology

- 2:30 Chair's introduction.
- 2:35 **206.1** The role of slit-Robo signaling in congenital diaphragmatic hernia. **X. Sun, E. Domyan and E. Hines**. Univ. of Wisconsin-Madison.
- 3:00 **206.2** Lung developmental biology: an important key to regeneration in apparently adult onset disease. **D. Warburton**. Children's Hosp. Los Angeles.
- 3:25 **206.3** Transcriptional and epigenetic regulation of lung development and regeneration. **E. Morrisey**. Univ. of Pennsylvania.
- 3:50 **206.4** Growth factor signaling pathways in lung development and cancer. **D.M. Ornitz, Y. Yin and A. Hill**. Washington Univ. Sch. of Med. and Children's Natl. Med. Ctr.
- 4:15 Discussion.

## 207. EXCELLENCE IN CANADIAN RESEARCH— NEURAL REGENERATION

### Symposium

(*Cosponsored by:* Canadian Association for Anatomy, Neurobiology and Cell Biology)

MON. 2:30 PM—SAN DIEGO CONVENTION CENTER, 7B

CHAired: M. KAWAJA

### Neurobiology

#### Regeneration/Tissue Engineering

- 2:30 Chair's introduction.
- 2:35 **207.1** The role of microenvironment in the regenerative potential of neural stem cells after spinal cord injury. **S. Karimi.** Univ. of Manitoba.
- 3:00 **207.2** Neural stem cells: from basic biology to tissue repair. **C. Morshead.** Univ. of Toronto.
- 3:25 **207.3** Restoration of retinal ganglion cell dendritic arbors after axonal injury in vivo. **A. Di Polo.** Univ. of Montreal.
- 3:50 **207.4** Stem cell-derived motoneurons: tools for studying motoneuron disease and motoneuron development. **V. Rafuse, P. Soundararajan and J. Toma.** Dalhousie Univ., Canada.
- 4:15 Discussion.

## 208. CURRENT TRENDS IN THE ANATOMICAL SCIENCES: HOW ARE WE TEACHING NORTH AMERICAN DENTAL STUDENTS?

### Symposium

MON. 2:30 PM—SAN DIEGO CONVENTION CENTER, 8

CHAired: H.W. LAMBERT

### Education & Teaching

- 2:30 Discussion.
- 2:35 **208.1** The basic science survey series for dentistry – trends in gross anatomy within the North American dental schools. **H.W. Lambert, D.J. Gould, L.M.J. Lee, D.T. Burk, S. Atsas and B. Hutchins.** West Virginia Univ., The Ohio State Univ. Col. of Med., Univ. of Pacific Dugoni Sch. of Dent. and Texas A&M Hlth. Sci. Ctr., Dallas.
- 3:00 **208.2** Trends in neurobiology and neuroanatomy – survey results from North American dental course directors. **D.J. Gould, B. Hutchins, S. Atsas and H.W. Lambert.** The Ohio State Univ. Col. of Med., Baylor Col. of Dent. and West Virginia Univ.
- 3:25 **208.3** Trends in histology and embryology – survey results from North American dental course directors. **L.M.J. Lee, D.T. Burk and H.W. Lambert.** The Ohio State Univ. Col. of Med., Univ. of Pacific Dugoni Sch. of Dent. and West Virginia Univ. Sch. of Med.
- 3:50 **208.4** Anatomy in dental education: past, present, future. **W.D. Davenport.** UNLV Sch. of Dent. Med.
- 4:15 Discussion.

## 209. CARDIOVASCULAR BIOLOGY

### Platform

MON. 2:30 PM—SAN DIEGO CONVENTION CENTER, 9

CHAired: J. BARNETT

### Cardiovascular

- 2:30 **209.1** Secreted growth factors from human epicardial-derived precursor cells protect against progressive injury after myocardial ischemia with reperfusion by preventing vascular rhexis. **J.L. Spees.** Univ. of Vermont.
- 2:45 Epicardial HIF1 regulates vascular precursor cell invasion into the myocardium through the VEGF signaling pathway. **J. Tao, Y. Doughman, K. Yang, D. Ramirez-Bergeron and M. Watanabe.** Case Western Reserve Univ. (726.14)
- 3:00 **209.2** VEGF receptors identify a multipotent cardiovascular progenitor cell in developing hearts and induced pluripotent stem cells. **K. Schenke-Layland, A. Nsair, B. Van Handel, H.K. Mikkola, J. Goldhaber, M. Kahn and W.R. MacLellan.** Fraunhofer IGB Stuttgart, Eberhard Karls Univ. Tübingen, UCLA, Cedars-Sinai Heart Inst., Univ. of Southern California and Univ. of Washington.
- 3:15 **209.3** Bone marrow-derived multipotent adult progenitor cells are capable of functional sinus node myocytes differentiation. **C. Zhang, X. Zhang and Y. Liu.** The Second Military Med. Univ., China.
- 3:30 **209.4** Myocardial Notch signaling reprograms cardiomyocytes to a conduction-like phenotype. **S. Rentschler, A. Yen, J. Lu, N. Petrenko, V.V. Patel, G.I. Fishman and J.A. Epstein.** Univ. of Pennsylvania and NYU.
- 3:45 FOXO transcription factors are critical regulators of neonatal cardiomyocyte proliferation. **A. Sengupta and K.E. Yutzey.** Cincinnati Children's Med. Hosp. Ctr. (525.6)
- 4:00 **209.5** Integrating MALDI imaging mass spectrometry and shotgun proteomics for a systems biology understanding of congenital heart valve disease. **P.M. Angel, B.M. Mettler, D.P. Bichell, H.S. Baldwin and R.M. Caprioli.** Vanderbilt Univ.
- 4:15 **209.6** Dynamic imaging of VEGF relative to the ECM and its effects on endocardial cell behavior during cardiovascular morphogenesis. **B.J. Rongish, A. Aleksandrova, R. Lansford, C.D. Little and A. Czirok.** Univ. of Kansas Med. Ctr. and Caltech.

## 210. AAA KEYNOTE LECTURE

(Supported by an educational grant from AACBNC)

MON. 5:00 PM—SAN DIEGO CONVENTION CENTER, 8

- 5:00 **210.1** Heart making and heart breaking: the molecular circuitry of cardiac development, disease and regeneration. **E.N. Olson.** Univ. of Texas Southwestern Med. Ctr.

## 211. AAA BUSINESS MEETING

MON. 6:00 PM—SAN DIEGO CONVENTION CENTER, 8



**212. STUDENT/POSTDOCTORAL POSTERS & RECEPTION****Poster Discussion**

MON. 7:00 PM—SAN DIEGO CONVENTION CENTER, WEST TERRACE/WEST LOBBY

**Biochemistry and Molecular Biology****213. BREKKE FOR NEXT GENS, UNDERGRADUATE BREAKFAST WITH AWARD SCIENTIST, BETTIE SUE MASTERS****Special Session**

(Supported by an educational grant from National Science Foundation)

MON. 7:00 AM—SAN DIEGO CONVENTION CENTER, 11A

**Invitation only.****214. EARL AND THRESSA STADTMAN SCHOLAR AWARD LECTURE****Award**

MON. 8:30 AM—SAN DIEGO CONVENTION CENTER, 6B

8:30 Introductory remarks. **S. R. Pfeffer.**

8:35 **214.1** Control of growth by the mTOR pathway. **D. Sabatini.** Whitehead Inst.

**215. ASBMB-MERCK AWARD LECTURE****Award**

(Supported by an educational grant from Merck)

MON. 9:05 AM—SAN DIEGO CONVENTION CENTER, 6B

9:05 Introductory remarks. **S. L. McKnight.**

9:10 **215.1** Dissecting cellular necrosis pathways. **X. Wang.** Natl. Inst. of Biol. Sci., Beijing.

**216. AVANTI YOUNG INVESTIGATOR AWARD LECTURE****Award**

(Supported by an educational grant from Avanti Polar Lipids, Inc.)

MON. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6A

This lecture is presented within the symposium, Metabolic Branchpoints/Lipid Channeling in Room 6A.

9:55 Avanti Young Investigator Award presentation and introduction. **D. Raben.**

10:05 **216.1** Fungal SREBPs: hypoxic transcription factors required for pathogenesis. **P. Espenshade.** Johns Hopkins Univ. Sch. of Med.

**217. RNA DYNAMICS: FUNCTION FOLLOWS FOLDING****Symposium**

MON. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6F

CHAired: J. LORSCH

9:55 Chair's introduction.

10:00 **217.1** A conserved RNA structure regulates polyamine-dependent alternative splicing and NMD. **M. Ares.** Univ. of California, Santa Cruz.

10:25 Role of the cofactor in the catalytic mechanism of the *glmS* ribozyme. **J. Viladoms Claverol and M.J. Fedor.** The Scripps Res. Inst. (746.2)

10:40 **217.2** Linking the DEAD-box RNA helicase Ded1p to cellular RNA targets. **E. Jankowsky.** Case Western Reserve Univ.

11:05 Structural insights into RNA recognition and activation by innate immune pattern-recognition receptor RIG-I. **F. Jiang, A. Ramanathan, M.T. Miller, G-Q. Tang, M. Gale, Jr., S.S. Patel and J. Marcotrigiano.** Rutgers Univ., Piscataway, UMDNJ-Robert Wood Johnson Med. Sch. and Univ. of Washington Sch. of Med. (943.3)

11:20 ZBP1 KH34 consensus RNA-binding site identifies post-transcriptional regulatory networks. **J. Chao and R. Singer.** Albert Einstein Col. of Med. (949.1)

11:35 **217.3** Group II intron architecture and its implications for the development of eukaryotic splicing systems. **A.M. Pyle.** Yale Univ.

12:00 Conclusion.

**218. MECHANISM OF DNA REPLICATION****Symposium**

MON. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6E

CHAired: P. BAUMANN

9:55 Chair's introduction.

10:00 **218.1** Early events in DNA replication. **J.F.X. Diffley.** Cancer Res. UK London Res. Inst.

10:25 *S. cerevisiae* RFC Walker A and arginine finger mutants are defective in clamp opening and binding. **M.R. Marzahn and L. Bloom.** Univ. of Florida. (739.8)

10:40 **218.2** Alternative replisome assembly is directed by RecA to bypass obstacles. **M.E. O'Donnell, R. Georgescu, N.Y. Yao, L. Langston, K. Isabel and C. Indiani.** Rockefeller Univ. and HHMI and Manhattan Col.

11:05 Depletion of MutS $\beta$  slows GAA•TTC repeat expansion in a cellular model of Friedreich ataxia. **A. Halabi, S. Ditch, J. Wang and E. Grabczyk.** LSU Hlth. Sci. Ctr., New Orleans. (936.2)

- 11:20 Acetylation of replication and repair proteins regulates genome fidelity. **L. Balakrishnan and R.A. Bambara.** Univ. of Rochester Med. Ctr. (739.2)
- 11:35 **218.3** Sister acts?coordinating DNA replication and cohesion establishment. **P.V. Jallepalli.** Mem. Sloan-Kettering Cancer Ctr.
- 12:00 Conclusion.

## 219. ORGANELLE QUALITY CONTROL

### Symposium

MON. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6D

CHAired: D. CHAN

- 9:55 Chair's introduction.
- 10:00 **219.1** ER-to-cytosol membrane transport of pathogens. **B. Tsai.** Univ. of Michigan Med. Sch.
- 10:25 Mitochondrial transcription factor A binding to mitochondrial DNA during aging and calorie restriction. **A. Picca, A. Lezza, C. Leeuwenburgh and S. Tornaletti.** Univ. of Florida and Univ. of Bari, Italy. (585.7)
- 10:40 **219.2** The role of membrane shaping proteins, MTs and interorganelle contacts in regulating ER structure. **G. Voeltz, J. Friedman, M. West, J. DiBenedetto, A. Rowland and A. English.** Univ. of Colorado Boulder.
- 11:05 Differences in susceptibility to nutrient-induced cell death between primary and immortalized Leigh syndrome French Canadian type patient fibroblasts. **M-E. Rivard, Y. Burelle, C. Bemeur, L.R. Villeneuve, L. Coderre and C. Des Rosiers.** Montreal Heart Inst., Univ. of Montreal and Montreal Clin. Res. Inst. (586.1)
- 11:20 Alterations in mitochondrial function in fibroblasts from patients with Leigh syndrome French Canadian type. **C. Bemeur, E. Beleac, S. Deschênes, M-E. Rivard, L. Coderre, C. Des Rosiers and Y. Burelle.** Univ. of Montreal, Montreal Heart Inst. and Clin. Res. Inst. of Montreal. (586.2)
- 11:35 **219.3** Insights into membrane dynamics in autophagy. **T. Yoshimori.** Grad. Sch. of Med., Osaka Univ.
- 12:00 Conclusion.

## 220. DRUG DEVELOPMENT AND APOPTOSIS: LINKING TUMOR REGRESSION TO CELL DEATH

### Symposium

MON. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6C

CHAired: R. KING

- 9:55 Chair's introduction.
- 10:00 **220.1** Dissecting the BCL-2 family interaction network with stapled peptides: mechanistic insights and pharmacologic opportunities. **L.D. Walensky.** Dana-Farber Cancer Inst.
- 10:25 How Apaf-1 relays the death signal in the mitochondrial pathway of apoptosis. **S. Eschenburg and T.F. Reubold.** Hannover Med. Sch., Germany. (798.17)
- 10:40 **220.2** Small molecule on and off switches for autophagy. **H. Xia, J. Liu, M. Kim, Y. Li, H. Vakifahmetoglu-Norberg, D. Ma and J. Yuan.** Shanghai Inst. of Organic Chem. and Harvard Med. Sch.
- 11:05 FADD/RIP1/RIP3 coregulation of apoptotic, necrotic and survival pathways in embryogenesis and lymphoid homeostasis. **J. Zhang.** Thomas Jefferson Univ. (798.29)

- 11:20 Signaling mechanisms of apoptosis resistance in lymphoid cells exposed to hyperosmotic stress. **A.B. Scoltock, C. Bortner and J. Cidlowski.** NIEHS/NIH, Research Triangle Park. (798.6)
- 11:35 **220.3** USP1 inhibition: a differentiation strategy for osteogenic sarcoma. **V.M. Dixit.** Genentech.
- 12:00 Conclusion.

## 221. METABOLIC BRANCHPOINTS/LIPID CHANNELING

### Symposium

(Supported by an educational grant from Avanti Polar Lipids, Inc.)

MON. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6A

CHAired: D. BRASAEMLE

### This symposium features the Avanti Young Investigator Award Lecture.

- 9:55 Chair's introduction.
- 10:00 Avanti Young Investigator Award presentation and introduction. **D. Raben.**
- 10:05 Fungal SREBPs: hypoxic transcription factors required for pathogenesis. **P. Espenshade.** Johns Hopkins Univ. Sch. of Med. (216.1)
- 10:35 Lipogenesis by reductive carboxylation is regulated by Bcr-Abl signaling. **R. Leonardi, S. Jackowski and C.O. Rock.** St. Jude Children's Res. Hosp. (786.1)
- 10:50 **221.1** Using *C. elegans* to dissect fat and feeding regulatory pathways. **K. Ashrafi.** UCSF.
- 11:15 ACSL1 multi-tissue knockout mice are resistant to diet- and age-induced obesity and insulin resistance. **T.J. Grevenoged, D.S. Paul, L.O. Li and R.A. Coleman.** Univ. of North Carolina at Chapel Hill. (790.7)
- 11:30 Regulation of the alpha beta hydrolase domain protein family in murine and human obesity. **J.M. Brown, K. Martinez, J. Betters, N. Shores, L.L. Rudel, M.K. McIntosh and G. Thomas.** Wake Forest Univ. Sch. of Med. and Univ. of North Carolina at Greensboro. (597.4)
- 11:45 **221.2** Mitochondrial stress and metabolic dysfunction in skeletal muscle. **D. Muoio.** Duke Univ.

## 222. IN VIVO BIOCHEMISTRY OF THE PATHOGEN

### Symposium

MON. 9:55 AM—SAN DIEGO CONVENTION CENTER, 1B

CHAired: S. BOOKER

- 9:55 Chair's introduction.
- 10:00 **222.1** A novel inducible mutagenesis system in *Mycobacterium tuberculosis*. **V. Mizrahi, D. Warner, D. Ndwandwe, G. Abrahams and C. Venclovas.** Univ. of Cape Town, Univ. of Witwatersrand, South Africa, NIAID/NIH South Africa and Inst. of Biotechnol., Vilnius, Lithuania.
- 10:25 Characterization of rifamycin-resistant *Mycobacterium tuberculosis* RNA polymerases. **S.K. Gill, H.D.H. Showalter and G.A. Garcia.** Univ. of Michigan. (802.1)

10:40 **222.2** Cholesterol metabolism in *Mycobacterium tuberculosis*: chewing through the fat. **N.M. Nesbitt, E. Dubnau, C. Kisker, R. Lu, D.G. Russell, C. Schäfer, D.R. Sherman, I. Smith, S.T. Thomas, B.C. VanderVen, X. Yang and N.S. Sampson.** Stony Brook Univ., UMDNJ-New Jersey Med. Sch., Univ. of Würzburg, Germany, Cornell Univ. and Seattle Biomed. Res. Inst.

11:05 A reversible acetylation system in mycobacteria. **H. Xu, S. Hegde and J.S. Blanchard.** Albert Einstein Col. of Med. (803.1)

11:20 Solution structures and models describing the thioredoxin system from *Mycobacterium tuberculosis*. **T.S. Neumann, A. Olson, S. Cai and D. Sem.** Marquette Univ., North Carolina State Univ. and Concordia Univ. Wisconsin. (804.1)

11:35 **222.3** Alteration of metabolic program by whiB6 enhances tuberculosis persistence. **W. Jacobs and B. Weinrick.** Albert Einstein Col. of Med. and HHMI.

12:00 Conclusion.

## 223. MAXIMIZING YOUR MARKETABILITY

### Symposium

*(Supported by an educational grant from the Council on Undergraduate Research (CUR) and Research Corporation for Science Advancement)*

MON. 9:55 AM—SAN DIEGO CONVENTION CENTER, 1A

CHAired: J. PROVOST

9:55 Chair's introduction.

10:00 **223.1** Developing administrative/organizational skills. **J.S. Bond.** Penn State Col. of Med.

10:25 Gaining those important lab skills: three different training programs at a liberal arts college. **A. Brower, R. Romano, D. Columbus and A. Aguanno.** Marymount Manhattan Col. and Boston Univ. Sch. of Publ. Hlth. (619.5)

10:50 **223.2** Opportunities in the private sector. **M. Rosenberg.** Promega Corp. and Univ. of Wisconsin-Madison.

11:15 Myth busters: 10 things you don't know that you think you know about launching a career at a predominantly undergraduate institution. **R.S. Rowlett and K.A. Parson.** Colgate Univ., NY and Macalester Col., MN. (617.2)

11:40 **223.3** Effective use of social networking for career development. **L.M. Balbes.** Balbes Consultants LLC, Kirkwood, MO.

12:05 Conclusion.

## 224. EFFECTIVELY COMMUNICATING YOUR SCIENCE

### Public Affairs Workshop

*(Sponsored by: ASBMB Public Affairs Advisory Committee)*

MON. 12:30 PM—SAN DIEGO CONVENTION CENTER, 6B

It has never been more important to communicate science and its importance to the public. How can we make scientific discovery a high national priority? What can each of us do locally to make a difference? Join Nobel laureate, **P. Berg**, NPR science correspondent, **J. Palca**, science communicator, **M. J. Palmer**,

Huffington Post science correspondent, **C. Santa Maria** and moderator **J. Berg**, for a panel discussion of how to get through to challenging audiences and make the best case for a long term investment in and focus on science.

## 225. LIPID DROPLETS: BASIC WORKING PRINCIPLES

### Workshop

*(Supported by an educational grant from Avanti Polar Lipids, Inc.)*

MON. 12:30 PM—SAN DIEGO CONVENTION CENTER, 11A

Lipid droplets, organelles found in cells of vertebrates, invertebrates, and plants, have received much attention of late due to their importance in lipid-based diseases, host-pathogen interactions, and in the production of biofuels. This workshop will focus on the working principles and methodologies of lipid droplet research to engage those interested in expanding their knowledge or entering this field of research.

Light refreshments will be hosted. General seating available and doors open 15 minutes prior to event start.

Organizer:

**R. V. Stahelin**, Indiana Univ. Sch. of Med.-South Bend.

Presenters :

**D. Brasaemle**, Rutgers Univ.

**T. Walther**, Yale Univ.

**D. Silver**, Albert Einstein Col. of Med.

## 226. RUTH KIRSCHSTEIN DIVERSITY IN SCIENCE AWARD LECTURE

### Award

MON. 2:55 PM—SAN DIEGO CONVENTION CENTER, 6B

2:55 Introductory remarks. **T. Landefeld.**

3:00 **226.1** Changing the course of America through mentoring. **L.A. Jones.** Univ. of Texas M.D. Anderson Cancer Ctr. and Univ. of Houston.

## 227. FUNDAMENTAL MECHANISMS IN GENE REGULATION

### Symposium

MON. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6F

CHAired: K. ADELMAN

3:45 Chair's introduction.

3:50 **227.1** Structure and mechanism of the human transcription initiation machinery. **D. Taatjes, C. Bernecky, Z. Poss and C. Ebmeier.** Univ. of Colorado at Boulder.

4:15 Mastermind-like 1 is ubiquitinated: functional consequences for Notch signaling. **B. White, M. Farshbaf, M.J. Lindberg, S. Behmner and A.E. Wallberg.** San Jose State Univ. and Karolinska Inst. (734.9)

- 4:30 **227.2** The mediator of RNA polymerase II transcription: links to transcription elongation and leukemogenesis. **J.W. Conaway, H. Takahashi, T.J. Parmely, C. Tomomori-Sato, S. Sato and R.C. Conaway.** Stowers Inst. for Med. Res. and Hokkaido Univ. Grad. Sch. of Med.
- 4:55 Architecture of the mediator head module. **Y. Takagi, T. Imasaki, G. Cai, K. Yamada, I. Berger and F. Asturias.** Indiana Univ. Sch. of Med., The Scripps Res. Inst. and European Molec. Biol. Lab., Grenoble. (731.1)
- 5:10 Arrangement of the 4.5 Myb domain repeats of SNAP190 on the U1 gene promoter. **W.E. Stumph, M. Doherty and Y.S. Kang.** San Diego State Univ. (731.9)
- 5:25 **227.3** Long non-coding RNAs in epigenetic regulation. **R. Shiekhattar.** Wistar Inst.
- 5:50 Conclusion.

## 228. NETWORKS AND TIME

### Symposium

MON. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6E

CHAired: M. BULYK

- 3:45 Chair's introduction.
- 3:50 **228.1** Measuring and modeling life-death decisions in single cells. **P.K. Sorger, C. Lopez, D. Flusberg, H. Eydgahi, J. Bachman, J. Sims, W. Chen, S. Spencer and S. Gaudet.** Harvard Med. Sch.
- 4:15 Modeling receptor-mediated uptake of polymer-functionalized iron oxide nanoparticles by macrophages. **O. Lunov, V. Zablotskii, T. Syrovets, C. Roecker, K. Tron, G.U. Nienhaus and T. Simmet.** Ulm Univ., Germany, Inst. of Biophys., Acad. of Sci. of Czech Republic and Karlsruhe Inst. of Technol., Germany. (773.4)
- 4:30 **228.2** Transcription and pre-mRNA processing in space and time. **K.M. Neugebauer.** Max Planck Inst. for Cell Biol. and Genet., Dresden.
- 4:55 Regulatory dynamics of the transcriptional network controlling the cold shock response in *Saccharomyces cerevisiae*. **K.D. Dahlquist, B.G. Fitzpatrick, N.A. Rohacz and K. Sherbina.** Loyola Marymount Univ., CA. (772.1)
- 5:10 Combinatorics of cis-regulatory element evolution in stress response modules of ascomycete yeasts. **A. García-González, S. Roy, J. Konieczka, D. Thompson and A. Regev.** Univ. of Puerto Rico, Rio Piedras and Broad Inst. of MIT and Harvard. (731.11)
- 5:25 **228.3** Combinatorial and temporal codes within pathogen-responsive gene regulatory networks. **A. Hoffmann.** UCSD.
- 5:50 Conclusion.

## 229. PROTEIN TARGETING AND TRANSLOCATION

### Symposium

MON. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6D

CHAired: J. PUGLISI

- 3:45 Chair's introduction.
- 3:50 **229.1** Mapping out forces that act on transmembrane helices during membrane insertion. **G. von Heijne.** Stockholm Univ.

- 4:15 Interplay between signal sequence recognition and N-terminal protein modification at the ribosome exit site. **M. Pool, Y. Nyathi, G. Forte and C. Stirling.** Univ. of Manchester, U.K. and Curtin Univ., Australia. (542.2)
- 4:30 **229.2** Higher order assemblies in the GET membrane protein targeting pathway. **W. Clemons, J. Chartron and C. Suloway.** Caltech.
- 4:55 Regulation of the Get3 ATPase cycle. **M.E. Rome and M. Rao.** Caltech. (753.5)
- 5:10 Nucleotide-dependent conformational changes in the N-ethylmaleimide sensitive factor and their potential role in the SNARE complex disassembly. **A. Moeller, C. Zhao, M.G. Fried, E.M. Wilson-Kubalek, B. Carragher, C.S. Potter and S.W. Whiteheart.** The Scripps Res. Inst., Univ. of Kentucky and UCSD Sch. of Pharm. (751.4)
- 5:25 **229.3** The unfolded protein response in health and disease. **P. Walter.** UCSF.
- 5:50 Conclusion.

## 230. CHEMISTRY IN THE SERVICE OF MEDICINE

### Symposium

MON. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6C

CHAired: P. COLE

- 3:45 Chair's introduction.
- 3:50 **230.1** Inhibitors of heat shock proteins in cancer treatment. **G. Chiosis.** Mem. Sloan-Kettering Cancer Ctr.
- 4:15 Dynamics of induced-fit in HIV reverse transcriptase specificity and resistance. **K.A. Johnson, S. Kirmizialtin, V. Nguyen, A. Li and R. Elber.** Univ. of Texas at Austin. (964.5)
- 4:30 **230.2** Using small molecules to engineer and explore human immunity. **D.A. Spiegel.** Yale Univ.
- 4:55 Toward development of selective DXP synthase inhibitors. **C.L. Freel Meyers and F. Morris.** Johns Hopkins Univ. Sch. of Med. (964.4)
- 5:10 Allosteric regulation of protein kinase PKC $\zeta$  by the N-terminal C1 domain and small compounds to the PIF-pocket. **R.M. Biondi, J.O. Schulze, W. Fröhner, H. Zhang, N. Weber, J. Navratil, S. Amon, V. Hindie, S. Zeuzem, T.J.D. Jørgensen, P.M. Alzari, S. Neimanis, M. Engel and L.A. Lopez-Garcia.** Univ. Clin. Frankfurt, Univ. of Saarland, Univ. of Southern Denmark and Pasteur Inst., Paris. (558.2)
- 5:25 **230.3** Tackling targets in epigenetics. **P.A. Cole.** Johns Hopkins Univ. Sch. of Med.
- 5:50 Conclusion.

## 231. SIGNALING AND METABOLISM

### Symposium

MON. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6A

CHAired: E. WHITE

- 3:45 Chair's introduction.
- 3:50 **231.1** Hormonal and cellular control of hepatic lipid metabolism. **J. Rutter.** Univ. of Utah.
- 4:15 Thioesterase superfamily member 2 (Them2) promotes the hepatic oxidation of plasma-free fatty acids. **H.W. Kang, S. Han and D.E. Cohen.** Brigham and Women's Hosp. (562.1)

- 4:30 **231.2** NAD metabolism: mechanisms of lifespan extension in yeast and nicotinamide riboside utilization in a healthy 50-year-old man. **C. Brenner, S. Trammell, S.-C. Mei and M. Migaud.** Univ. of Iowa and Queen's Univ. Belfast.
- 4:55 Hydrogen sulfide regulates hypoxic signaling in T cells. **T.W. Miller, T. Song, S. Amarnath, D.H. Fowler and D.D. Roberts.** NCI/NIH. (758.6)
- 5:10 The JAK kinase Tyk2 and the signal transducer and activator of transcription 3 are required for brown adipose tissue differentiation. **A.C. Larner, M. Derecka, A. Gornicka, K. Szczepanek, M. Morgan, V.B. Raje, J. Sisler and S. Keller.** Virginia Commonwealth Univ. and Univ. of Virginia. (758.9)
- 5:25 **231.3** AMPK control of metabolic signaling. **R. Shaw.** Salk Inst. for Biol. Studies.
- 5:50 Conclusion.

### 232. ROLE OF GLYCOCONJUGATES IN SIGNALING AND DEVELOPMENT

#### Symposium

MON. 3:45 PM—SAN DIEGO CONVENTION CENTER, 1B

CHAIR: J. ESKO

- 3:45 Chair's introduction.
- 3:50 **232.1** The heparan sulfate 3-O-sulfotransferase hst-3.2 is required for neural development in *C. elegans*. **H.E. Buelow, E. Tecle, C.A. Diaz-Balzac, M. Richard and J-L. Bessereau.** Albert Einstein of Med. and l'Ecole Normale Supérieure, Paris.
- 4:15 The role of N-linked glycosylation during *Drosophila* embryonic development. **A. McCague and E. Selva.** Univ. of Delaware. (607.6)
- 4:30 **232.2** Specific N-glycans on SynCAM Ig proteins regulate synaptic adhesion and synapse development. **T. Biederer.** Yale Univ.
- 4:55 Nonenzymatic and enzymatic functions of the Skp1  $\alpha$ galactosyltransferase in *Dictyostelium* oxygen-sensing. **C.M. Schafer, D. Zhang and C.M. West.** Univ. of Oklahoma Hlth. Sci. Ctr. (607.7)
- 5:10 NogoB receptor is essential for extraembryonic vascular development and protein glycosylation. **E.J. Park and W.C. Sessa.** Sch. of Med., Yale Univ. (607.5)
- 5:25 **232.3** Control of expression of cell wall stress-induced yeast genes by transcriptional attenuation. **D.E. Levin and K-Y. Kim.** Boston Univ. Goldman Sch. of Dent. Med.
- 5:50 Conclusion.

### 233. MAXIMIZING YOUR GLOBAL OUTREACH

#### Symposium

MON. 3:45 PM—SAN DIEGO CONVENTION CENTER, 1A

CHAIR: P. CRAIG

- 3:45 Chair's introduction.
- 3:50 **233.1** Moving science from the laboratory to the field. **A.A. James.** Univ. of California, Irvine.
- 4:15 Undergraduate laboratory renaissance: research integration across the entire biochemistry laboratory curriculum. **J. Roeklein-Canfield, R. Gurney, N. Lee and L. Soltzberg.** Simmons Col. (619.1)

- 4:30 **233.2** Cultivating class discussions and interest in scientific research through the acknowledgment of cultural dichotomies. **E.M.E. Martin.** San Diego State Univ.
- 4:55 Using distance learning tools as a mechanism to create a STEM mentoring opportunity. **P. Ortiz, J. Duncan-Poitier, M. Groome, K. Hoffman, J. Lansing and S. Wortel.** SUNY Empire State Col., SUNY at Albany and New York Acad. of Sci. (620.3)
- 5:10 Self-efficacy ratings of URM students who return to a STEM summer research program. **C.R. Shadding and D. Whittington.** Washington Univ. in St. Louis Sch. of Med. and Strategic Evaluations Inc., Durham, NC. (623.2)
- 5:25 **233.3** New frontiers: science and science education in emerging countries. **S. Shenolikar.** Duke-NUS Grad. Med. Sch. Singapore.
- 5:50 Conclusion.

### 234. ASBMB THEMATIC FERMENTATION HOUR

#### Special Event

MON. 6:00 PM—SAN DIEGO CONVENTION CENTER, WEST TERRACE/WEST LOBBY

Join fellow biochemists and molecular biologists for continued scientific discussion and a cool beverage in a casual atmosphere.

### 235. ASBMB INAUGURAL POETRY COMPETITION READING

#### Special Event

(Sponsored by: ASBMB Today, magazine for members of the ASBMB)

MON. 7:00 PM—SAN DIEGO CONVENTION CENTER, 6A

Finalists of the inaugural ASBMB Poetry Competition will share their winning science-themed verse with fellow meeting attendees. Join us and discover our super-talented scientists.

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## Nutrition

### 236. GPEC FORUM: USING INTERDISCIPLINARY TOOLS TO EVALUATE NUTRITIONAL INTERVENTIONS

#### Symposium

(Supported by an educational grant from Mathile Institute for the Advancement of Human Nutrition)

(Sponsored by: Graduate and Professional Education Committee (GPEC) and the International Nutrition Council (INC))

(Cosponsored by: Community and Public Health Nutrition RIS)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 20D

CHAIRED: J.D. HAAS

COCHAIRED: G.S. MARQUIS

#### Education

#### Public Policy

- 8:00 Novel applications of cognitive function in evaluation of nutritional interventions. **M. J. Wenger.** Univ. of Oklahoma.
- 8:25 Discussant. **L. E. Murray-Kolb.** Penn State.
- 8:35 Applications of physical performance and activity measures in evaluating nutritional interventions. **S. E. Crouter.** Univ. of Massachusetts.
- 8:55 Discussant. **J. D. Haas.** Cornell Univ.
- 9:05 Analytical methods for evaluating nutrition programs and interventions. **D. Gilligan.** Intl. Food Policy Res. Inst.
- 9:30 Discussant. **E. A. Frongillo, Jr.** Arnold Sch. of Publ. Hlth., Univ. of South Carolina.
- 9:40 Questions and answers.

### 237. REAL-WORLD NUTRITIONAL TRANSLATION BLENDED WITH FOOD SCIENCE

#### Symposium

(Supported by educational grants from PepsiCo / Frito-Lay, Inc. and ConAgra, Inc.)

(Sponsored by: Nutrition Translation RIS)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 31A/B/C

CHAIRED: M. FERRUZZI

COCHAIRED: R. CLEMENS

- 8:00 What is food science and why does it matter in translational nutrition? **M. Ferruzzi.** Purdue Univ.
- 8:20 The complex world of food chemistry: the interplay between flavor reactions and mechanisms of health promotion in food. **D. Peterson.** Univ. of Minnesota.
- 8:40 Modeling gastric digestion of foods characterized by their material properties. **R. P. Singh.** Univ. of California, Davis.
- 9:20 Food-based clinical interventions toward cancer prevention. **S. J. Schwartz.** The Ohio State Univ.
- 9:40 Roundtable discussion.

### 238. HEALTH IMPACT OF WHOLE GRAINS, BRAN AND CEREAL FIBER

#### Symposium

(Supported by educational grants from CJ ChielJedang, Garuda international, and Kellogg)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 29A/B

CHAIRED: D.M. KLURFELD

COCHAIRED: I.S. KIM

#### Education

#### Career Development

- 8:00 Opening comments and the overview of the science supporting the ASN position statement on whole grains, bran and cereal fiber. **D. M. Klurfeld.** USDA, Beltsville.
- 8:24 A review on the impact of bran, cereal fiber, and whole grain intakes and risk reduction of type 2 diabetes. **S. Cho.** NutraSource.
- 8:48 A comparison of the literature on the association between intakes of bran, cereal fiber, and whole grains and risk and biomarkers of heart disease. **L. Qi.** Harvard Sch. of Publ. Hlth.
- 9:12 A comparison of the literature on the association between intakes of bran, cereal fiber, and whole grains and risk of adiposity measures. **D. M. Klurfeld.** USDA, Beltsville.
- 9:36 Panel discussion.

### 239. EPIDEMIOLOGY AND SYSTEMS BIOLOGY APPROACHES

#### Minisymposium

(Sponsored by: Dietary Bioactive Components RIS)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 32B

CHAIRED: G.K. HARRIS

COCHAIRED: Z. JOUNI AND STUDENT CHAIR: J. CAINE

- 8:00 Overview.
- 8:15 **239.1** Relation of whole grain intake to risk of type 2 diabetes, cardiovascular disease and weight gain: a systematic review and meta-analysis. **S. Chacko, E.Q. Ye, E.L. Chou, M. Kugizaki and S. Liu.** UCLA Sch. of Publ. Hlth. and UCLA.
- 8:30 **239.2** Prediagnostic serum carotenoid levels and the risk of non-Hodgkin lymphoma: the multiethnic cohort. **G. Maskarinec, N.J. Oilberding, S.M. Conroy, Y. Morimoto, A.A. Franke, R.V. Cooney, L.W. Wilkens, L. Le Marchand, M.T. Goodman, B.Y. Hernandez, B.E. Henderson and L.N. Kolonel.** Univ. of Hawaii and Univ. of Southern California Keck Sch. of Med.
- 8:45 **239.3** Mango consumption is associated with better diet quality and increased nutrient intakes in adult participants from the National Health and Nutrition Examination Survey (2001-2008). **V.L. Fulgoni III, T.A. Nicklas and C.E. O'Neil.** Nutr. Impact LLC, Battle Creek, Children's Nutr. Res. Ctr., Houston and LSU.

- 9:00 **239.4** Identifying non-vitamin and mineral bioactive ingredients for inclusion in dietary supplement composition databases. **L.G. Saldanha, J.T. Dwyer, J.M. Holden, K.W. Andrews, R.L. Bailey, J.M. Betz, J.J. Gahche, C.J. Hardy, J. Milner and J.M. Roseland.** ODS/NIH, NCI/NIH, USDA, Beltsville, Ctrs. for Dis. Control and Prevent., Hyattsville and FDA, College Park, MD.
- 9:15 **239.5** Systems biology approach in pathway analysis of low dose flagellin induced tolerance to flagellin-stimulated inflammation in Caco-2 cells. **N. Li, F. Kobeissy, M.C. Quidgley and J. Neu.** Univ. of Florida.
- 9:30 **239.6** NMR EBC metabonomic to assess the nutraceutical effect in COPD: a pilot study of oral administration of a curcumin-based herbal preparation. **G. Scapagnini, N.G. Abraham, S. Davinelli, G. de Laurentiis, D. Paris, D. Melck, A. Motta, S. Matteo and A. Bianco.** Univ. of Molise, Italy and Univ. of Toledo.
- 9:45 Summary.

## 240. PREVENTING CHILDHOOD OBESITY

### Minisymposium

(Sponsored by: Nutrition Education RIS)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 32A

CHAired: C. GUNTHER

COCHAired: K. HARRIS

- 8:00 **240.1** Timing of dessert but not portion size affects young children's intake at lunchtime. **S. Kranz, L.R. Huss, S. Laurentz and G. McCabe.** Purdue Univ.
- 8:15 **240.2** Flavored milk is not associated with excess weight gain in children and adolescents. **K.A. Egan, G.P. McCabe, B.R. Martin, G.C. Hyner, L.D. McCabe and C. Weaver.** Purdue Univ.
- 8:30 **240.3** Different analysis methods reveal different effect of national school lunch program on childhood obesity in the U.S. **H. Xue and Y. Wang.** Johns Hopkins Bloomberg Sch. of Publ. Hlth., Rockville and Baltimore.
- 8:45 **240.4** Assessing school personnel knowledge of wellness policies. **S. McWhinney, A. McDonald, L. Dawkins-Moultin, C. Outley and L. McKyer.** Prairie View A&M Univ. and Texas A&M Univ.
- 9:00 **240.5** Dietary intake of overweight and obese children attending a weight-loss program. **S. Kranz, M. Brauchia, A. Garant and S. Gupta.** Purdue Univ., Riley Hosp. and Indiana Univ., Indianapolis.
- 9:15 **240.6** Pilot study on the management of childhood overweight: a pound of cure. **S.A. Anzeljc and R. Murray.** The Ohio State Univ.
- 9:30 **240.7** Paradigm shift in graduate education: a transdisciplinary approach to childhood obesity prevention. **T.M. Kemmer, W.M. Koszewski, J. Meendering, B. Jensen and J.A. Fischer.** South Dakota State Univ. and Univ. of Nebraska-Lincoln.
- 9:45 **240.8** A nationwide qualitative assessment of third and fourth year medical students' views of childhood obesity. **N.K. Cooke, A.A. Raad, D.S. Alexander, B.A. Lang, J.R. Wheeley and L.S. Goodell.** North Carolina State Univ.

## 241. SELENIUM I: SELENOPROTEIN SYNTHESIS, METABOLISM AND FUNCTION

### Minisymposium

(Sponsored by: Vitamins and Minerals RIS)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 30D

CHAired: R.A. SUNDE

- 8:00 **241.1** Inhibition of selenocysteine tRNA<sup>[Ser]Sec</sup> aminoacylation provides evidence that aminoacylation is required for regulatory methylation of this tRNA. **B. Carlson, J.Y. Kim, X-M. Xu, M.H. Yoo, Y. Zeng, S. Chen, V.N. Gladyshev, B.J. Lee and D.L. Hatfield.** NCI/NIH, Seoul Natl. Univ., Ohio Univ. and Brigham and Women's Hosp. and Harvard Med. Sch.
- 8:15 **241.2** Mammalian selenocysteine tRNA<sup>Um34</sup> methylase and its role in selenoprotein synthesis. **F. Chen, P. Hofmann, B.A. Carlson, R. Tobe, L. Schomburg, V.N. Gladyshev, U. Schweizer and D.L. Hatfield.** NCI/NIH, Charité Univ. Med. Berlin and Brigham and Women's Hosp., Harvard Med. Sch.
- 8:30 **241.3** Selenoprotein P (Sepp1) synthesis by the liver protects against selenium deficiency. **K.E. Hill, A.K. Motley, J.F. Atkins, M.R. Capecchi, S. Wu and R.F. Burk.** Vanderbilt Univ. Med. Ctr. and Univ. of Utah.
- 8:45 **241.4** ApoER2-mediated endocytosis of long-isoform selenoprotein P (Sepp1) supplies skeletal muscle cells with selenium. **S. Kurokawa, W.H. McDonald, K.E. Hill and R.F. Burk.** Vanderbilt Univ. Med. Ctr.
- 9:00 **241.5** Antibiotics induce mistranslation of selenocysteine residue in selenoproteins. **R. Tobe, S. Naranjo-Suarez, A.A. Turanov, B.A. Carlson, P.A. Tsuji, M-H. Yoo, R.A. Everley and V.N. Gladyshev.** NCI/NIH, Brigham and Women's Hosp., Harvard Med. Sch. and Towson Univ., MD.
- 9:15 **241.6** Metabolic production of methylated selenium species requires adequate methylation status. **M.I. Jackson, C. Gabel-Jensen, K. Lunge, B. Gammelgaard and G.F. Combs.** USDA, Grand Forks and Univ. of Copenhagen.
- 9:30 **241.7** Cloning, sequencing, and expression of a subset of selenoprotein transcripts in the turkey (*Meleagris gallopavo*). **R.A. Sunde, G.R. Sunde, C.M. Sunde, M.L. Sunde and J.K. Evenson.** Univ. of Wisconsin-Madison.
- 9:45 **241.8** Association of selenoprotein gene expression with pancreatic atrophy in broiler chicks. **D-L. Li, J-Q. Huang, H. Zhao, X-J. Xia, K-N. Wang and X.G. Lei.** Sichuan Agr. Univ., China and Cornell Univ.

## 242. LIPID AND FATTY ACID METABOLISM AND TRANSPORT

### Minisymposium

(Sponsored by: Energy and Macronutrient Metabolism RIS)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 30C

CHAired: J.T. BRENNAN

COCHAired: M.C. HUANG

- 8:00 **242.1** Assessment of whole body cholesterol pool size in Smith-Lemli-Opitz syndrome children using liquid chromatography tandem mass spectrometry. **S.B. Myrie, L. Merckens, H. Yang, J-B. Rouillet, R.D. Steiner and P.J. Jones.** Univ. of Manitoba and Oregon Hlth. & Sci. Univ.

- 8:15 **242.2** A fatty acid desaturase expression quantitative trait locus modulates response to simvastatin. **H.T. Reardon, J. Zhang, K.S.D. Kothapalli, A.J. Kim, W.J. Park and J.T. Brenna.** Cornell Univ.
- 8:30 **242.3** Using H<sub>2</sub><sup>18</sup>O to study protein and lipid flux: is dyslipidemia a problem of triglyceride and/or apoB production? **S. Previs, D. McLaren, J. Castro-Perez, V. Shah, K. Herath, S. Stout, P. Miller, H. Zhou, W. Li, S-P. Wang, V. Mendoza, D. Johns, B. Murphy, A-M. Cumiskey, L. Wilsie, J. Imbriglio, S. Pinto, B. Hubbard and T. Roddy.** Merck, Rahway, NJ.
- 8:45 **242.4** ABCG5/G8 deficiency results in reduced intestinal cholesterol and fatty acid transport. **L.S. Zhang, A.B. Kohan and P. Tso.** Univ. of Cincinnati.
- 9:00 **242.5** The GTPase ARFRP1 controls assembly of apoA1 to and lipidation of chylomicron in the Golgi of intestinal enterocyte. **A. Jaschke, B. Chung, D. Hesse, R. Kluge, J. Heeren, H-G. Joost and A. Schürmann.** German Inst. of Human Nutr., Nuthetal and Univ. Med. Ctr. Hamburg-Eppendorf.
- 9:15 **242.6** Caloric restriction and exercise lower plasma triglycerides by different mechanisms. **L.S. Sidossis, E. Bellou, M. Maraki, A. Siopi, M. Galani, F. Magkos and S.A. Kavouras.** Harokopio Univ., Greece and Univ. of Texas Med. Branch.
- 9:30 **242.7** In vivo magnetic resonance spectroscopy of lipid handling in steatotic rat liver. **S. Janssens, R.A.M. Jonkers, N.A.W. van Riel, K. Nicolay and J.J. Prompers.** Eindhoven Univ. of Technol., Netherlands.
- 9:45 **242.8** PNPLA gene expression is regulated by carbohydrates and unsaturated fatty acids in vitro and in vivo. **L. Hao, K. Ito, A.E. Wray, N.M. Mueller, M. Atluri and C.A. Ross.** Penn State, Hershey.

## 243. NUTRIENT-GENE INTERACTIONS

### Minisymposium

(Sponsored by: Nutrient Gene Interactions RIS)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 30B

CHAired: D. LIU

COCHAired: Y. PAN

- 8:00 **243.1** Meta-analysis of interaction between dietary magnesium intake and genetic risk variants on diabetes phenotypes in the CHARGE Consortium. **A. Hruby, J.S. Ngwa, J.B. Meigs, J.A. Nettleton, N.M. McKeown and CHARGE Consortium Nutrition Working Group.** Friedman Sch. of Nutr. Sci. and Policy, Tufts Univ., USDA at Tufts Univ., Boston Univ. Sch. of Publ. Hlth., Massachusetts Gen. Hosp. and Harvard Med. Sch. and Sch. of Publ. Hlth., Univ. of Texas Hlth. Sci. Ctr.-Houston.
- 8:15 **243.2** Uterine physiological responses and global gene expression in ovariectomized rats treated with soy protein isolate or 17- $\beta$ -estradiol. **M.J. Ronis, M. Blackburn, K. Shankar, H. Gomez-Acevedo, R. Singhal, S. Dunn, J. Badeaux and T.M. Badger.** Univ. of Arkansas for Med. Sci.
- 8:30 **243.3** Effects of vitamin A status on the responses of the hepatic genes' expression to insulin and retinoic acid in primary hepatocytes from Zucker lean and fatty rats. **W. Chen and G. Chen.** Univ. of Tennessee Knoxville.

- 8:45 **243.4** Resveratrol enhances the effect of lipopolysaccharide on human monocytes THP-1 pro-inflammatory cytokine expression. **L. Feng, H. Huang, N.W. Schoene, L. Yu, K.Y. Lei and T.T.Y. Wang.** Univ. of Maryland College Park and USDA, Beltsville.
- 9:00 **243.5** Aging is a more significant determinant of hepatic DNA methylation patterns than a Western style diet. **L.K. Park, E. Saltzman, G. Schnitzler, B.W. Yoon, L.D. Parnell, C.Q. Lai and S-W. Choi.** USDA at Tufts Univ., Friedman Sch. of Nutr. Sci. and Policy, Tufts Univ. and Tufts Med. Ctr.
- 9:15 **243.6** Identification of genetic loci controlling intestinal calcium (Ca) absorption using BXD recombinant inbred mice fed high or low dietary Ca. **R. Replogle, L. Wang, M. Zhang and J. Fleet.** Purdue Univ.
- 9:30 **243.7** Interactions between XRCC3 polymorphisms and circulating folate concentrations on survival after breast cancer diagnosis. **A.J. McEligot, A. Ziogas and H. Anton-Culver.** California State Univ., Fullerton and Univ. of California, Irvine.
- 9:45 **243.8** Involvement of Sp1 in transcriptional regulation of Atp7a during hypoxia. **L. Xie and J.F. Collins.** Univ. of Florida.

## 244. OSTEOPOROSIS AND BONE METABOLISM IN THE AGING

### Minisymposium

(Sponsored by: Aging and Chronic Disease RIS)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 30A

CHAired: A. BENDICH

- 8:00 Overview.
- 8:15 **244.1** Using natural stable calcium isotopes to rapidly assess changes in bone mineral balance using a bed rest model to induce bone loss. **J.L.L. Morgan, J.L. Skulan, G.E. Gordon, S.J. Romaniello, S.M. Smith and A.D. Anbar.** ORAU/NASA, Houston, Arizona State Univ., Tempe and NASA, Houston.
- 8:30 **244.2** Urinary acid excretion can predict changes in bone metabolism during space flight. **S.R. Zwart, M. Heer and S.M. Smith.** USRA/NASA, Houston, Univ of Bonn, Profil Inst. for Metab. Res., Neuss, Germany and NASA Johnson Space Ctr.
- 8:45 **244.3** Habitual calcium intake and vitamin D status during adulthood through estrogen deficiency have few interactions on calcium kinetics and bone. **C. Park, W. Lee, M. Allen, J. Fleet, G.P. McCabe and C.M. Weaver.** Purdue Univ. and Indiana Univ. Sch. of Med.
- 9:00 **244.4** Feeding soy protein isolate prevents impairment of bone acquisition by Western diets as a result of insulin signaling in bone. **J. Zhang, O.P. Lazarenko, T.M. Badger, M.J.J. Ronis and J-R. Chen.** Univ. of Arkansas for Med. Sci.
- 9:15 **244.5** Feeding blueberry diets dose-dependently inhibits bone resorption in young rats. **J. Zhang, O.P. Lazarenko, T.M. Badger, M.J.J. Ronis and J-R. Chen.** Univ. of Arkansas for Med. Sci.
- 9:30 **244.6** Conjugated linoleic acid protects against appendicular bone loss in orchidectomized middle-aged guinea pigs. **J.R. DeGuire, P. Lavery, I.L. Mak, S. Agellon and H.A. Weiler.** McGill Univ., Ste. Anne de Bellevue.
- 9:45 Summary.



## 245. COMMUNITY NUTRITION PROGRAMS AND POLICIES FOR OLDER ADULTS

### Minisymposium

(Sponsored by: Aging and Chronic Disease RIS)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 29D

CHAired: M.A. JOHNSON

COCHAired: J. FISCHER

- 8:00 Overview.
- 8:15 **245.1** Persistent food insecurity is associated with higher levels of cost-related medication nonadherence in low-income older Georgians. **E.L.P. Sattler and J.S. Lee.** Univ. of Georgia.
- 8:30 **245.2** Food insecurity and healthcare expenditures in older adults: Georgia Advanced Performance Outcomes Measures Project 2008. **J.S. Lee, V. Bhargava, R. Jain, M.A. Johnson and A. Brown.** Univ. of Georgia and Georgia Div. of Aging Svcs., Atlanta.
- 8:45 **245.3** Improving vitamin D status in home-bound elders. **D.K. Houston, J.A. Tooze, J. Demons, B. Davis, R. Shertzer-Skinner, L. Kearsley, R. Gottlieb and J. Williamson.** Wake Forest Sch. of Med. and Senior Svcs. Inc., Winston-Salem.
- 9:00 **245.4** Evaluation of MyPlate mini-poster for older Latino adults: MiPlato para Adultos Mayores. **L.B. Bobroff, E. Minton, D.C. Diehl, X. Diaz, M. Keith, A. Medina-Solorzano and U.K. Gylfadottir.** Univ. of Florida, Marion County Ext. Svc., Hillsborough County Ext. Svc. and Palm Beach County Ext., FL.
- 9:15 **245.5** The influence of home-delivered dietary approach to stop hypertension meals on body mass index and percent of energy needs consumed among older adults with cardiovascular disease. **E.F. Racine, J. Lyerly, J. Warren-Findlow, T. Jennifer and W. McAuley.** Univ. of North Carolina at Charlotte and George Mason Univ.
- 9:30 **245.6** Manipulative dexterity and handgrip strength are associated with greatest difficulty with multiple meal preparation/consumption tasks in homebound seniors. **J.R. Sharkey.** Sch. of Rural Publ. Hlth., Texas A&M Hlth. Sci. Ctr.
- 9:45 Summary.

## 246. DEVELOPMENT OF EVIDENCE-BASED NUTRITION

### Minisymposium

(Sponsored by: Nutrition Education RIS)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 29C

CHAired: S.S. WONG

COCHAired: M. SHAW

- 8:00 **246.1** Sensory exploration of seasonally and locally available vegetables and their effects on vegetable consumption of Western Massachusetts Head Start preschool children. **S. Sojkowski, S. Severin and S. Kannan.** Univ. of Massachusetts Amherst and Head Start, Greenfield, MA.

- 8:15 **246.2** Implementing the dietary guidelines for Americans using new technologies as a channel for nutrition education: evidence from research and best practices. **D.M. Blum-Kemelor, J.M. Spahn, J.E. Obbagy, T.V. Fungwe, S.L. Olson, S.E. Samuels, S. Yoshida and T. Shen.** USDA, Alexandria, VA, Samuels & Assocs., Oakland, CA and IMPAQ Intl. LLC, Columbia, MD.
- 8:30 **246.3** What do college students want? A qualitative study exploring nutrition language and knowledge. **S. Hirshberg, J. Lipschitz and I. Lofgren.** Univ. of Rhode Island.
- 8:45 **246.4** Dissemination of an effective weight management program for Mexican American children in schools. **J. Palcic, C.A. Johnston, W. Breslin, A. El-Mubasher and J.P. Foreyt.** Baylor Col. of Med. and Univ. of Houston.
- 9:00 **246.5** Quantitative evaluation of a nutrition education curriculum targeting limited resource participants. **G. Auld, S. Baker, K. McGirr and L. Conway.** Colorado State Univ.
- 9:15 **246.6** Formative research to inform the development of a community-based intervention for chronic disease prevention in Guatemalan school-age children. **P. Letona, J. Gittelsohn, M. Ramirez-Zea and B. Caballero.** INCAP Comprehen. Ctr. for Prevent. of Chronic Dis., Guatemala City and Johns Hopkins Bloomberg Sch. of Publ. Hlth.
- 9:30 **246.7** Knowledge and perceptions on high blood pressure risk, healthy lifestyles, and use of mobile phone in 3 Latin American countries. **M. Ramirez-Zea, K. Estrada, P. Letona, A. Beratarrechea, F. Diez-Canseco, J.J. Miranda, A. Rubinstein, J. Salguero and H. Martinez.** CIIPEC, INCAP, Guatemala, CESCAS, IECS, Buenos Aires, CRONICAS, UPCH, Lima, Peru and RAND, Santa Monica.
- 9:45 **246.8** Randomized, controlled study demonstrates that *About Eating*, a web-based curriculum focused on eating competence increases food resource management skills of SNAP-Ed eligible women in Pennsylvania. **J. Patterson, K. Arnold and B. Lohse.** Penn State.

## 247. PROBIOTICS FOR OPTIMAL NUTRITION: FROM EFFICACY TO GUIDELINES

### Symposium

(Supported by educational grants from Abbott Nutrition; BioProspect Limited; Danisco USA Inc.; Danone; Kraft Foods, Inc. and Nestle)

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 20D

CHAired: S.M. DONOVAN

COCHAired: G.S. HOWARTH

- 10:30 Pre-clinical development of new probiotics and probiotic-derived factors. **G. Howarth.** Univ. of Adelaide, Australia.
- 11:00 The stressed mucosa—application of non-invasive biomarkers to assess gut health. **R. Butler.** Univ. of South Australia.
- 11:30 Probiotic influences on atopy and non-gastrointestinal organ systems. **S. Salminen.** Univ. of Turku, Finland.
- 12:00 Evolving regulatory requirements for probiotics: nutritional recommendations. **G. Gibson.** Univ. of Reading, UK.

**248. METABOLIC REGULATION BY AMINO ACIDS FOR OPTIMAL HEALTH****Symposium***(Supported by an educational grant from Ajinomoto, Inc)**(Sponsored by: Nutritional Sciences Council(NSC)*

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 31A/B/C

CHAired: S.M. HUTSON

COCHAired: G.S. HOWARTH

- 10:30 Hypothalamic leucine sensing regulates hepatic glucose production. **R. Gutierrez-Juarez**. Albert Einstein Col. of Med.
- 11:00 Metabolic effects of leucine supplementation on the prevention and treatment of diet-induced obesity. **D. Cota**. Univ. Victor Segalen, Bordeaux.
- 11:30 Does leucine supplementation improve skeletal muscle function? **S. M. Hutson**. Virginia Tech.
- 12:00 Remodeling of the integration of lipid metabolism between liver and adipose tissue by dietary methionine restriction. **T. W. Gettys**. Pennington Biomed. Res. Ctr.

**249. UTILIZING A STEPWISE PROCEDURE TO DESIGN EFFECTIVE NUTRITION EDUCATION****Symposium***(Sponsored by: Nutrition Education RIS, Community and Public Health RIS and Nutrition Translation RIS)*

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 29A/B

CHAired: S. GOODSELL

**Education****Career Development**

- 10:30 Moderator's introduction. **S. Goodell**.
- 10:40 Introduction. **I. Contento**. Columbia Univ.
- 10:50 Case studies. **P. Koch**. Columbia Univ.
- 10:55 Team work.
- 11:25 Discussion.
- 11:35 Systematic Procedure for Developing Nutrition Education. **I. Contento, P. Koch**. Columbia Univ.
- 11:45 Team work.
- 11:55 Discussion.
- 12:00 Successful models and HECAT. **P. Koch, V. Carraway-Stage**. Columbia Univ., FoodMASTER Initiative.
- 12:20 Conclusion.

**250. ESTABLISHING AND EVALUATING HEALTH CLAIMS FOR PROBIOTICS****Special Session***(Supported by educational grants from Abbott Nutrition; Dairy Research Institute; Danone; Kraft Foods, Inc. and Nestle)*

MON. 1:00 PM—SAN DIEGO CONVENTION CENTER, 29A/B

CHAired: S.M. DONOVAN

COCHAired: M.E. SANDERS

**Education****Public Policy**

- 1:00 Evaluating the science behind probiotic health claims: European perspective. **G. Gibson**. Univ. of Reading, UK.
- 1:20 Evaluating the science behind health claims. **B. O. Schneeman**. FDA, College Park.
- 1:40 Developing a dossier to substantiate health effects of probiotic foods. **M. E. Sanders**. Dairy and Food Culture Technol.
- 2:00 Questions and answers.

**251. MECHANISMS OF ACTION AND MOLECULAR TARGETS OF DIETARY BIOACTIVE COMPONENTS II****Minisymposium***(Sponsored by: Dietary Bioactive Components RIS)*

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 32B

CHAired: C. KHOO

COCHAired: A. SHAO

- 10:30 **251.1** Genistein-mediated inhibition of mammary stromal adipocyte differentiation limits expansion of mammary stem/progenitor cells by paracrine signaling. **M.T.E. Montales, S. Scanlon, H. Nakatani, T. Matsuda and R.C.M. Simmen**. Univ. of Arkansas for Med. Sci. and Nagoya Univ., Japan.
- 10:45 **251.2** Polyphenol-rich *Aronia melanocarpa* (chokeberry) extract regulates expression of cholesterol and lipid metabolism genes in Caco-2 cells. **B. Kim, Y. Park, R. Taheri, K. Kimball, A. Roto, J. Lee and B. Bolling**. Univ. of Connecticut.
- 11:00 **251.3** Leucine modulation of sirtuins and AMPK in adipocytes and myotubes. **C. Liang, A. Bruckbauer and M.B. Zemel**. Univ. of Tennessee and Nutraceut. Discoveries Inc., Knoxville.
- 11:15 **251.4** Dietary wolfberry increases hepatic insulin sensitivity in obese mice. **D. Lin, Y. Jiang, L. Wark, H. He, L. Willard and D. Medeiros**. Kansas State Univ. and Univ. of Missouri-Kansas City.
- 11:30 **251.5** Identification of human-flavonoid targets using an innovative approach reveals new mechanisms involved in their anti-inflammatory activities. **D. Arango, K. Morohashi, A. Yilmaz, B. Brahimaj, K. Kuramochi, E. Grotewold and A.I. Doseff**. The Ohio State Univ. and Kyoto Prefect. Univ.
- 11:45 **251.6** Role of  $\beta$ -hydroxy- $\beta$ -methylbutyrate in leucine stimulation of muscle mitochondrial biogenesis. **R.A. Stancliffe and M.B. Zemel**. Univ. of Tennessee, Knoxville.

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- 12:00 **251.7** Pomegranate ellagitannin metabolite, urolithin A, inhibits prostate cancer cell proliferation via inhibition of IGF-1 signaling pathway. **R. Vicinanza, Y. Zhang, S.M. Henning, J. Ma and D. Heber.** UCLA.
- 12:15 **251.8** Anti-cancer effects of daurinol, a plant arynaphthalane lignan, with low hematological toxicity compared to etoposide. **K. Kang, S.H. Oh, J.H. Yun, E.H. Jho, J.H. Kang, D. Batsuren, J. Tunsag, K.H. Park and C.W. Nho.** Korea Inst. of Sci. and Technol., Gangneung, Col. of Pharm., Gachon Univ. of Med. and Sci. and Natl. Cancer Ctr., Goyang, South Korea, Mongolian Acad. of Sci., Ulan-Bator and Yonsei Univ., South Korea.

## 252. OBESITY AND METABOLIC SYNDROME

### Minisymposium

(Sponsored by: Energy and Macronutrient Metabolism RIS)

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 32A

CHAired: S.K. DAS

COCHAired: V.V. POTTER

- 10:30 **252.1** Female mice lacking active NADPH-oxidase enzymes are protected against Western diet-induced obesity and metabolic syndrome. **M.J. Ronis, N. Sharma, J. Badeuax, M. Ferguson and T.M. Badger.** Univ. of Arkansas for Med. Sci.
- 10:45 **252.2** Although equally obese, high fat diet -fed ovariectomized mice respond with greater adipose tissue inflammation than sham-operated mice. **V.J. Vieira Potter, K. Strissel, M.S. Obin and A.S. Greenberg.** USDA at Tufts Univ.
- 11:00 **252.3** Does changing the PUFA content of a high saturated fat meal influence postprandial lipid and lipoprotein expression in children with nonalcoholic fatty liver disease? **D. Mager, C. Rodriguez-Dimitrescu, J. Yap, V. Mazurak, D. Vine, M. Jetha and G. Ball.** Univ. of Alberta.
- 11:15 **252.4** Activation of brown adipose tissue by acute and chronic administrations of capsinoids in humans. **T. Yoneshiro, S. Aita, M. Matsushita and M. Saito.** Hokkaido Univ. Grad. Sch. of Med. and Tenshi Col. Sch. of Nursing and Nutr., Japan.
- 11:30 **252.5** Maternal fat gain modulates insulin response among overweight/obese women. **J. De Haene, E. Murphy, N. Stotland, V. Ruiz Barros, G. Hernandez, M. Perez Rodriguez, D. Castaneda, P.J. Havel and J.C. King.** Univ. of California, Irvine, San Francisco Gen. Hosp., UCSF, Children's Hosp. Oakland Res. Inst. and Univ. of California, Davis.
- 11:45 **252.6** Association between sugar-sweetened beverage consumption and the metabolically healthy obese phenotype. **A. Green, P.F. Jacques, G.T. Rogers, J.B. Meigs and N.M. McKeown.** Tufts Univ. Med. Sch., USDA and Friedman Sch. of Nutr. Sci. and Policy at Tufts Univ. and Massachusetts Gen. Hosp., Harvard Med. Sch.
- 12:00 **252.7** Lipoprotein cholesterol distribution and LDL particle size is proatherogenic in Mexican Americans with metabolic syndrome. **G.A.P. Pignotti, S. Neupane, K.J. Farr and S. Vega-López.** Arizona State Univ.
- 12:15 **252.8** New waist circumference cut-offs for African Americans according to the clustering of metabolic syndrome risk factors, NHANES 1999-2006. **M. Udahogora and R. Jackson.** Univ. of Maryland College Park.

## 253. SELENIUM II: SELENIUM AND CANCER, INFLAMMATION AND OXIDATIVE STRESS

### Minisymposium

(Sponsored by: Vitamins and Minerals RIS)

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 30D

CHAired: R.A. SUNDE

- 10:30 **253.1** Independent downregulation of Sep15 and TR1, but not deficiency in both genes, affects cancer phenotypes of mouse colon carcinoma cells. **P.A. Tsuji, B.A. Carlson, M-H. Yoo, X-M. Xu, S. Naranjo-Suarez, C.D. Davis, V.N. Gladyshev and D.L. Hatfield.** Towson Univ., MD, NCI/NIH, Bethesda and Rockville and Brigham and Women's Hosp., Harvard.
- 10:45 **253.2** Thioredoxin reductase 1: role in oxidative stress within cancer cells. **M-H. Yoo, B.A. Carlson, P.A. Tsuji, V.N. Gladyshev and D.L. Hatfield.** NCI/NIH and Brigham and Women's Hosp., Harvard Med. Sch.
- 11:00 **253.3** Prenatal effects of selenium and isoflavones in transgenic adenocarcinoma of mouse prostate mice. **H.L. Nakken, K.A. McLeod, J.K. Rasmussen, T.J. Randall, D. Churchill and M.J. Christensen.** Brigham Young Univ.
- 11:15 **253.4** Targeting DNA repair protein as an approach for sensitizing cancer cells to methylseleninic acid. **T.J. Tzeng, R.T.Y. Wu, C.R.B. Rocourt and W-H. Cheng.** Univ. of Maryland College Park.
- 11:30 **253.5** Enhanced metabolic inactivation of PGE2 by selenium in macrophages is mediated by the upregulation of 15-hydroxy-prostaglandin dehydrogenase. **N. Kaushal, V. Narayan, A.D. Patterson and K.S. Prabhu.** Penn State.
- 11:45 **253.6** Selenoprotein induced M1 to M2 murine macrophage phenotype switching is imperative in helminth parasite clearance. **S.M. Nelson, B.A. Carlson, J. Urban, X. Lei, D.L. Hatfield and K.S. Prabhu.** Penn State, NCI/NIH, USDA, Beltsville, MD and Cornell Univ.
- 12:00 **253.7** A role for selenoprotein H in genome stability maintenance against oxidative stress. **R.T.Y. Wu and W-H. Cheng.** Univ. of Maryland College Park.
- 12:15 **253.8** The catalytic subunit of DNA-dependent protein kinase is downstream of ATM and feeds forward oxidative stress in selenium-induced senescence response. **C.R.B. Rocourt, M. Wu, B.P.C. Chen and W-H. Cheng.** Univ. of Maryland College Park and Univ. of Texas Southwestern Med. Ctr.

## 254. DIETARY FACTORS AFFECTING LIPID METABOLISM

### Minisymposium

(Sponsored by: Energy and Macronutrient Metabolism RIS)

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 30C

CHAired: K.H. KIM

COCHAired: C. SMAS

- 10:30 Overview.
- 10:45 **254.1** Modulation of cholesterol-induced hepatic steatosis by macronutrient manipulation in guinea pigs. **R.C. deOgburn, D. Aguilar, J.S. Volek and M.L. Fernandez.** Univ. of Connecticut.

- 11:00 **254.2** Folic acid supplementation alters adipose tissue lipid metabolism. **K.B. Kelly, S.D. Proctor, C.J. Field and R.L. Jacobs.** Univ. of Alberta.
- 11:15 **254.3** Consumption of one egg per day reduces the expression of hmg-coa reductase in peripheral mononuclear cells (pbmc) to maintain ldl cholesterol concentrations. **M.L. Fernandez, S. Ata, Y. Park and J. Lee.** Univ. of Connecticut.
- 11:30 **254.4** Effects of an L-arginine infusion on postprandial fat metabolism in healthy young subjects. **C.S. Katsanos, C. Meyer and G. Puga.** Arizona State Univ. Sch. of Life Sci.
- 11:45 **254.5** Carbohydrate restriction favorably affects HDL metabolism in men and women with metabolic syndrome: addition of egg yolk further increases large HDL particles. **C.J. Andersen, C.N. Blesso, Y. Park, J. Barona, T. Pham, J. Lee and M.L. Fernandez.** Univ. of Connecticut.
- 12:00 **254.6** Dietary intake ratio of calcium-to-phosphorus and sodium-to-potassium are associated with levels of serum lipids in healthy Korean adults. **S.Y. Bu, M-H. Kang, E-J. Kim and M-K. Choi.** Kyungil Univ., Hoseo Univ. and Kongju Natl. Univ., South Korea.
- 12:15 Summary.

## 255. NUTRIENT-GENE INTERACTIONS IN MODELS OF NEURODEGENERATIVE/NEUROMUSCULAR AND METABOLIC DISEASES

### Minisymposium

(Sponsored by: Nutrient Gene Interactions RIS)

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 30B

CHAired: M.J. HAMADEH

COCHAired: C. WU

- 10:30 **255.1** Role of general control nonderepressible 2 kinase in mediating responses to dietary methionine restriction. **E.P. Plaisance, N. Van, M. Orgeron, A.N. McDaniel, P.H. Behrens, T.W. Gettys and T.G. Anthony.** Pennington Biomed. Res. Ctr., Baton Rouge and Indiana Univ. Sch. of Med.-Evansville.
- 10:45 **255.2** Effect of  $\omega$ 3 PUFA on diet induced non-alcoholic fatty liver disease development and progression in C57BL/6J mice. **C.M. Depner and D.B. Jump.** Sch. of Biol. and Popul. Hlth. Sci., Oregon State Univ.
- 11:00 **255.3** Zinc deficiency regulates TGF-beta signaling, nuclear receptor activity, and neuronal differentiation in human neuronal precursor cells. **S.D. Gower-Winter, D.R. Morris, R.S. Corniola, T. Morgan and C.W. Levenson.** Florida State Univ. Col. of Med.
- 11:15 **255.4** Dietary quercetin supplementation alleviates disease related muscle injury in dystrophic muscle. **K. Hollinger, E. Snella, R.A. Shanely and J.T. Selsby.** Iowa State Univ. and Appalachian State Univ., Kannapolis, NC.
- 11:30 **255.5** EGCG protects against 6-OHDA induced neurotoxicity in a cell culture model. **D. Chen, A.G. Kanthasamy and M.B. Reddy.** Iowa State Univ.
- 11:45 **255.6** Protective effects of berries and walnuts against the accelerated aging and age-associated stress caused by irradiation in critical regions of rat brain. **S.M. Poulouse, D.F. Bielinski, S.M. Gomes, K. Carrihill-Knoll, B.M. Rabin and B. Shukitt-Hale.** USDA at Tufts Univ. and Univ. of Maryland Baltimore County.

- 12:00 **255.7** Dietary vitamin D<sub>3</sub> at 50x the adequate intake increases apoptosis in the quadriceps of the female G93A mouse model of amyotrophic lateral sclerosis: a pilot study. **E. Parkhomenko, A. Millionis, A. Gianforcaro, J.A. Solomon and M.J. Hamadeh.** Sch. of Kinesiol. and Hlth. Sci., York Univ., Canada.
- 12:15 **255.8** Dietary vitamin D<sub>3</sub> restriction differentially alters *quadriceps* contractile proteins in both sexes in the transgenic G93A mouse model of amyotrophic lateral sclerosis: a pilot study. **A. Millionis, E. Parkhomenko, J.A. Solomon, A. Gianforcaro and M.J. Hamadeh.** Sch. of Kinesiol. and Hlth. Sci., York Univ., Canada.

## 256. APPLICATIONS AND CHALLENGES OF PUBLIC USE DATA SETS FOR SECONDARY ANALYSIS NUTRITION RESEARCH

### Minisymposium

(Sponsored by: Nutritional Epidemiology RIS)

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 30A

CHAired: Y. WANG

- 10:30 **256.1** The most frequently reported foods and beverages differ by age among participants of NHANES 1999-2008. **H.A. Eicher-Miller and C.J. Boushey.** Purdue Univ. and Univ. of Hawaii Cancer Ctr.
- 10:45 **256.2** Trends in sources of empty calories for 2-18 year olds in the U.S.: 1977-2008. **M.M. Slining and B.M. Popkin.** Univ. of North Carolina at Chapel Hill.
- 11:00 **256.3** Sweeteners in the U.S. food supply and the role of fruit juice concentrates. **S.W. Ng, M.M. Slining and B.M. Popkin.** Univ. of North Carolina at Chapel Hill.
- 11:15 **256.4** Comparing actual caloric value of food purchases with NHANES: what is missing? **C. Piernas, S.W. Ng and B.M. Popkin.** Univ. of North Carolina at Chapel Hill.
- 11:30 **256.5** Progress in development of dietary supplement composition and label databases for research. **J.T. Dwyer, R. Bailey, L. Saldanha, J. Holden, K. Andrews, J. Betz, J. Gahche, C. Hardy, J. Milner and J. Roseland.** ODS/NIH, NCI/NIH, USDA, Beltsville, Ctrs. for Dis. Control and Prevent., Hyattsville and FDA, Silver Spring, MD.
- 11:45 **256.6** Dietary supplement use of children <18 years in the 2007 National Health Interview Survey. **J.T. Dwyer, R. Bailey, R. Nahin, G. Rogers, C. Sempos and P. Jacques.** ODS/NIH, NCCAM/NIH and USDA at Tufts Univ.
- 12:00 **256.7** Gestational weight gain trends among WIC participants in Los Angeles County. **M. Koleilat, S. Whaley and D. Gee.** PHFE WIC Prog., Irwindale, CA.
- 12:15 **256.8** A rapid automated method for detecting likely errors among sequential clinical measures recorded during clinical care. **D.C. Schwenke.** Phoenix VA Hlth. Care Syst. and Arizona State Univ. Col. of Nursing and Hlth. Innovation.

**257. WEIGHT MANAGEMENT IN REAL LIFE****Minisymposium***(Sponsored by: Community and Public Health Nutrition RIS)*

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 29D

CHAired: S.J. NIELSEN

COCHAired: S. FRANCIS

- 10:30 **257.1** A worksite-based weight loss intervention for obesity prevention. **T. Salinardi, P. Batra, S.K. Das, L. Robinson, A.H. Lichtenstein, T. Deckersbach and S.B. Roberts.** USDA at Tufts Univ. and Massachusetts Gen. Hosp., Boston.
- 10:45 **257.2** A nutrition and physical activity intervention using smart phones in physical education classes at a junior high school. **M.I. Mosqueda, C.L. Martinez, B.J. Orr, N.C. Merchant, S.B. Going and N. Hongu.** Univ. of Arizona.
- 11:00 **257.3** Peer led behavioral intervention and changes in weight status in female college freshman. **E.M. Evans, M.D. Schmidt, M.C. Mojtahedi, D.D. Guest, B.M. Das and E.L. Mailey.** Univ. of Georgia and Univ. of Illinois, Urbana.
- 11:15 **257.4** Increased dietary saturated fat intake is negatively associated with compliance to exercise regimen and improvement in fitness parameters. **S. Krishnan, M. Gustafson, C. Campbell, E.C. Souza and N.L. Keim.** Univ. of California, Davis, USDA Davis and Univ. of California Davis Med. Ctr.
- 11:30 **257.5** Physical activity and protein intake are associated with feelings of energy and fatigue in overweight black and white women. **C.L. Ward, W.J. McConnell, R.D. Larson, P.J. O'Connor and E.M. Evans.** Univ. of Georgia.
- 11:45 **257.6** Pediatric overweight prevention through a parent training program for 2-4 year old Latino children. **W. Slusser, C. Neumann, W. Cumberland, K. Renenger, H. Fischer and F. Frankel.** UCLA Schs. of Med. and Publ. Hlth.
- 12:00 **257.7** Preventing excessive weight gain by encouraging healthy eating habits among adolescents in Brazil: a randomised community trial. **D. Cunha, B. Souza, R. Pereira and R. Sichieri.** State Univ. of Rio de Janeiro and Fed. Univ. of Rio de Janeiro.
- 12:15 **257.8** Increase in physical activity among Central Brooklyn residents participating in an incentive-based walking program. **J. Hoy-Rosas and B. Klein.** The Family Ctr., Brooklyn, NY.

**258. INFLUENCES OF WATER AND BEVERAGE CONSUMPTION ON HEALTH OUTCOMES****Minisymposium***(Sponsored by: Nutritional Epidemiology RIS)*

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 29C

CHAired: J. STOOKEY

COCHAired: C. ZIZZA

- 10:30 **258.1** Beverage choices and contributions to food and nutrient intakes differ by smoking status: results from What We Eat in America, NHANES 2005-2008. **R. Sebastian, C. Wilkinson Enns, J. Goldman and C. Zizza.** USDA, Beltsville, MD and Auburn Univ. Col. of Human Sci.

- 10:45 **258.2** Beverage intakes by weight status? do obese individuals drink more? Results from What We Eat in America, NHANES 2005-2008. **D.N. Chester, R.S. Sebastian, C.W. Enns and J.D. Goldman.** USDA, Beltsville, MD.
- 11:00 **258.3** Validating sugar-sweetened beverage intake and adiposity among African American and white adults in a doubly labeled water study. **J.A. Emond, R.E. Patterson, P.M. Jardack and L. Arab.** Moores Cancer Ctr., La Jolla, San Diego State Univ. Sch. of Publ. Hlth. and David Geffen Sch. of Med. at UCLA.
- 11:15 **258.4** Coffee consumption and risk of chronic disease in the European Prospective Investigation into Cancer and Nutrition-Germany study. **A. Floegel, T. Pischon, M.M. Bergmann, B. Teucher, R. Kaaks and H. Boeing.** German Inst. of Human Nutr., Potsdam-Rehbruecke, Max Delbrück Ctr. for Molec. Med., Berlin-Buch and German Cancer Res. Ctr., Heidelberg.
- 11:30 **258.5** The association between sugar intake and HDL levels varies by sugar type and source. **J.A. Welsh and M.B. Vos.** Emory Univ. and Children's Healthcare of Atlanta.
- 11:45 **258.6** Association between total water intake, micronutrient intakes and serum nutrient profile among U.S. adults. **M. Yang, S. Park and O.K. Chun.** Univ. of Connecticut and Ctrs. for Dis. Control and Prevent.
- 12:00 **258.7** Comparison of coconut water and a carbohydrate/electrolyte sport drink on measures of hydration and physical performance in exercise-trained men. **D.S. Kalman, S. Feldman, E. Martino and D.R. Krieger.** Miami Res. Assocs.
- 12:15 **258.8** Having orange juice instead of drinking water with breakfast limits postprandial fat oxidation after breakfast in normal weight adolescents and adults. **J. Stookey, J. Hamer, G. Espinoza, A. Higa, V. Ng, L. Tinajero-Deck, P. Havel and J.C. King.** Children's Hosp. Oakland Res. Inst. and Univ. of California, Davis.

**259. THE E.V. MCCOLLUM LECTURE****Keynote Lecture**

MON. 12:45 PM—SAN DIEGO CONVENTION CENTER, 20D

TBD. **L. H. Allen.** USDA, Davis.**260. FRONTIERS IN FIBER NUTRITION RESEARCH AND APPLICATION****Symposium***(Supported by an educational grant from Kraft Foods, Inc. and National Starch, LLC)**(Sponsored by: Nutritional Epidemiology RIS)*

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 20D

CHAired: S.M. KUO

COCHAired: C.L. PELKMAN

- 3:00 Fibers: roughage, prebiotics and beyond. **S. M. Kuo.** Univ. at Buffalo.
- 3:20 New epidemiological evidences on dietary fiber and health. **Y. Park.** NCI/NIH.
- 3:40 Fecal bile acid profiling as a biomarker for fiber intake. **L. H. Hagey.** UCSD.

- 4:00 Filling the fiber gap with functional fiber—a view from the food industry. **C. L. Pelkman**. National Starch, LLC.
- 4:20 Capstone speech: roadmap for future fiber nutrition research. **J. M. Jones**. St. Catherine Univ., MN.
- 4:50 Questions and answers.

## 261. COMMUNICATION TECHNIQUES OF EFFECTIVE SPEAKERS

### Symposium

(Supported by an educational grant from the NIH Office of Dietary Supplements)

(Sponsored by: Nutritional Sciences Council (NSC))

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 31A/B/C

CHAired: C.A. SWANSON

COCHAired: J. ENGEL

### Career Development

- 3:00 Scientifically speaking: how to prepare an effective talk. **B. Whitener**. IQ Solutions.
- 3:30 Communicate with more clarity and confidence. **N. Tolbert**. The Communication Ctr. DC.
- 4:00 The power of stories. **N. Tolbert**. The Communication Ctr. DC.
- 4:30 TBD.

## 262. A NURTURING ENVIRONMENT PRODUCES FUTURE LEGENDS: DEVELOPMENT OF CAREER THROUGH SUCCESSFUL MENTOR-MENTEE RELATIONSHIPS

### Symposium

(Sponsored by: Student Interest Group (SIG))

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 29A/B

CHAired: S.C. CHAI

### Education

### Career Development

- 3:00 TBD. **H. G. Anderson, D. Khoury**. Univ. of Toronto.
- 3:20 TBD. **B. H. Arjmandi, R. Feresin**. Florida State Univ.
- 3:40 TBD. **K. Rasmussen, J. Woo**. Cornell Univ.
- 4:00 TBD. **R. J. Cousins**. Univ. of Florida.
- 4:20 TBD. **V. V. Potter**. USDA HNRCA at Tufts Univ.
- 4:40 Questions and answers.

## 263. ANTIOXIDANT AND ANTI-INFLAMMATORY EFFECTS ON DIETARY BIOACTIVE COMPONENTS

### Minisymposium

(Sponsored by: Dietary Bioactive Components RIS)

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 32B

CHAired: A. BERGER

COCHAired: S. LEY

- 3:00 **263.1** Phenolics in mulberry leaves protect Hep G2 cells against hyperglycemia-induced oxidative damage. **Y-X. Zou, S-T. Liao, F. Liu, J. Blumberg and C-Y.O. Chen**. Guangdong Acad. of Agr. Sci., China and USDA at Tufts Univ.
- 3:15 **263.2** Bioactive compounds of dealcoholized fermented berry fruit beverages inhibit inflammation in vitro and are a good source of antioxidants. **M. Johnson, E. Gonzalez de Mejia, M.A. Lila and G.G. Yousef**. Univ. of Illinois, Urbana and Col. of Agr. and Life Sci., North Carolina Res. Campus, Kannapolis.
- 3:30 **263.3** New roles of erythritol identified via transcriptomic profiling. **A. Berger, P. de Cock, G. den Hartog, D. Boesten and A. Bast**. Cargill, MN, Cargill R&D Ctr. Europe, Belgium and Maastricht Univ., Netherlands.
- 3:45 **263.4** *Ecklonia cava* polyphenol prevents ethanol-induced liver injury in rats. **A. Kojima-Yuasa, M. Takahashi, M. Tabuchi, Y. Akahoshi, M. Terada and I. Matsui-Yuasa**. Grad. Sch. of Human Life Sci., Osaka City Univ., Kinki Univ. Med. Sch. and JP Renew Distributors LLC., Tatsuino, Japan.
- 4:00 **263.5** Effects of ginger (*Zingiber officinalis* L) on inflammation-induced bone loss. **J.L. Funk, J.B. Frye, L.E. Wright and B.N. Timmermann**. Univ. of Arizona and Univ. of Kansas.
- 4:15 **263.6** Quercetin and chlorogenic acid affect butyrate excretion, NF- $\kappa$ B activity, and cell proliferation in DSS-treated rats. **L.A. Piefer, B.R. Weeks, R.J. Carroll, D.H. Byrne, A. Ambrus and N.D. Turner**. Texas A&M Univ.
- 4:30 **263.7** Effects of ferulic acid supplementation on lipid profiles, oxidative stress and inflammatory status in hypercholesterolemic subjects. **A. Bumrungpert, T. Pingeesakikul, N. Tirawanchai, S. Tuntipopipat, S. Lilitchan and S. Komindr**. Mahidol Univ., Thailand.
- 4:45 **263.8** Influence of red pepper spice and turmeric on inflammation, and oxidative stress in overweight females: a metabolomics approach. **D.C. Nieman, L. Kam, A.M. Knab and R.A. Shanely**. Appalachian State Univ., NC.

## 264. PREVENTING EARLY CHILDHOOD OBESITY

### Minisymposium

(Sponsored by: Nutrition Education RIS)

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 32A

CHAired: J. KIM

COCHAired: K. LORA

- 3:00 **264.1** The mother-infant dyad study: a grounded theory inquiry into the day-to-day experiences between first-time mothers and their infants that influence feeding practices. **J.J. Helvey, K.M. Bower and K.F. Kavanagh**. Univ. of Tennessee, Knoxville.

**Visit The Exhibits**

Sunday–Tuesday

9:00 AM–4:00 PM

- 3:15 **264.2** Start Healthy, Stay Healthy™: a Nestle nutrition initiative to establish healthy eating habits early in life. **K.C. Reidy, D.M. Deming, C. Callen and J. Saavedra.** Nestle Infant Nutr., Florham Park, NJ.
- 3:30 **264.3** Estimated energy intake and energy loss among low-income formula-fed infants: mid-point analysis of phase 1 of the Baby-Mine study. **K.F. Kavanagh, J.C. Nicklas, J.L. Burney and B.P. Greer.** Univ. of Tennessee, Knoxville.
- 3:45 **264.4** Does infant mood affect offered bottle size? An exploratory analysis of secondary objectives of the Baby Mine study. **J.C. Nicklas, B.P. Greer, J.L. Burney and K.F. Kavanagh.** Univ. of Tennessee, Knoxville.
- 4:00 **264.5** Gestational weight gain and child weight status at 5 years of age: differential effects by prepregnancy body mass index status. **S.N. Hinkle, A.J. Sharma, D.W. Swan, L.J. Schieve, A.D. Stein and U. Ramakrishnan.** Emory Univ., Ctrs. for Dis. Control and Prevent. and Emory Univ. Rollins Sch. of Publ. Hlth.
- 4:15 **264.6** Diet quality of preschoolers and their mothers enrolled in an obesity prevention program. **L.E.R. Laster, C.A. Lovelady, D.G. West, G.A. Wittheiss, R.J.N. Brouwer and T. Ostbye.** Univ. of North Carolina at Greensboro and Duke Univ. Med. Ctr.
- 4:30 **264.7** At-home sugar sweetened beverage consumption in minority, low-income children and caretakers. **A. Ferris, S. Wei and D. Wakefield.** Univ. of Connecticut Hlth. Ctr., East Hartford.
- 4:45 **264.8** Development of a home feeding intervention for resource-limited parents of 3-5-year-old children. **M. Reznar, S. Hoerr and M. Murashima.** Michigan State Univ.

## 265. ANIMAL RESEARCH MODELS IN NUTRITION AND MUSCULOSKELETAL DEVELOPMENT

### Minisymposium

(Sponsored by: Experimental Animal Nutrition RIS)

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30D

CHAired: R.P. RHOADS, JR

COCHAired: C.H. STAHL

- 3:00 Overview.
- 3:15 **265.1** Increased adiposity induced by high dietary butter oil increases vertebrae trabecular structural indices in rats. **F.H. Nielsen.** USDA, Grand Forks.
- 3:30 **265.2** Alpha-1 antitrypsin reduces ovariectomy-induced bone loss in mice. **J.J. Cao, B.R. Gregoire and S. Song.** USDA, Grand Forks and Univ. of Florida.
- 3:45 **265.3** Impact of dietary calcium concentrations on growth, bone development and the behavior of mesenchymal stem cells in neonatal piglets. **Y. Li, B.S. Seabolt and C.H. Stahl.** North Carolina State Univ.
- 4:00 **265.4** X-ray fluorescence as an assay tool for musculoskeletal nutrition animal research. **R.M. Branly, O.L. Tulp and D. Karam.** Broward Col., FL and USAT Sch. of Med., Montserrat.
- 4:15 **265.5** Leucine pulse increases skeletal muscle protein synthesis during continuous feeding in neonatal pigs. **C. Boutry, A. Suryawan, S.W. El-Kadi, S.M. Wheatley, R.A. Orellana, H.V. Nguyen and T.A. Davis.** USDA and Baylor Col. of Med.

- 4:30 **265.6** Nutritionally-induced neonatal muscle growth retardation can be rescued by sustained muscle IGF-I expression. **M.L. Fiorotto, H.A. Sosa, T.A. Davis, C. Villegas and I.J. Estrada.** USDA, Baylor Col. of Med.
- 4:45 Summary.

## 266. POLYUNSATURATED FATTY ACIDS AND HEALTH

### Minisymposium

(Sponsored by: Energy and Macronutrient Metabolism RIS)

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30C

CHAired: K. CLAYCOMBE

COCHAired: D. JUMP

- 3:00 **266.1** Oils rich in alpha-linolenic acid independently protect against characteristics of fatty liver disease in the delta-6-desaturase null mouse. **J. Monteiro, M. McLennan, L. Hillyer, F. Askarian, M.H. Moghadasian, M.T. Nakamura and D.W.L. Ma.** Univ. of Guelph, Canada, Univ. of Manitoba and Univ. of Illinois at Urbana-Champaign.
- 3:15 **266.2** Delta-6 desaturase inhibition reverses cardiometabolic remodeling and hypertrophy, but not mitochondrial dysfunction, in the aged mouse heart. **C.M. Mulligan, C.H. Le, A.B. deMooy and A.J. Chicco.** Colorado State Univ.
- 3:30 **266.3** Attenuation of niacin-induced prostaglandin D<sub>2</sub> generation by omega-3 fatty acids in THP-1 macrophages. **R.A. Siddiqui, J. VanHorn, K.A. Harvey, J.D. Altenburg, Z. Xu and R.J. Kovacs.** Methodist Res. Inst. and Indiana Univ. Sch. of Med.
- 3:45 **266.4** Racial differences in plasma omega-3 long chain fatty acid levels in a cohort of African Americans and European Americans with diabetes and metabolic syndrome. **B.A. Wilson, S. Sergeant, H. Ainsworth, R. Mathias and F.H. Chilton III.** Wake Forest Sch. of Med. and Johns Hopkins Univ. Sch. of Med.
- 4:00 **266.5** The emerging relationship between the endocannabinoid metabolome, inflammation, and pregnancy. **H.A. Durham, J.T. Wood, J.P. Geaghan, A. Makriyannis and C.J. Keefe.** LSU AgCtr. and Northeastern Univ.
- 4:15 **266.6** Regulation of inflammatory and lipid metabolism genes by eicosapentaenoic acid-rich oil. **J.P. Vanden Heuvel, S.K. Bhatia, L.A. Belcher, J.T. Thompson and P.J. Gillies.** Penn State, INDIGO Biosci. Inc., State College, PA and DuPont, Wilmington, DE.
- 4:30 **266.7** Pre- and post-weaning diets with low omega-6 to omega-3 fatty acid ratio reduced plasma lipid levels and increased cholesterol efflux capacity in the offspring of C57BL/6 mice. **K.A. Balogun, R.S. Randunu and S.K. Cheema.** Mem. Univ. of Newfoundland, Canada.
- 4:45 **266.8** Effects of flaxseed oil supplementation and FADS genotype on declarative memory abilities in toddlers. **C.L. Cheatham.** Univ. of North Carolina at Chapel Hill, Kannapolis.

## 267. NUTRITION SCIENCE TRANSLATION: IMPACTS IN POLICY, PRACTICE AND CONSUMERS

### Minisymposium

(Sponsored by: Nutrition Translation RIS)

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30B

CHAired: P. WILLIAMSON-HUGHES

COCHAired: G. JOHNSON

- 3:00 **267.1** Diets that follow the 2010 Dietary Guidelines for Americans are associated with higher intakes of nutrients of concern. **L.M. Troy and P.F. Jacques.** USDA at Tufts Univ. and Friedman Sch., Tufts Univ.
- 3:15 **267.2** Consumption of foods that meet the American Heart Association Heart-Check Program is associated with better diet quality and lower cardiovascular disease risk. **V.L. Fulgoni III, J.A.S. Carson, R.K. Johnson, P.M. Kris-Etherton, A.H. Lichtenstein and K.F. Stitzel.** Nutr. Impact LLC, Battle Creek, Univ. of Texas Southwestern Med. Ctr., Univ. of Vermont, Penn State, Tufts Univ., Boston and American Heart Assn., Dallas.
- 3:30 **267.3** Biomarkers of nutrition for development: an overview. **R. Raghavan, I. Darnton-Hill and D.J. Raiten.** NICHD/NIH, Univ. of Sydney and Tufts Univ. Friedman Sch. of Nutr. Sci. and Policy.
- 3:45 **267.4** Sodium levels in hospital patient menus exceed recommended levels. **J. Arcand, S. Katherine, L. Klin, J. Nairn, R. Tzianetas, G. Newton and M.R. L'Abbe.** Univ. of Toronto and Mount Sinai Hosp.
- 4:00 **267.5** Exploring the landscape of nutrition related marketing in Canada: is it guiding consumers to more healthful dietary patterns? **J. Sacco and V. Tarasuk.** Univ. of Toronto.
- 4:15 **267.6** Nutrition-related food marketing: a case study of whole grain promotion on breads. **D. Sumanac, R. Mendelson and V. Tarasuk.** Univ. of Toronto and Ryerson Univ. Sch. of Nutr., Canada.
- 4:30 **267.7** System dynamics model simulated consumer and supplier responses to sugar-sweetened beverage taxes. **H. Xue, H-j. Chen, B.F. Hobbs, T. Igusa and Y. Wang.** Johns Hopkins Bloomberg Sch. of Publ. Hlth. and Whiting Sch. of Engin.
- 4:45 **267.8** Nutrition related health status of individuals affected by coal and tobacco economies and policies in Virginia. **S.L. Meacham and S. Sukpraprut.** Via Col. of Osteo. Med., Virginia Tech.

## 268. MILK BIOACTIVE COMPOUNDS

### Minisymposium

(Sponsored by: Lactation RIS)

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30A

CHAired: L. BODES

COCHAired: H. HOLSCHER

- 3:00 **268.1** Lactoferrin modulates lipopolysaccharide-induced perturbations in gene expression in human fetal intestinal epithelial cells. **E.B. Nonnecke and B.L. Lönnerdal.** Univ. of California, Davis.

- 3:15 **268.2** Sow milk, formula and combined feeding differentially regulate gene expression in piglet colon. **E.C. Radlowski, M. Wang, M.H. Monaco, J. Drnevich and S.M. Donovan.** Univ. of Illinois at Urbana-Champaign.
- 3:30 **268.3** Microbial colonization patterns of piglets fed both sow milk and formula is more similar to that of exclusively sow-reared than formula-fed piglets. **M. Wang, E.C. Radlowski, M. Li, M.H. Monaco and S.M. Donovan.** Univ. of Illinois, Urbana.
- 3:45 **268.4** Simultaneous analysis of B-vitamins in human milk. **D. Hampel and L.H. Allen.** USDA, Davis.
- 4:00 **268.5** Dietary milk polar lipids benefit gut barrier integrity and lipid metabolism in C57BL/6J mice during systemic inflammation induced by *Escherichia coli* lipopolysaccharide. **A.L. Zhou, R.E. Ward and K.J. Hintze.** Utah State Univ.
- 4:15 **268.6** Human milk oligosaccharides inhibit acute rotavirus infection in neonatal piglets. **S.N. Hester, S.S. Comstock, M.H. Monaco, T.B. Kuhlenschmidt, M.S. Kuhlenschmidt and S.M. Donovan.** Univ. of Illinois, Urbana.
- 4:30 **268.7** Human milk oligosaccharides and postnatal transmission of HIV through breastfeeding. **L. Kuhn, H-Y. Kim, L. Hsiao, C. Nissan, M. Sinkala, C. Kankasa, M. Mwiya, D. Thea, G. Aldrovandi and L. Bode.** Columbia Univ., UCSD, Lusaka District Hlth. Mgmt. Team, Zambia, Univ. Teaching Hosp., Zambia, Boston Univ. and Childrens Hosp., Los Angeles.
- 4:45 **268.8** Human milk oligosaccharides enhance the growth of staphylococci. **K.M. Hunt, J. Preuss, C. Nissan, C.A. Davlin, J.E. Williams, A.D. Richardson, M.K. McGuire, L. Bode and M.A. McGuire.** Univ. of Idaho, UCSD, Washington State Univ. and Sanford-Burnham Med. Res. Inst.

## 269. ADVANCING NUTRITION POLICY AND IMPROVING THE EFFECTIVENESS OF NUTRITION PROGRAMS

### Minisymposium

(Sponsored by: International Nutrition Council (INC))

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 29C

CHAired: E. FRONGILLO

COCHAired: J. LEROY

- 3:00 **269.1** Advancing nutrition policy: challenges and strategies. **D. Pelletier, E.A. Frongillo, S. Gervais, L. Hoey, P. Menon, R.J. Stoltzfus, S. Ahmed and T. Ahmed.** Cornell Univ., Univ. of South Carolina, Intl. Food Policy Res. Inst., Washington, DC and Intl. Ctr. for Diarrheal Dis. Res., Dhaka, Bangladesh.
- 3:15 **269.2** Using program impact pathways to improve anemia reduction programs. **E.L. Phillips, D. Pelletier, S. Gervais, R.J. Stoltzfus, S. Young and L. Michaud.** Cornell Univ. and World Vision Haiti, Port au Prince.
- 3:30 **269.3** Extent, intensity and quality of CARE-India's INHP II/ICDS program exposure and infant feeding practices in rural Uttar Pradesh, India. **V. Singh, S. Ahmed, M. Dreyfuss, V. Srivastava, D. Chaudhery, R. Ahuja, M. Santosham and K.P. West, Jr.** Johns Hopkins Univ., King George Med. Univ., India and CARE India, New Delhi.
- 3:45 **269.4** Understanding facilitators and barriers to pregnant women's participation in a nutrition supplementation program in Bangladesh. **J. Woo, G.H. Pelto, R.T. Naved, E.A. Frongillo and K.M. Rasmussen.** Cornell Univ., ICDDR,B, Dhaka, Bangladesh and Univ. of South Carolina.



- 4:00 **269.5** Understanding how participating in a food-aid program in rural Guatemala alters household dietary choices. **M.L. Jensen, E.A. Frongillo, J. Leroy and C.E. Blake.** Univ. of South Carolina and Intl. Food Policy Res. Inst., Washington, DC.
- 4:15 **269.6** Food aid programs: sustaining impacts after program exit. **B.L. Rogers, J. Coates, K. Houk and E. Kegode.** Tufts Univ. Friedman Sch. of Nutr. Sci. and Policy.
- 4:30 **269.7** Child food consumption patterns and diet quality in rural Nepal: effectiveness of a community development intervention. **A.B. Fischer, L.C. Miller, B.L. Rogers, M. Lohani, P. Singh, S.N. Mahato and N. Joshi.** Friedman Sch. of Nutr. Sci. and Policy, Tufts Univ., Tufts Med. Ctr., Heifer Intl., Little Rock and Heifer Intl. Nepal.
- 4:45 **269.8** Women's employment impacts household food expenditure patterns over time in rural Bangladesh. **S. Mehra, R.D.W. Klemm, A.B. Labrique, M. Rashid, A.A. Shamim, P. Christian and K.P. West, Jr.** Johns Hopkins Sch. of Publ. Hlth. and JiVitA Proj., Johns Hopkins Univ., Dhaka, Bangladesh.
- 3:15 Modulation of starch digestion for slow glucose release through 'togglng' of mucosal  $\alpha$ -glucosidases by acarbose. **B-H. Lee, R. Eskandari, B.M. Pinto, B.L. Nichols and B.R. Hamaker.** Purdue Univ., Simon Fraser Univ., Canada and Baylor Col. of Med. **(638.7)**
- 3:30 Novel secreted maltase activity enables suckling mouse pup starch digestion. **B.L. Nichols, M. Diaz-Sotomayor, S. Avery, S. Chacko, D. Hadsell, S. Baker, L. Yan, A. Lin, Z-H. Ao, R. Quezada-Calvillo and B. Hamaker.** Baylor Col. of Med., Univ. at Buffalo, SUNY, Purdue Univ. and Autonomous Univ. of San Luis Potosi, Mexico. **(638.2)**
- 3:34 Use of  $^{13}\text{C}$ -labelled carbohydrates to trace microbial metabolism in the colon: light in the tunnel! **K. Venema, A.J.H. Maathuis, M.N. Steijart and A.A. de Graaf.** TNO Hlth. Living, Zeist, Top Inst. Food and Nutr., Wageningen and Netherlands Consortium for Syst. Biol., Amsterdam. **(638.1)**
- 4:00 How analysis of data from alpha-amylase catalysed starch digestibility performed in vitro contributes to an understanding of rates and extent of digestion starchy foods in vivo. **P.J. Butterworth, F.J. Warren, C.H. Edwards, T. Grassby, H. Patel and P.R. Ellis.** Sch. of Med., King's Col. London. **(638.9)**
- 4:15 Influence of cultivar, processing, and food form on the glycemic index of barley. **A. Aldughpassi, T.M.S. Wolever and E.M. Abdel-Aal.** Univ. of Toronto and Agr. and Agri-Food Canada, Guelph. **(638.16)**
- 4:30 Gut fermentation and health effects of Louisiana sweet potato varieties. **K.L. McCutcheon, D.R. LaBonte, D.H. Picha, C.C. Williams, M.J. Keenan and R.J. Martin.** LSU AgCtr. **(638.18)**

## 1164. CARBOHYDRATE METABOLISM

### Minisymposium

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 29D

CHAired: B. HAMAKER

COCHAired: B. NICHOLS

- 3:00 Concept of slowly released dietary glucose: a focus on starch digestion at the mucosal  $\alpha$ -glucosidase level. **A.H-M. Lin, B.L. Nichols and B.R. Hamaker.** Purdue Univ. and USDA and Baylor Col. of Med. **(638.11)**

## Pathology

### 270. COTRAN EARLY CAREER INVESTIGATOR AWARD LECTURE

(Supported by an educational grant from Elsevier, Inc.)

MON. 8:30 AM—SAN DIEGO CONVENTION CENTER, 16A

#### Epithelial Pathobiology

- 8:30 Introduction.
- 8:35 Molecular engines that build and break epithelial barriers. **A. I. Ivanov.** Univ. of Rochester Sch. of Med. and Dent.

### 271. ACVP SYMPOSIUM: EVOLUTIONARY ASPECTS OF ANIMAL MODELS

#### Symposium

(Sponsored by: ASIP, American College of Veterinary Pathologists and the American Society for Nutrition)

MON. 9:30 AM—SAN DIEGO CONVENTION CENTER, 16B

CHAired: E. UHL AND M. OGLESBEE

#### Veterinary Pathology

- 9:30 Animals as models of human cardiovascular disease: or the search to overcome outdated evolutionary homeostatic mechanisms. **R. Hamlin.** The Ohio State Univ.
- 10:15 Of mice and men: evolutionarily, what are the best rodent models of the human immune system for infectious disease research? **S. Niewiesk.** The Ohio State Univ.
- 11:00 Evolutionary aspects of animal models of aging. **S. N. Austad.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- 11:45 Modeling disease phenotypes: how an evolutionary perspective enhances the questions. **E. Uhl.** Univ. of Georgia.

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## 272. ISBER SYMPOSIUM: BETTER DISEASE BIOMARKERS THROUGH BIOBANKING

### Symposium

(Sponsored by: ASIP and the International Society for Biological and Environmental Repositories)

MON. 9:30 AM—SAN DIEGO CONVENTION CENTER, 17A

CHAired: M. HOGAN AND G. HOSTETTER

- 9:30 Application of next generation sequencing in HLA disease association studies. **J. Noble**. Children's Hosp. Oakland Res. Inst.
- 10:15 Measuring glycans on specific proteins using antibody-lectin sandwich arrays: applications in cancer diagnostics. **B. Haab**. Van Andel Res. Inst., Grand Rapids, MI.
- 11:00 Protein expression at the tissue level: the old and the new. **G. Hostetter**. Van Andel Res. Inst., Grand Rapids, MI.
- 11:45 Advanced technology for ambient temperature sample preservation. **M. Hogan**. IntegenX Corp.

## 273. STOWELL SYMPOSIUM: TRENDS IN EXPERIMENTAL PATHOLOGY: METABOLISM AND CANCER

### Symposium

(Supported by an educational grant from Robert E. Stowell Endowment Fund)

(Sponsored by: ASIP and the Italian Pathology Society)

MON. 9:30 AM—SAN DIEGO CONVENTION CENTER, 16A

CHAired: S. ANDO AND A. MANTOVANI

### Neoplasia

- 9:30 A mitochondrial pathophysiology of metabolic and degenerative diseases, cancer, and aging. **D. C. Wallace**. Children's Hosp. of Philadelphia.
- 10:00 Macrophages metabolism and cancer. **A. Mantovani**. Univ. of Milan.
- 10:30 Adipokines in breast cancer: role of leptin. **S. Catalano, S. Andò**. Univ. of Calabria.
- 11:00 Inflammation as the key link between obesity, metabolic syndrome, and cancer. **V. Castronovo**. Univ. of Liege.
- 11:30 Hypoxia and tumor metabolism. **N. S. Chandel**. Northwestern Univ., Chicago.
- 12:00 Hyperactivation of oxidative mitochondrial metabolism in epithelial cancer cells in situ: visualizing the therapeutic effects of metformin in tumor tissue. **M. P. Lisanti**. Thomas Jefferson Univ. Med. Ctr.

## 274. BIOLOGY OF LIVER GROWTH AND REGENERATION

### Minisymposium

(Sponsored by: ASIP Liver Pathobiology Scientific Interest Group)

MON. 9:30 AM—SAN DIEGO CONVENTION CENTER, 17B

CHAired: T. WU

COCHAired: K. NEJAK-BOWEN

### Liver Pathobiology

- 8:30 **274.1** Hepatic stellate cells modulate the phenotype of liver myeloid dendritic cells rendering them tolerogenic. **A. Dangi, T.L. Sumpter, B.M. Matta, D.B. Stolz, N. Murase, A.W. Thomson and C.R. Gandhi**. Univ. of Pittsburgh.
- 8:45 **274.2** Application of collagen coated silicone scaffolds for the three-dimensional cell culture of primary rat hepatocytes. **P. Stock, C. Winkelmann, A. Thonig, G. Böttcher, G. Wenske and B. Christ**. Univ. of Leipzig, Med. Fac. and KET Kunststoff and Elasttechnik GmbH, Radeberg OT Liegau-Augustusbad, Germany.
- 9:00 **274.3** Estrone-3-sulfate is a substrate to verify functionality of uptake transporters in primary hepatocytes. **M. Keiser, J. Radebold, A. Ullrich, G. Damm, A. Nüssler, W. Siegmund and D. Runge**. Univ. Greifswald, PRIMACYT Cell Culture Technol. GmbH, Schwerin, Charité, Berlin and Univ. Tübingen, Germany.
- 9:15 **274.4** Role of reprogramming factors in transdifferentiation of hepatocytes to biliary epithelial cells. **V. Bhave, B. Bowen and G. Michalopoulos**. Univ. of Pittsburgh.
- 9:30 **274.5** Genome-wide combinatorial transcriptional regulatory dynamics during early onset of liver regeneration and chronic alcohol intake. **B. Patra, L. Kuttippurathu, J.B. Hoek and R. Vadigepalli**. Thomas Jefferson Univ.
- 9:45 **274.6** Ablation of stellate cells during liver regeneration blocks mitosis and induces a switch in stellate cell phenotype. **K.N. Nejak-Bowen, A.V. Orr, W.C. Bowen, Jr. and G.K. Michalopoulos**. Univ. of Pittsburgh.
- 10:00 **274.7** Hepatocyte nuclear factor 4 alpha (HNF4 $\alpha$ ) knockdown stimulates pro-mitogenic gene expression in hepatocytes. **C.M. Walesky, S. Gunewardena, G. Edwards and U. Apte**. Univ. of Kansas Med. Ctr.
- 10:15 **274.8** Role of PINCH in regulating liver size and termination of liver regeneration. **S. Donthamsetty, W. Mars, C. Wu and G. Michalopoulos**. Univ. of Pittsburgh.
- 10:30 **274.9** Role of PDGFR $\alpha$ in liver regeneration using hepatocyte-specific knockout mice. **P. Awuah, K.N. Nejak-Bowen and S. Monga**. Univ. of Pittsburgh Sch. of Med.
- 10:45 **274.10** Growth factor retention on decellularized rat liver matrices derived from normal and regenerating liver. **T. Shupe, C. Zimmerman and B.E. Petersen**. Wake Forest Inst. for Regen. Med.
- 11:00 **274.11** Impacts of RegIII $\beta$  inactivation on murine hepatic protein nitration induced by acetaminophen. **J-W. Yun, K. Lum and X.G. Lei**. Cornell Univ.
- 11:15 **274.12** The role of miR-17-92 cluster in hepatic carcinogenesis. **H. Zhu, C. Han and T. Wu**. Tulane Univ. Sch. of Med.

## 275. CELL JUNCTIONS AND SIGNALING

## Minisymposium

MON. 9:30 AM—SAN DIEGO CONVENTION CENTER, 15B

CHAired: J. WASCHKE

COCHAired: N. LOUIS

- 8:30 **275.1** Tandem peptide blocks pemphigus vulgaris skin blistering in vivo and identifies a desmoglein receptor function leading to p38MAPK modulation. **V. Spindler, B. Kempf and J. Waschke.** Ludwig Maximilians Univ. Munich and Julius Maximilians Univ. Würzburg.
- 8:42 **275.2** Downregulation of desmoglein-2 in colonic epithelial cells suppresses proliferation and reduces tumor growth via a desmocollin-2-dependent mechanism. **K. Kolegraff, R. Kamekura, R.S. Hilgarth, P. Nava, C.A. Parkos and A. Nusrat.** Emory Univ. Sch. of Med.
- 8:54 **275.3** JAM-A regulates barrier function through a pathway distinct from that controlling cell migration. **A.C. Monteiro, A.I. Ivanov, C.R. Rankin, E.A. Severson, A. Nusrat and C.A. Parkos.** Emory Univ., Univ. of Rochester and Brigham and Women's Hosp.
- 9:06 **275.4** Sorting nexin 27 mediates PDZ-directed trafficking of zona-occludens-2 to the tight junction. **C.L. Hueschen, S.P. Zimmerman, S.L. Milgram and M.P. Playford.** NHLBI/NIH.
- 9:18 **275.5** IFN $\gamma$  influences epithelial proliferation by modulating Akt-beta catenin signaling downstream of cadherins. **P. Nava Dominguez, K.N. Kolegraff, S. Koch, C. Parkos and A. Nusrat.** Emory Univ.
- 9:30 **275.6** Disruption of the epithelial barrier upon *Shigella flexneri* infection. **A. Maldonado-Contreras, K. Mummy and B. McCormick.** Univ. of Massachusetts Med. Sch.
- 9:42 **275.7** *Entamoeba histolytica* induces a robust acute inflammatory response with increased colonic permeability and altered tight junction proteins in *Muc2*<sup>-/-</sup> mice. **V. Kissoon-Singh, F. Moreau and K. Chadee.** Univ. of Calgary, Canada.
- 9:54 **275.8** Mucin protects against trypsin-mediated increases in intestinal epithelial permeability. **M. Chang, T. Alsaigh, E.B. Kistler and G.W. Schmid-Schönbein.** UCSD.
- 10:06 **275.9** Altered colonic barrier function and paracellular permeability in *Muc2*<sup>-/-</sup> mice. **E.H. Trusevych, C. Hirota, F. Moreau, K. Tran, W. MacNaughton, J. Meddings and K. Chadee.** Univ. of Calgary, Canada.
- 10:18 **275.10** Mechanisms involved in the disruption of the intestinal barrier during necrotizing enterocolitis. **A. Bein and B. Schwartz.** The Hebrew Univ., Israel.

## 276. PHAGOCYTES AND INFECTION

## Minisymposium

MON. 9:30 AM—SAN DIEGO CONVENTION CENTER, 15A

CHAired: B. MCCORMICK

COCHAired: T. DENNING

- 8:30 **276.1** *Salmonella typhimurium* induces HXA3 secretion by decreasing cellular levels and activity of the oxidoreductase enzymes GPX 1 and PHGPX. **T. Agbor and B. McCormick.** Univ. of Massachusetts Med. Sch.

- 8:42 **276.2** Plasma gelsolin enhances lung macrophage host defense against bacterial pneumonia in mice. **Z. Yang, T. Chiou, P-S. Lee, T. Stossel and L. Kobzik.** Harvard Sch. of Publ. Hlth. and Brigham and Women's Hosp.
- 8:54 **276.3** Recognition of fungal  $\beta$ -glucan by human neutrophil CR3 results in homotypic aggregation and neutrophil extracellular traps. **A.S. Byrd, K. Yu, C.M. Johnson, L.M. Lavigne, A.R. Salomon and J.S. Reichner.** Brown Univ. and Rhode Island Hosp.
- 9:06 **276.4** Mechanistic role for  $\alpha$ 3 $\beta$ 1/CD151 and the neutrophilic fungal response to  $\beta$ -glucan. **C.M. Johnson, A.S. Byrd and J. Reichner.** Rhode Island Hosp. and Warren Alpert Med. Sch., Providence.
- 9:18 **276.5** Inflammasome activation triggered by the cysteine proteases of *Entamoeba histolytica*. **L.M. Mortimer, F. Moreau and K. Chadee.** Univ. of Calgary, Canada.
- 9:30 **276.6** Lipocalin 2 confers protection against endotoxin-induced sepsis in mice. **M. Vijay-Kumar, J.D. Aitken, G. Srinivasan, B. Zhang and A.T. Gewirtz.** Georgia State Univ.
- 9:42 **276.7** Immune modulation by prolyl hydroxylase inhibition contributes to the prevention of endotoxemia in a murine model of inflammatory bowel disease. **S. Keely, A. Baird, D. Kominsky, E.N. McNamee, P.M. Hansbro, R.A. Shalwitz and S.P. Colgan.** Sch. of Biomed. Sci. and Pharm., Univ. of Newcastle, Australia, University Col. Dublin, Univ. of Colorado Denver and Akebia Therapeut., Cincinnati.
- 9:54 **276.8** Phospholipase A2 is involved in *S. pneumoniae*-elicited PMN transepithelial migration. **R. Bhowmick, B.A. McCormick and J.M. Leong.** Tufts Univ. Sch. of Med. and Univ. of Massachusetts Med. Sch.
- 10:06 **276.9** Hsp70 and a novel axis of innate immunity in the virus-infected brain. **M. Oglesbee, M.Y. Kim, Y. Shu, P. Popovich and S. Niewiesk.** The Ohio State Univ.
- 10:18 **276.10** Immune system adaptation to rapid changes in bacteremia. **D. Londono and C. Diego.** Massachusetts Gen. Hosp., Charlestown and Boston.

## 277. LUNCH AND LEARN: BEST PRACTICES OF BIOBANKING AND SPECIMEN COLLECTION

## Special Session

(Sponsored by: ASIP Education Committee)

MON. 12:45 PM—SAN DIEGO CONVENTION CENTER, 14A

CHAired: W. MARS, M. HAMEED AND T. SANDER

Did you ever wonder why there can be such high variability in the reproducibility of results from different laboratories? Why is one research group able to lab identify a marker for a particular disease and yet another group never sees it, even when using the same techniques? The answer is generally quite simple: the way the specimens are collected and then stored.

In today's world where high throughput sampling is becoming the norm for identifying disease biomarkers, this question has never been more important. Those attending this session will be introduced to the factors that are considered important for proper specimen collection and storage and what current best practices of the Pathology field now dictate.

12:45 Featured speaker. **C. C. Compton.** Critical Path Inst.

## 278. VETERINARY PATHOLOGY SCIENTIFIC INTEREST GROUP

(This session is not CME accredited.)

### Poster Discussion

(Sponsored by: ASIP Veterinary Pathology Scientific Interest Group)

MON. 12:45 PM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

CHAired: M. McARTHUR, E. GALBREATH, E. WHITLEY AND D. HUTTO

### Veterinary Pathology

Anyone interested in veterinary pathology or animal models utilized to elucidate mechanisms of disease is invited to participate in an informal gathering to review interesting posters, meet and interact with a variety of students, residents, fellows, scientists and veterinary pathologists. This gathering has unlimited potential for fun, food and facts. Young scientists have the opportunity for valuable mentoring, networking and exploring potential collaborations. Please join us if you have ever wondered what a veterinary pathologist did.

- P1 Effect of naphthalene and copper nanoparticles on three-spined stickleback (*Gasterosteus aculeatus*). **F. Villarreal, E. Falisse, D. Morin, A. Buckpitt and D. Kültz.** Univ. of California, Davis and Univ. of Namur, Belgium. (833.13)
- P2 Investigation of the Dravet syndrome using a mouse model. **M-S. Tsai, F-J. Lee, Y-T. Chen, I-S. Yu, H-H. Liou and S-W. Lin.** Natl. Taiwan Univ. Col. of Med. (1035.14)
- P3 Altered neddylaton in the heart of a mouse model for cardiomyopathy. **O. Suzuki, M. Koura, Y. Noguchi, K. Uchio-Yamada and J. Matsuda.** Natl. Inst. of Biomed. Innovation, Ibaraki, Japan. (1036.3)
- P4 Potentially protective dual oxidase enzymes (Duox1 and Duox2) in the normal murine and bovine reproductive tracts. **B. Adu-Addai, C.D. Mackenzie, A.J. Langerveld and D.W. Agnew.** Col. of Vet. Med., Michigan State Univ. and Genemarkers LLC, Kalamazoo. (833.16)
- P5 Systemic polyhydroxylated fullerene toxicity in fathead minnows (*Pimephales promelas* Rafinesque, 1820). **E.M. Whitley, B. Jovanovic and D. Palic.** Iowa State Univ. (478.1)
- P6 Therapeutic administration of a direct thrombin inhibitor reduces hepatic inflammation in a mouse model of hypercholesterolemia. **K.M. Kassel, B.P. Sullivan, B.L. Copple and J.P. Luyendyk.** Univ. of Kansas Med. Ctr. (405.7)
- P7 Hsp70 and a novel axis of innate immunity in the virus-infected brain. **M. Oglesbee, M.Y. Kim, Y. Shu, P. Popovich and S. Niewiesk.** The Ohio State Univ. (276.9)
- P8 Regulation of the calpain and ubiquitin proteasome system in a canine model of muscular dystrophy with myostatin inhibition. **S.W. Cotten, K.M. Wadosky, D. Bogan, J.N. Kornegay and M.S. Willis.** Univ. of North Carolina at Chapel Hill. (478.3)
- P9 Anti-inflammatory benefits of retinoids: retinoic acid and oxidatively-transformed  $\beta$ -carotene induce neutrophil apoptosis and inhibit leukotriene B<sub>4</sub> synthesis. **S. Duquette, C.D. Fischer, D.W. Morck, D.R. Barreda, J.G. Nickerson and A.G. Buret.** Univ. of Calgary, Univ. of Alberta and Chemaphor Inc., Charlottetown, Canada. (835.10)
- P10 Accumulation and biochemical effects of microcystin-LR on Patagonian silverside (*Odontesthes hatcheri*) fed with *Microcystis aeruginosa* cells. **C.M. Luquet, F. Bieczynski and V.A. Bianchi.** CONICET, Junin de los Andes, Argentina. (833.14)
- P11 Estrone-3-sulfate is a substrate to verify functionality of uptake transporters in primary hepatocytes. **M. Keiser, J. Radebold, A. Ullrich, G. Damm, A. Nüssler, W. Siegmund and D. Runge.** Univ. Greifswald, PRIMACYT Cell Culture Technol. GmbH, Schwerin, Charité, Berlin and Univ. Tübingen, Germany. (274.3)
- P12 Development of a new chick chorioallantoic membrane model for human pancreas adenocarcinoma. **V. Castronovo, A. Gonzalez, P. Delvenne and O. Peulen.** Univ. of Liege, Belgium. (479.4)
- P13 Disturbance of post-natal lung development in Norwich terriers. **M. Anttila, K. Dillard and K. Vainio-Siukola.** Evira, Helsinki. (658.1)
- P14 Histological markers of cardiovascular diseases in a mouse model of social stress simulating aspects of PTSD. **U.F. Urow, M. Melige, B. Sowe, N. Chakraborty, E. Carroll, J. Meheroff, R. Hammamieh and M. Jett.** U.S. Army Ctr. for Envrn. Hlth. Res., Fort Detrick, MD. (1036.4)
- P15 Expression of pentraxin 3 in the lungs of human, horse, cattle and pig. **M. Soron and B. Singh.** Univ. of Saskatchewan. (835.9)
- P16 Porcine milk fat globule membrane proteins that bind to F4ac fimbria of *Escherichia coli*. **P. Novakovic, Y. Huang, C. Charavaryamath, B. Lockerbie, J. Kelly, M.E. Loewen and E. Simko.** Western Col. of Vet. Med., Canada and Natl. Res. Council Canada, Ottawa. (1034.16)
- P17 The influence of alternative housing on dairy calf innate immune measures after weaning. **L.E. Hulbert, M.S. Calvo, K.C. Klasing and F.M. Mitloehner.** Univ. of California, Davis. (655.8)
- P18 Spondylosis in pre-Columbian domestic dogs (*Canis familiaris*) from Weyanoke Old Town Virginia. **C. Kelderhouse, S. Warner, L. Smith, E.R. Mixon, J.P. Blick and E.W. Uhl.** Univ. of Georgia and Georgia Col. & State Univ. (1034.14)
- P19 Dissecting the fetal development of cystic fibrosis tracheal abnormalities. **D.K. Meyerholz, D.A. Stoltz, P.B. McCray, Jr. and M.J. Welsh.** Univ. of Iowa. (143.10)
- P20 Determining source populations of newly identified cases of chronic wasting disease in white-tailed deer. **M.L. Green, M.B. Manjerovic, N.E. Mateus-Pinilla, A.C. Kelly, P. Shelton and J. Novakofski.** Univ. of Illinois, Urbana and Champaign, NIDDK/NIH and Illinois Dept. of Nat. Resources, Springfield. (1035.6)
- P21 Spatial variation in susceptibility to chronic wasting disease in white-tailed deer. **M.B. Manjerovic, M.L. Green, A.C. Kelly, N.E. Mateus-Pinilla, P. Shelton and J. Novakofski.** Univ. of Illinois, Champaign and Urbana, NIDDK/NIH and Illinois Dept. of Nat. Resources, Springfield. (1035.5)

- P22 Weaning weight and impact on innate immunological status of beef cattle. **W.D. Preston, M. Fergerstrom, G. Fukumoto, T. Sy, M. Abran and A.M. Stokes.** Univ. of Hawaii Manoa. (656.5)
- P23 Expression of receptor activator of nuclear factor- $\kappa$ B (RANK), RANK ligand, and osteoprotegerin in the normal and *E. coli* lipopolysaccharide-treated horse lungs. **S. Channabasappa, S. Singh and B. Singh.** Western Col. of Vet. Med., Univ. of Saskatchewan and Col. of Vet. Sci., Ludhiana, India. (658.5)
- P24 Impaired mTOR/S6 signaling pathway contributes to neurodegeneration in early postnatal Nbs1-deficient mouse cerebral cortex. **B. Liu and W-M. Tong.** Chinese Acad. of Med. Sci. and Peking Union Med. Col., China. (1035.13)
- P25 Immune modulation by prolyl hydroxylase inhibition contributes to the prevention of endotoxemia in a murine model of inflammatory bowel disease. **S. Keely, A. Baird, D. Kominsky, E.N. McNamee, P.M. Hansbro, R.A. Shalwitz and S.P. Colgan.** Sch. of Biomed. Sci. and Pharm., Univ. of Newcastle, Australia, University Col. Dublin, Univ. of Colorado Denver and Akebia Therapeut., Cincinnati. (276.7)
- P26 Immune brinksmanship: a conceptual model of endogenous stressors of the acute-phase response. **E.K. LeGrand and J. Alcock.** Col. of Vet. Med., Univ. of Tennessee and Univ. of New Mexico. (835.25)
- P27 Fluorescence compared to brightfield detection of CD35 in lymphoid follicles of the monkey to assess immunomodulatory treatment effect. **J. Brodbeck, F. Chu, M. Gonzales Edick, L. Rangell, S. Bheddhah and G. Cain.** Genentech. (655.10)
- P28 A composite polymeric nanoparticle overcomes multidrug resistance and ameliorates doxorubicin-associated cardiomyopathy. **N.R. Campbell, D. Pramanik, S. Das, S. Gupta, V. Chenna, S. Bisht, P. Sysa Shah, D. Bedja, C. Karikari, C. Steenbergen, K.L. Gabrielson, Am. Maitra and An. Maitra.** Johns Hopkins Univ. Sch. of Med. (657.8)
- 279. PRESIDENTIAL SYMPOSIUM: PATHOGEN-HOST INTERACTIONS: PROVOKING AND EVADING THE IMMUNE RESPONSE**
- Symposium**
- MON. 2:00 PM—SAN DIEGO CONVENTION CENTER, 16A
- CHAired:* M.B. FURIE
- 2:00 Introduction.
- 2:05 Autophagy as a component of the innate immune response. **M. S. Swanson.** Univ. of Michigan.
- 2:45 Lyme disease and tularemia: the yin and yang of inflammation. **M. B. Furie.** Stony Brook Univ.
- 3:25 Inflammatory responses in virus-induced respiratory disease. **N. W. Lukacs.** Univ. of Michigan.
- 4:05 AIDS pathogenesis and the mucosal immune system. **A. A. Lackner.** Tulane Univ. Sch. of Med.
- 280. ASIP MEMBERSHIP BUSINESS MEETING AND AWARDS PRESENTATION**
- (This session is not CME accredited.)
- Business Meeting**
- MON. 5:00 PM—SAN DIEGO CONVENTION CENTER, 16A
- CHAired:* M.B. FURIE
- 281. ASIP AWARDS RECEPTION**
- (This session is not CME accredited.)
- Special Session**
- MON. 6:00 PM—SAN DIEGO CONVENTION CENTER, MEZZANINE FOYER
- Open to all attendees

## Pharmacology and Experimental Therapeutics

- 282. LOCATION, LOCATION, LOCATION: THE ROLE OF MEMBRANE MICRODOMAINS IN DOPAMINE TRANSPORTER FUNCTION AND TRAFFICKING**
- Symposium**
- (Sponsored by: The Divisions for Neuropharmacology and Molecular Pharmacology)
- MON. 9:30 AM—SAN DIEGO CONVENTION CENTER, 2
- CHAired:* H. KHOUSHBOUEI AND H. MELIKIAN
- 9:30 Relationship between DAT phosphorylation states and lipid raft localization. **R. A Vaughan.** Univ. of North Dakota Sch. of Med. and Hlth. Sci.
- 10:00 Flotilin-1: a critical regulator of dopamine transporter lipid raft localization, PKC-mediated internalization and amphetamine-mediated DA efflux. **A. Yamamoto.** Columbia Univ. Med. Ctr.
- 10:30 The role for the neuronal GTPase, Rin, in dopamine transporter microdomain localization and trafficking. **H. Melikian.** Univ. of Massachusetts Sch. of Med.
- 11:00 Membrane cholesterol modulates the outward facing conformation of the dopamine transporter and alters cocaine binding. **S. G. Amara.** Univ. of Pittsburgh Sch. of Med.
- 11:30 Membrane microdomain localization and trafficking of dopamine transporter coding variants associated with ADHD. **R. D Blakely.** Vanderbilt Univ. Med. Ctr.

### 283. COGNITIVE ENHANCEMENT TO IMPROVE TREATMENT OUTCOME AND QUALITY OF LIFE ASSOCIATED WITH NEUROPATHOLOGIES

#### Symposium

(Sponsored by: The Divisions for Behavioral Pharmacology; Neuropharmacology; and Toxicology)

MON. 9:30 AM—SAN DIEGO CONVENTION CENTER, 3

CHAired: R. GOULD AND M. NADER

- 9:30 Models of cognition and their predictive validity. **R. Gould.** Wake Forest Univ. Sch. of Med.
- 10:00 Cognitive deficits associated with cancer chemotherapy and potential pharmacological treatments. **E. A Walker.** Temple Univ. Sch. of Pharm.
- 10:30 Neurobiological, functional, and cognitive deficits associated with cocaine addiction. **S. A Deadwyler.** Wake Forest Univ. Hlth. Sci.
- 11:00 Cognitive deficits associated with Parkinson's disease: clinical and pre-clinical perspectives. **J. S. Schneider.** Thomas Jefferson Univ. Jefferson Med. Col.
- 11:30 Nicotinic acetylcholine receptors as targets for cognitive enhancement. **M. Sarter.** Univ. of Michigan.

### 284. PERIVASCULAR (P)FAT: PHARMACOLOGY, PHYSIOLOGY AND (P)FUNCTION

#### Symposium

(Sponsored by: The Divisions for Cardiovascular Pharmacology and Integrative Systems & Translational & Clinical Pharmacology)

MON. 9:30 AM—SAN DIEGO CONVENTION CENTER, 4

CHAired: A. DORRANCE AND S. WATTS

- 9:30 Emerging fields of study on the adipose tissue. **K. Claycombe.** USDA, Grand Forks.
- 9:50 Paracrine role for PVAT in regulation of arterial tone. **M. Gollasch.** Charité Med. Univ., Berlin.
- 10:15 Role of the perivascular renin-angiotensin system in vascular diseases. **L. Cassis.** Univ. of Kentucky Col. of Med.
- 10:40 Indoleamine dioxygenase in PVAT: presence and (ph) function. **S. W. Watts.** Michigan State Univ.
- 11:05 Modulation of vascular function by perivascular adipose tissue in health and in disease. **R.M.K.W. Lee.** McMaster Univ., Canada.
- 11:30 Effects of perivascular adipose tissue on the contractile function of rat resistance arteries. **T. Szasz.** Georgia Hlth. Sci. Univ.
- 11:45 Perivascular adipose tissue in age-associated arterial stiffening: role of transforming growth factor beta 1. **B.S. Fleenor, H. Snieder, K.D. Marshall and D.R. Seals.** Univ. of Colorado Boulder. (866.8)

### 285. THE REAL WORLD OF THERAPEUTIC DRUGS: BENCH TO BOARDROOM, THE BEDSIDE AND BEYOND

#### Symposium

(Sponsored by: The Divisions for Pharmacology Education and Behavioral Pharmacology)

MON. 9:30 AM—SAN DIEGO CONVENTION CENTER, 5A

CHAired: P.K. RANGACHARI

- 9:30 Framing interdisciplinary courses: promises and pitfalls. **P. K. Rangachari.** McMaster Univ., Canada.
- 9:55 Tomorrow's prescribers: how should we train them, assess them and support them? **S. Maxwell.** Univ. of Edinburgh.
- 10:20 That's a great drug, but who's paying for it &mdash; beyond the do no harm paradigm. **D. Macarios.** Amgen.
- 10:45 Discussing the benefit and risks of drug therapies: interpreting drug information for healthcare providers and patients. **S. Milligan.** Genentech.
- 11:10 Social pharmacology: a new topic in pharmacology. **J-L. Montastruc.** Univ. Paul Sabatier, Toulouse.
- 11:35 Open discussion.

### 286. DRUG DISCOVERY, DEVELOPMENT AND REGULATORY AFFAIRS SYMPOSIUM: MITOCHONDRIAL DYSFUNCTION IN HUMAN DISEASE

#### Symposium

MON. 9:30 AM—SAN DIEGO CONVENTION CENTER, 5B

CHAired: R. DAVIS AND M. WILLIAMS

- 9:30 Introduction. Mitochondrial dysfunction and human disease. **R. K. Naviaux.** UCSD Sch. of Med.
- 10:00 Mitochondrial dysfunction in neurodegenerative diseases. **M. F. Beal.** Cornell Univ. Weill Med. Col.
- 10:30 Mitochondria and diabetes. **D. Neuffer.** East Carolina Univ. Brody Sch. of Med.
- 11:00 Warburg revisited: regulation of mitochondrial metabolism by voltage dependent anion channels in cancer cells. **J. J. Lemasters.** Med. Univ. of South Carolina.
- 11:30 Therapeutic potential for mitochondrial disease treatment. **R. E Davis.** 3D Pharmaceut. Consultants Inc.

### 287. PUBLIC AFFAIRS WORKSHOP: FDA'S STRATEGY TO DEVELOP AND VALIDATE NEW ANTICANCER AND CANCER PREVENTION AGENTS AND PATHWAYS

#### Public Affairs Workshop

MON. 1:00 PM—SAN DIEGO CONVENTION CENTER, 4

CHAired: K. TEW

- 1:00 Chair's introduction.
- 1:05 Pitfalls in oncology development. **K. Delorenzo.** FDA, Silver Spring.

- 1:35 Oncology drug development. **S. Shord**. FDA, Silver Spring.
- 2:05 Bridging the gap between drug discovery and clinical trials: non-clinical development of oncology drugs. **H. Saber**. FDA, Silver Spring.
- 2:35 Discussion.

**288. P.B. DEWS LIFETIME ACHIEVEMENT AWARD FOR RESEARCH IN BEHAVIORAL PHARMACOLOGY LECTURE**

MON. 2:00 PM—SAN DIEGO CONVENTION CENTER, 2

The P.B. Dews Lifetime Achievement Award for Research in Behavioral Pharmacology is given biennially to recognize outstanding lifetime achievements in research, teaching and professional service in the field of Behavioral Pharmacology and to honor Peter Dews for his seminal contributions to the development of behavioral pharmacology as a discipline. Dr. James Barrett was selected for this award based on his accomplishments focusing on some of the most important concepts and questions in the field of behavioral pharmacology, with particular emphasis on the behavioral determinants of drug action.

- 2:00 Introduction. **N. A. Ator**. Johns Hopkins Sch. of Med.
- 2:05 Drugs of abuse: behavioral determinants of pharmacological plasticity. **J. E. Barrett**. Drexel Univ. Col. of Med.

**289. BERNARD B. BRODIE AWARD IN DRUG METABOLISM LECTURE**

MON. 2:00 PM—SAN DIEGO CONVENTION CENTER, 3

The Bernard B. Brodie Award in Drug Metabolism has been established to honor the fundamental contributions of Bernard B. Brodie in the field of drug metabolism and disposition. The Award is presented biennially in even years to recognize outstanding original research contributions in drug metabolism and disposition, particularly those having a major impact on future research in the field. Dr. Yuichi Sugiyama receives the Brodie Award in recognition of his outstanding contributions to our understanding of human drug metabolism and transport.

- 2:00 Introduction. **E. Johnson**. The Scripps Res. Inst.
- 2:05 Drug transporters: roles in new drug discovery and development. **Y. Sugiyama**. Univ. of Tokyo Fac. of Pharmaceut. Sci.

**290. BEHAVIORAL PHARMACOLOGY DIVISION SYMPOSIUM: THE BEHAVIORAL PHARMACOLOGY OF DRUGS OF ABUSE AND DRUG DEPENDENCE: A TRIBUTE TO STEVE HOLTZMAN AND BOB SCHUSTER**

**Symposium**

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 2

CHAired: L. DYKSTRA AND C. PARONIS

- 3:00 Lessons learned from two of the best. **L. Dykstra**. Univ. of North Carolina at Chapel Hill.

- 3:30 Use of non-human primate models of intravenous drug self-administration in the development of medications for the treatment of drug abuse. **S. Goldberg**. Johns Hopkins Univ. Bayview Med. Ctr.
- 4:00 Some determinants of drug tolerance and dependence. **C. A. Paronis**. Northeastern Univ.
- 4:30 Vive la difference: sex differences in the behavioral pharmacology of opioids. **R. Craft**. Washington State Univ.
- 5:00 Building bridges, solving problems: connecting behavioral pharmacological models of self-administration to treatments. **M. Greenwald**. Wayne State Univ. Sch. of Med.

**291. DRUG METABOLISM DIVISION AND JAMES GILLETTE AWARD AND PLATFORM SESSION**

**Oral**

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 3

CHAired: H. SWANSON

- 3:00 Chair's introduction.
- 3:05 Ubiquitination of neuronal nitric oxide synthase in the P450 oxygenase and calmodulin-binding domain. **K.M. Clapp, H-M. Peng, G.J. Jenkins, M. Ford, Y. Morishima, M. Lau and Y. Osawa**. Univ. of Michigan and MS Bioworks, Ann Arbor. (1052.1)
- 3:25 P450 3A5 is primarily responsible for the formation of the most abundant oxidative metabolite of maraviroc. **Y. Lu, C.W. Hendrix and N.N. Bumpus**. Johns Hopkins Univ. Sch. of Med. (1052.2)
- 3:45 Characterization of a *Cyp2a(4/5)bgs*-null mouse model: role of CYP2A and CYP2B in nicotine metabolism. **L. Li, Y. Wei, X. Zhou, L.B. Hough and X. Ding**. New York State Dept. of Hlth., SUNY at Albany and Albany Med. Col. (1052.3)
- 4:05 Hepatic PXR represses *UGT1A1* gene expression during neonatal development. **S. Chen and R.H. Tukey**. UCSD. (1052.4)
- 4:25 **291.1** Attenuation of intestinal absorption by major efflux transporters: quantitative tools and strategies using a Caco-2 model. **X. Lin, S. Skolnik, X. Chen and J. Wang**. Novartis Insts. for Biomed. Res., Cambridge, MA.
- 4:55 **291.2** Farnesoid X receptor activation by chenodeoxycholic acid induces detoxifying enzymes through AMP-activated protein kinase and extracellular signal-regulated kinase 1/2-mediated phosphorylation of CCAAT/enhancer binding protein  $\beta$ . **K. Noh, Y.M. Kim, Y.W. Kim and S.G. Kim**. Seoul Natl. Univ.
- 5:25 Discussion.

**292. MOLECULAR PHARMACOLOGY DIVISION POSTDOCTORAL AWARD FINALISTS**

**Oral**

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 4

- 3:00 Cell-intrinsic adenosine  $A_{2A}$  receptor signaling is required for T cell homeostasis and tumor surveillance. **C. Cekic, D. Sag and J. Linden**. La Jolla Inst. for Allergy and Immunol. (1119.1)

- 3:30 Activated protein C promotes endothelial barrier protection through biased PAR1 signaling mediated by  $\beta$ -arrestin and dishevelled-2 scaffolds. **U.J.K. Soh and J. Trejo**. UCSD Sch. of Med. (671.4)
- 4:00 How  $G\alpha_q$  regulates  $PIP_2$  hydrolysis: molecular mechanisms and prospects for drug development. **A.M. Lyon, V.M. Tesmer, C.A. Boguth, V.D. Dhamsania, D.M. Thal, J. Guiterrez, S. Chowdhury, J.K. Northup and J.J.G. Tesmer**. Univ. of Michigan and NIDCD/NIH, Rockville. (667.1)
- 4:30 **Keynote Speaker.** Acyl tales of G proteins and PATs. **M. Linder**. Cornell Univ.

## 293. INTEGRATIVE SYSTEMS, TRANSLATIONAL AND CLINICAL PHARMACOLOGY DIVISION YOUNG INVESTIGATOR AWARDS PLATFORM SESSION

### Oral

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 5A

CHAired: J. PAUL

COCHAired: H. AKBARALI

- 3:00 Chair's introduction.
- 3:15 Discovery of early life plasma protein signatures for asthma development. **H. Xu, T. Radabaugh, Z. Lu, D. Billheimer, D. Vercelli, M. Halonen and S.S. Lau**. Univ. of Arizona. (1122.2)
- 3:30 Rgs16 is a pancreatic reporter of chronic hyperglycemia in diabetes. **O. Ocal, I.W. Asterholm, R.A. Brekken, O. Cleaver, P.E. Scherer and T.M. Wilkie**. Univ. of Texas Southwestern Med. Ctr. (759.6)
- 3:45 Cholecalciferol increases 7-dehydrocholesterol reductase activity in adult human epidermal keratinocytes. **L. Zou and T.D. Porter**. Univ. of Kentucky. (787.6)
- 4:00 Break.

- 4:15 Enhanced apoptosis and altered DNA repair underlie improved outcomes in HPV-positive head and neck cancer. **R.J. Kimple, A.D. Torres, G.C. Blitzer, M.A. Smith, E.A. Armstrong, P.F. Lambert and P.M. Harari**. Univ. of Wisconsin-Madison. (537.2)
- 4:30 Plaque-like A3 adenosine receptor microdomains are associated with bacteria-tethering nanotubes in human neutrophils. **R. Corriden, T. Self, S.J. Briddon and S.J. Hill**. Univ. of Nottingham. (1119.3)
- 4:45 *Lactobacillus rhamnosus* GG treatment potentiates intestinal hypoxia-inducible factor, promotes intestinal integrity, prevents inflammation, and ameliorates alcohol-induced liver injury. **Y. Wang, Y. Liu, I. Kirpich, C. McClain and W. Feng**. Univ. of Louisville. (673.17)
- 5:00 Awards.

## 294. PHARMACOLOGY EDUCATION DIVISION PROGRAMMING: STRATEGIES FOR PHARMACOLOGY IN INTEGRATED MEDICAL SCHOOL CURRICULA: BEST PRACTICES FOR ENHANCING INVOLVEMENT OF OUR DISCIPLINE

### Symposium

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, 5B

CHAired: L.M. CRESPO

### Education

- 3:00 The knowledge objectives in pharmacology: our leverage in the curriculum. **R. Eisenberg**. Univ. of Minnesota.
- 3:30 Creation of a virtual pharmacology course in an organ-based, PBL-intensive medical curriculum. **K. Vrana**. Penn State.
- 4:00 TBD. **J. R. Haywood**. Michigan State Univ.
- 4:30 Starting with a blank slate: building the curriculum in a new medical school. **L. M. Crespo**. Univ. of South Carolina, Greenville.
- 5:00 Panel discussion.

## Physiology

### 295. ASSESSMENT OF STUDENT LEARNING AND SCIENTIFIC TEACHING

#### Symposium

(Sponsored by: APS Teaching of Physiology Section)

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 26

CHAired: M. P. WENDEROTH

#### Education

- 8:00 How to use Bloom's to assess student learning. **M. P. Wenderoth**. Univ. of Washington.
- 8:30 Just the facts? Using Bloom's taxonomy to characterize the cognitive skills in introductory biology. **J. Momsen**. North Dakota State Univ.
- 9:00 Using Bloom's to inform changes in Introductory Biology course. **C. Pollock**. Univ. of British Columbia.

- 9:30 Using the genetics concept assessment to understand misconceptions and assess learning gains. **J. Knight**. Univ. of Colorado Boulder.

### 296. CARL LUDWIG DISTINGUISHED LECTURESHIP OF THE APS NEURAL CONTROL AND AUTONOMIC REGULATION SECTION

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 20A

Title: Sympathetic Nerve Activity in Heart Failure: A Critical Role for Central Angiotensin II Receptors

Speaker: **I. H. Zucker**. Univ. of Nebraska Med. Ctr.



**297. COMMUNICATION BETWEEN CARDIAC CELLS AND THE EXTRACELLULAR MATRIX****Featured Topic***(Sponsored by: APS Cardiovascular Section)*

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 28A

CHAired: J. D. CHANG AND J. D. GARDNER

**Inflammation and Immune Responses**

- 8:00 Mechanosensing as an important regulator of contractile function in the heart. **D. E. Dostal**. Texas A&M Hlth. Sci. Ctr.
- 8:30 Role of Rho kinase in cardiac remodeling. **L. Wei**. Indiana Univ.
- 9:00 Matrix metalloproteinase-28 deletion attenuates short-term left ventricular dysfunction but exacerbates cardiac rupture post-myocardial infarction in mice. **Y. Ma, J. Zhang, T.A. Ramirez, A.M. Manicone and M.L. Lindsey**. Univ. of Texas Hlth. Sci. Ctr. at San Antonio and Univ. of Washington. (1060.1)
- 9:15 Communication between cardiomyocytes and cardiac fibroblasts: mechanistic role of ROCK1 in fibrotic cardiac remodeling. **X. Yang, Q. Li, X. Lin, X. Yue and J. Chang**. Texas A&M Hlth. Sci. Ctr., Houston. (1060.2)
- 9:30 Cardiac-myocyte ablation of Talin1 results in a blunted hypertrophic response to chronic pressure overload. **A.M. Manso, R. Li, N.M. Cruz, Y. Gu, S.M. Chang, B.J. Rasmussen, K.L. Peterson, D. Abel, S.J. Monkley, D.R. Critchley and R.S. Ross**. UCSD Sch. of Med. and VA Healthcare San Diego, Univ. of Utah Sch. of Med. and Univ. of Leicester, U.K. (1060.3)
- 9:45 S1P induces CCN1 expression through RhoA/MRTF- $\alpha$  activation and protects cardiomyocytes against cell death. **E. Ding, S. Miyamoto, X. Zhao, S.Y. Xiang, R.R. Neubig and J. Heller Brown**. UCSD and Univ. of Michigan. (1060.4)

**298. DEVELOPMENT OF THE CONTROL OF BREATHING****Featured Topic***(Sponsored by: APS Respiration Section)*

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 22

CHAired: F. BAILEY AND R. BAVIS

**Physiology of Development**

- 8:00 Postnatal maturation of O<sub>2</sub> sensing: new mechanisms and persistent puzzles. **J. L. Carroll**. Univ. of Arkansas for Med. Sci.
- 8:30 Arousal from sleep in infants: a major protective mechanism during hypoxia and hypercapnia. **R. A. Darnall**. Dartmouth Med. Sch.
- 9:00 The effects of chronic nicotine exposure on chemosensitivity of medullary 5-HT neurons. **J. Avraam, Y. Wu and G.B. Richerson**. Univ. of Iowa. (1090.8)

- 9:15 Effects of pharmacologic manipulation of the brainstem serotonergic system on duration of the laryngeal chemoreflex—implications for sudden infant death syndrome. **W.T. Donnelly, D. Bartlett, Jr. and J.C. Leiter**. Dartmouth Med. Sch. (1090.3)
- 9:30 Effects of postnatal development, temperature and the pons on respiratory rhythm and pattern generation in rat pups. **A.Y. Fong, M.B. Zimmer and W.K. Milsom**. Australian Sch. of Adv. Med., Macquarie Univ., Ferris State Univ., MI and Univ. of British Columbia. (1090.5)
- 9:45 Age-dependent effects of progesterone on ventilation and apnea in rats. **V. Joseph, C. Julien, R. Kinkead and A. Bairam**. Laval Univ., Canada. (1090.4)

**299. HYPOXIA INDUCIBLE FACTORS IN HEALTH AND DISEASE****Symposium**

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 24

CHAired: B. B. REES, C. G. WILSON AND M. WATANABE

**Hypoxia and Oxidative Stress****Translational Physiology**

- 8:00 Signaling oxygen levels by protein hydroxylation. **P. Ratcliffe**. Univ. of Oxford.
- 8:30 The role of genetic models in determining novel roles for HIF and hypoxic response. **R. Johnson**. UCSD.
- 9:00 Molecular basis of congenital disorders of hypoxia sensing and high altitude adaptation. **J. Prchal**. Univ. of Utah.
- 9:30 Genomic information controlling the adaptation to long term hypoxia: from flies to humans. **G. Haddad**. UCSD.

**300. ION CHANNELS AS MACROMOLECULAR COMPLEXES****Symposium***(Sponsored by: APS Cell and Molecular Physiology Section)*

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 27

CHAired: W. A. COETZEE AND M. DELMAR

**Transporters and Ion Channels**

- 8:00 Sodium channels and cardiac desmosomal protein interaction. **M. Delmar**. NYU Sch. of Med.
- 8:30 The sodium channel beta subunit as a cell adhesion molecule. **L. Isom**. Univ. of Michigan Sch. of Med.
- 9:00 Ankyrin proteins and ion channels. **P. Mohler**. The Ohio State Univ.
- 9:30 The K<sub>ATP</sub> channel as a megadalton complex. **W. A. Coetzee**. NYU Sch. of Med.

**301. NOVEL MECHANISMS FOR IMPROVING MITOCHONDRIAL EFFICIENCY****Featured Topic***(Sponsored by: APS Endocrinology and Metabolism Section)*

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 25A

CHAired: S. CROZIER

**Hypoxia and Oxidative Stress**

- 8:00 Modulation of mitochondrial efficiency by dietary nitrate. **F. Larsen.** Karolinska Inst.
- 8:30 Flavanol-mediated enrichment of mitochondrial structure and bioenergetics. **F. Villarreal.** UCSD.
- 9:00 AMPK activation by AICAR induces mitochondrial biogenesis in the inner ear. **A.L. Nuttall, T. Wilson, I. Omelchenko and X. Shi.** Oregon Hlth. & Sci. Univ. (888.6)
- 9:15 Mitochondrial Ogg1 prevents loss of mitDNA content, decreases mitochondria fission and apoptosis under conditions of oxidative stress in H9C2 cells. **M. Torres-Gonzalez, T. Gawlowski, B. Scott and W. Dillmann.** UCSD Sch. of Med. (888.2)
- 9:30 Protein profile in mitochondria of pigs selected for residual feed intake. **J.K. Grubbs, A. Fritchen, A. Harris, E. Huff-Lonergan, N.K. Gabler and S.M. Lonergan.** Iowa State Univ. (888.5)
- 9:45 Isoflurane increases mitochondrial free Ca<sup>2+</sup> by attenuating the Na<sup>+</sup>/Ca<sup>2+</sup> exchanger activity. **B. Agarwal, A.K.S. Camara, D.F. Stowe, Z.J. Bosnjak, D.A. Beard and R.K. Dash.** Med. Col. of Wisconsin. (888.4)

**302. NOVEL SIGNALING PATHWAYS IN RENAL PATHOPHYSIOLOGY****Featured Topic***(Sponsored by: APS Renal Section)*

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 28B

CHAired: J. L. PLUZNICK AND A. D. M. RIQUIER-BRISON

- 8:00 Role of ecto-5'-nucleotidase (CD73) in the development of renal fibrosis. **I. Carota, K. Höcherl and H. Castrop.** Univ. of Regensburg, Germany. (868.10)
- 8:15 Effects of nitrosonifedipine, a photodegradation product of nifedipine, on diabetic nephropathy in type II diabetic mice. **T. Sakurada, K. Ishizawa, S. Fujii, Y. Izawa-Ishizawa, M. Imanishi, A. Nuno, Y. Kihira, Y. Ikeda, S. Tomita, K. Tsuchiya and T. Tamaki.** Univ. of Tokushima Grad. Sch., Japan. (691.2)
- 8:30 GPR91 deletion improves lithium-induced nephrogenic diabetes insipidus. **L. Lam, H.A. Gevorgyan, A.D.M. Riquier-Brison and J. Peti-Peterdi.** Univ. of Southern California. (1100.5)
- 8:45 The classic renovascular (Goldblatt) hypertension is mediated by succinate/GPR91 signaling. **A.D.M. Riquier-Brison, H.A. Gevorgyan and J. Peti-Peterdi.** Univ. of Southern California. (690.22)

- 9:00 Activation of Nrf-2 enhances the function of human renal glomerular endothelial cells. **Z. Luo, J. Bhupatkar, W.J. Welch and C.S. Wilcox.** Georgetown Univ. (691.5)
- 9:15 Dysfunction of TRPV4 channels in the collecting duct-derived cysts of ARPKD. **O.L. Zaika, M. Mamenko, J. Berrou, R.G. O'Neil and O. Pochynyuk.** Univ. of Texas Hlth. Sci. Ctr. at Houston. (868.2)
- 9:30 Transcriptional regulation of renal NCX1 by IFN $\gamma$  in colitis. **V.M. Radhakrishnan, R.D. Thurston, C.B. Larmonier, A. Fritz, R. Ramalingam, P.R. Kiela and F.K. Ghishan.** Univ. of Arizona. (867.29)
- 9:45 Acid sphingomyelinase gene knockout ameliorates hyperhomocysteinemic glomerular injury in mice lacking cystathionine  $\beta$ -synthase. **K.M. Boini, M. Xia, C-X. Li, J. Xiong and P-L. Li.** Virginia Commonwealth Univ. (691.6)

**303. REGULATION OF WATER AND ELECTROLYTE BALANCE IN DIABETIC NEPHROPATHY****Symposium***(Sponsored by: APS Water and Electrolyte Homeostasis Section)*

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 25B

CHAired: R. ROMAN AND C. DE MIGUEL

- 8:00 Mechanisms of diabetes-associated glomerular hyperfiltration. **P. Carmines.** Univ. of Nebraska Col. of Med.
- 8:30 C-peptide in the pathophysiology of diabetic nephropathy. **C. Maric.** Univ. of Mississippi Med. Ctr.
- 9:00 Sodium retaining actions of insulin in diabetes. **M. Brands.** Georgia Hlth. Sci. Univ.
- 9:30 Novel treatment approaches for diabetic kidney disease. **K. Sharma.** UCSD.

**304. TOWARDS A BIOLOGY OF BODY WEIGHT REGULATION: THE WORK OF STEPHEN C. WOODS****Symposium***(Sponsored by: APS Central Nervous System Section)*

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 23

CHAired: R. SEELEY AND S. C. WOODS

**Central Control of Homeostasis****Metabolic Diseases**

- 8:00 Food preference determined by nutrient sensing in mouth and gut. **A. Sclafani.** Brooklyn Col. of CUNY.
- 8:30 Developmental contributions to the metabolic phenotype. **T. H. Moran.** Johns Hopkins Univ. Sch. of Med.
- 9:00 Food reward and obesity. **H-R. Berthoud.** Pennington Biomed. Res. Ctr.
- 9:30 Novel aspect of adipose-brain communication in body weight regulation. **R. Seeley.** Univ. of Cincinnati.

**305. TRAINEE HIGHLIGHTS IN PHYSIOLOGICAL GENOMICS****Special Session***(Sponsored by: APS Physiological Genomics Group)*

MON. 8:00 AM—SAN DIEGO CONVENTION CENTER, 25C

CHAIRERD: J. L. ZHUO AND C. MORENO-QUINN

- 8:00 Endoplasmic reticulum (er) stress mediates nuclear factor- $\kappa$ -B activation in the subfornical organ during slow-pressor angiotensin-II hypertension. **C.N. Young and R.L. Davisson.** Cornell Univ. and Weill Cornell Med. Col. (874.11)
- 8:15 Significantly increased plasma levels of unbound-VEGF in overweight/obese women. **K.L. Makey, L. Miele, E. Chinchar, I. Pei, J. Robinson, M. Loftin, D. Waddell, M. Huang and J-W. Gu.** Univ. of Mississippi Med. Ctr. and Univ. of Mississippi. (1151.17)
- 8:30 A combinatorial genetic approach identifies a significant locus that controls elevated heart rate in mice. **I.A. Ilushkina, E.M. Smolock, J. Gerloff, G. Glazko, A.N. Murashev, A.J. Lulis and V.A. Korshunov.** Univ. of Rochester Sch. of Med. and Dent., Shemyakin-Ovchinnikov Inst. of Bioorganic Chem., Russia, Univ. of Arkansas for Med. Sci. and David Geffen Sch. of Med., UCLA. (1098.1)
- 8:45 RNAi silencing of TNF $\alpha$  attenuates cold-induced pulmonary hypertension. **P. Crosswhite and Z. Sun.** Univ. of Oklahoma Hlth. Sci. Ctr. (874.8)
- 9:00 Epigenetic mechanism of atherosclerosis and hypertension in hyperhomocysteinemia. **N. Narayanan, N. Tyagi, S. Pagni, M.T. Tseng and S.C. Tyagi.** Univ. of Louisville. (874.7)
- 9:15 Mapping a genetic biomarker of blood pressure to <807.3kb using two genetically hypertensive rats. **S. Kumarasamy, K. Gopalakrishnan, S. Yerga-Woolwine, P. Farms, J. Liu and B. Joe.** Univ. of Toledo Col. of Med. and Life Sci. (874.6)
- 9:30 microRNA-126 regulates cardiac angiogenesis induced by aerobic exercise training. **N.D. da Silva Junior, T. Fernandes, U. Soci, I. Phillips and E. Oliveira.** Univ. of São Paulo and Keck Grad. Inst., Claremont, CA. (1151.5)
- 9:45  $^1\text{H}/^{13}\text{C}$  NMR metabolomics in a neonatal rat brain slice model of early and late mild hypothermia treatments of asphyxia. **J. Liu, L. Litt, J.G. Pelton, M. Segal, M.J.S. Kelly, M. Kim and T.L. James.** UCSF, Lawrence and Univ. of California, Berkeley. (1151.16)

**306. ANGIOTENSIN AND SYMPATHETIC NERVE ACTIVITY****Minisymposium***(Sponsored by: APS Neural Control and Autonomic Regulation Section)*

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, 20A

CHAIRERD: I. H. ZUCKER

**Blood Pressure Regulation**

- 9:00 Angiotensin receptor subtypes in CNS cardiovascular control. **C. Sumner.** Univ. of Florida.

- 9:20 Neural regulation of blood pressure and T lymphocytes in stress-dependent hypertension. **P. J. Marvar.** Emory Univ.
- 9:40 Angiotensin-sympathetic nervous system interactions in humans: myth or reality? **J. Floras.** Univ. of Toronto.

**307. ALTERED CENTRAL AND GANGLIONIC CATECHOLAMINERGIC TRANSMISSION IN CARDIOVASCULAR DISEASE****Symposium***(Sponsored by: APS Neural Control and Autonomic Regulation Section)*

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 24

CHAIRERD: D. J. PATERSON AND A. G. TESCHEMACHER

- 10:30 Central catecholaminergic control of cardiovascular sympathetic activity. **P. G. Guyenet.** Univ. of Virginia.
- 11:00 Angiotensin II and glial-Cl neuron modulation in hypertension. **A. G. Teschemacher.** Univ. of Bristol.
- 11:30 Neuron participation in sympathetic activity generation in heart failure and central chemoreception. **A. Gourine.** Univ. Col. London.
- 12:00 Modulation of cardiac sympathetic co-transmitters in cardiovascular disease. **N. Herring.** Oxford Univ.

**308. CHRONIC INTERMITTENT HYPOXIA: RESPIRATORY, AUTONOMIC AND CARDIOVASCULAR CONSEQUENCES****Featured Topic***(Sponsored by: APS Central Nervous System Section)*

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 22

CHAIRERD: A. M. SCHREIHOFFER AND G. M. TONEY

**Blood Pressure Regulation****Central Control of Homeostasis**

- 10:30 Neural circulatory responses to sleep apnea—physiology and clinical implications. **V. Somers.** Mayo Clin.
- 11:00 Chronic intermittent hypoxia (cih) alters respiratory rhythmogenesis within the preBötzing complex. **A.J. Garcia, A. Doi, T. Malashchenko, A. Wei, G. Kumar, N.R. Prabhakar and J-M. Ramirez.** Seattle Children's Res. Inst., Univ. of Washington and Univ. of Chicago. (899.2)
- 11:15 Intracellular recordings of respiratory and pre-sympathetic neurons in the ventrolateral medulla of rats submitted to chronic intermittent hypoxia. **D.J.A. Moraes, D.B. Zoccal and B.H. Machado.** Sch. of Med. of Ribeirão Preto, Univ. of São Paulo. (899.1)
- 11:30 Neuropeptide Y signaling in altered catecholamine synthesis during intermittent hypoxia. **G.K. Kumar, G. Raghuraman and N.R. Prabhakar.** Univ. of Chicago. (899.12)
- 11:45 Exposure to acute intermittent hypoxia prolongs sympathoexcitatory and pressor responses evoked by NMDA in the hypothalamic paraventricular nucleus. **S.S. Kandlikar, M.A. Andrade, A.S. Calderon and G.M. Toney.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio. (899.10)

- 12:00 Colocalization of angiotensin converting enzyme 1 and FosB in the median preoptic nucleus following intermittent hypoxia. **K.E. Faulk, W.D. Knight, J.T. Little and J.T. Cunningham.** Univ. of North Texas Hlth. Sci. Ctr. (899.8)
- 12:15 Intermittent hypoxia alters circulating leptin levels and the activity of pro-opiomelanocortin hypothalamic arcuate nucleus neurons. **J.M. Moreau, S.A. Messenger and J. Ciriello.** Univ. of Western Ontario. (899.7)

### 309. DO I NEED ANOTHER DEGREE?

#### Symposium

(Sponsored by: APS Career Opportunities in Physiology Committee)

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 28A

CHAired: J. D. IMIG AND S. D. COAXUM

#### Career Development

- 10:30 Opportunities in academia for scientists with an MBA degree. **M. Kluger.** George Mason Univ.
- 11:00 Physiology and public health: what can an MPH degree do? **R. Carter III.** U.S. Army.
- 11:30 Public policy and career opportunities in physiology. **S. K. England.** Washington Univ.
- 12:00 Benefits and opportunities in science for a JD degree. **B. Taylor.** Patent Lawyer, Roche Tissue Diagnostics, Tucson.

### 310. FUTURE DIRECTIONS OF MITOCHONDRIAL BIOENERGETICS IN INTEGRATIVE PHYSIOLOGY

#### Featured Topic

(Supported by an educational grant from Seahorse Bioscience, Inc.)

(Sponsored by: APS Comparative and Evolutionary Physiology Section)

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 27

CHAired: M. JASTROCH

#### Hypoxia and Oxidative Stress

#### Translational Physiology

- 10:30 Mitochondrial bioenergetics in the intact cell. **D. G. Nicholls.** Buck Inst. for Res. on Aging.
- 11:00 Antioxidant enhanced spare capacity in cardiomyocytes as a protective response to oxidative stress induced by hypoxia and redox cycling agent. **R. Legmann, J. Melito and D. Ferrick.** Seahorse Bioscience, Billerica, MA. (887.8)
- 11:15 Time lapse measurement of mitochondrial membrane potential in absolute millivolts in single intact cells. **A.A. Gerencser, C. Chinopoulos, M.J. Birket, M. Jastroch, C. Vitelli, D.G. Nicholls and M.D. Brand.** Buck Inst. for Res. on Aging, Novato, CA, Semmelweis Univ., Hungary, Leiden Univ. Med. Ctr., Netherlands and Helmholtz Zentrum Munich. (887.11)

- 11:30 In vivo spectroscopy provides a new window into mitochondrial bioenergetics. **D. J. Marcinek.** Univ. of Washington Sch. of Med.
- 12:00 Non-invasive integrative analysis of cardiac energetics, translation to human heart in vivo. **P.H. Diolez, V. Deschodt-Arsac, M. Chapolard, M. Hocini, P. Jais and M. Haissaguerre.** INSERM U1045, Bordeaux Univ. (887.12)
- 12:15 Mitochondrial functional specialization in glycolytic and oxidative muscle fibers: tailoring the organelle for optimal function. **Y. Burelle, R.T. Hepple and M. Picard.** Univ. of Montreal and McGill Univ. (887.19)

### 311. ION CHANNELS

#### Featured Topic

(Sponsored by: APS Cell and Molecular Physiology Section)

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 25C

CHAired: C. FULLER AND M. CARATTINO

#### Transporters and Ion Channels

- 10:30 Expression and functional significance of Ca<sup>2+</sup>-activated Cl<sup>-</sup> channels in dendritic cells. **E. Shumilina, K. Sztejn, E. Schmid, M.K. Nurbaeva, W. Yang, K. Kunzelmann and F. Lang.** Univ. of Tuebingen and Univ. of Regensburg, Germany. (884.3)
- 10:45 The N-terminus of CIC-3 determines membrane localization. **F.S. Lamb and M.M. Collins.** Vanderbilt Univ. and Univ. of Iowa. (884.4)
- 11:00 A mutation in a CLC anion channel alters serotonergic neuronal activity in *C. elegans*. **R. Branicky, H. Miyazaki, K. Strange and W. Schafer.** MRC Lab. of Molec. Biol., Cambridge and Mount Desert Island Biol. Lab., ME. (884.5)
- 11:15 Chronic ethanol ingestion increases epithelial sodium channel activity in C57BL/6 lung. **D. Trac, E. Brewer and M.N. Helms.** Emory Univ.: Sch. of Med. and Children's Healthcare of Atlanta. (884.6)
- 11:30 A Deg/ENaC cation conductance regulates migration and cell cycle progression in gliomas. **A.K. Rooj, C.M. McNicholas and C.M. Fuller.** Univ. of Alabama at Birmingham. (884.8)
- 11:45 The effects of synthetic ASIC1a peptide on glial proliferation. **J.C. Guercio and E. Petroff.** Montclair State Univ. (884.7)
- 12:00 microRNA 29b is upregulated in pulmonary artery smooth muscle cells from patients with idiopathic pulmonary arterial hypertension and inhibits K<sup>+</sup> channel expression and function. **N.M. Pohl, A. Yamamura, H. Yamamura, A. Makino and J.X.-J. Yuan.** Univ. of Illinois at Chicago. (884.10)
- 12:15 Store-operated calcium channel Orai and STIM regulated by high glucose. **N. Daskoulidou, H. Jiang, B. Zeng, S.L. Atkin and S-Z. Xu.** Hull York Med. Sch., Univ. of Hull, U.K. (884.12)

**312. MECHANOBIOLOGY IN THE LUNGS****Symposium***(Sponsored by: APS Respiration Section)*

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 25A

CHAired: C. M. WATERS AND K. RIDGE

- 10:30 Deformation-induced plasma membrane stress failure. **R. Hubmayr.** Mayo Clin.
- 11:00 Micromechanical properties of intermediate filaments. **K. Ridge.** Northwestern Univ., Chicago.
- 11:30 Mechanical properties of migrating cells. **E. Roan.** Univ. of Memphis.
- 12:00 Mechanotransduction and matrix rigidity. **D. Tschumperlin.** Harvard Univ.

**313. MICROCIRCULATORY SOCIETY YOUNG INVESTIGATOR SYMPOSIUM: OXIDANT STRESS AND INFLAMMATION IN THE MICROCIRCULATION****Symposium***(Sponsored by: The Microcirculatory Society)*

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 26

CHAired: J. TUNE

- 10:30 Apocynin improves exercise performance and functional vasodilation by improving  $K_{ATP}$  function in obese Zucker rats. **S. Lu, L. Xiang, J. Clemmer, L. Lee, M. Sebai and R.L. Hester.** Univ. of Mississippi Med. Ctr. (860.17)
- 10:50 Syndecan-1 modulates leukocyte adhesion in the murine parietal peritoneum microcirculation in response to *Staphylococcus aureus* lipoteichoic acid. **P. Kowalewska and A.E. Fox-Robichaud.** McMaster Univ., Canada. (680.8)
- 11:10 Role of CYP4A/20-HETE pathway in vascular oxidative stress in the Dahl salt-sensitive rat. **K. Lukaszewicz, J. Falck and J. Lombard.** Med. Col. of Wisconsin and Univ. of Texas Southwestern Med. Ctr. (853.23)
- 11:30 Distinct roles for talin-1 and kindlin-3 in LFA-1-dependent neutrophil rolling and arrest. **C. Lefort, J. Rossaint, M. Moser, B.G. Petrich, A. Zarbock, S.J. Monkley, D.R. Critchley, M.H. Ginsberg, R. Fassler and K. Ley.** La Jolla Inst. for Allergy and Immunol., Univ. of Muenster, Max Planck Inst. of Biochem., Martinsried, UCSD and Univ. of Leicester, U.K. (680.11)
- 11:50 Mast cells in proximity of adult and aged mesenteric lymphatic vessels. **V. Chatterjee and A.A. Gashev.** Texas A&M Hlth. Sci. Ctr., Temple. (677.10)

**314. PENDRIN: HEARING, BLOOD PRESSURE, THYROID FUNCTION AND MORE****Symposium***(Sponsored by: APS Renal Section)*

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 28B

CHAired: S. M. WALL AND S. MUALLEM

**Blood Pressure Regulation****Translational Physiology**

- 10:30 Overview of pendrin function. **S. Muallem.** NIDCR/NIH.
- 10:40 Pendred syndrome as a complex genetic disease. **R. J.H. Smith.** Univ. of Iowa.
- 11:05 The role of pendrin in the physiology of hearing. **P. Wangemann.** Kansas State Univ.
- 11:30 The role of pendrin in thyroid function. **P. Kopp.** Northwestern Univ., Chicago.
- 11:55 The role of pendrin in renal blood pressure regulation. **V. Pech.** Emory Univ.

**315. SODIUM AND WATER HOMEOSTASIS: GENETIC AND COMPARATIVE MODELS****Featured Topic***(Sponsored by: APS Water and Electrolyte Homeostasis Section)*

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 25B

CHAired: T. PANNABECKER AND K. HYNDMAN

**Translational Physiology**

- 10:30 Non-mammalian models of salt and water homeostasis: historical and recent contributions. **K. Choe.** Univ. of Florida.
- 11:00 Natriuretic response to renal medullary endothelin B receptor activation is impaired in Dahl-salt sensitive rats on a high-caloric diet. **W. Kittikulsuth, Y. Zhang, I. Sunjic and D.M. Pollock.** Georgia Hlth. Sci. Univ. (1069.9)
- 11:15 Appetite regulation in desert-adapted *Spinifex* hopping mice during water deprivation. **J.A. Donald, N.K. Abdul Hamid, P. Horvath and J. McLeod.** Deakin Univ., Australia. (1069.4)
- 11:30 A novel physiological role of miR-192 in renal handling of fluid balance. **D. Mladinov, Y. Liu and M. Liang.** Med. Col. of Wisconsin. (1069.8)
- 11:45 Comparative studies of the desert rodent *Dipodomys merriami* and Munich-Wistar rat urine concentrating mechanisms. **A.C. Babaria, W.H. Dantzler and T.L. Pannabecker.** Univ. of Arizona. (886.29)
- 12:00 Role of sodium pump  $\beta 1$  subunit in adult mouse lung alveolar fluid homeostasis. **P. Flodby, Z. Borok, D. Gao, Y.H. Kim, K-J. Kim and E.D. Crandall.** Univ. of Southern California. (1069.6)
- 12:15 Renal hemodynamics in the anesthetized giraffe. **P. Bie, C. Grøndahl, M.F. Bertelsen, A. Hørlyck, J.M. Hasenkam, T. Wang, E.T. Brøndum, G. Candy and B.A. Kristensen.** Univ. of Southern Denmark, Copenhagen Zoo, Skejby Hosp., Aarhus, Aarhus Univ., Denmark and Univ. of Witwatersrand, South Africa. (1069.5)

**316. SOLOMON A. BERSON DISTINGUISHED LECTURESHIP OF THE APS ENDOCRINOLOGY AND METABOLISM SECTION**

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 20A

**Metabolic Diseases**

*Title:* Understanding of Obesity as a Disorder of Energy Homeostasis

*Speaker:* **M. W. Schwartz.** Univ. of Washington.

**317. WIGGERS AWARD FEATURED TOPIC: CALCIUM HOMEOSTASIS AND ENDOPLASMIC RETICULUM STRESS IN VASCULAR FUNCTION**

**Featured Topic**

(Sponsored by: APS Cardiovascular Section)

MON. 10:30 AM—SAN DIEGO CONVENTION CENTER, 23

CHAired: R. C. WEBB

- 10:30 Opening remarks and introductions. **R. C. Webb.** Georgia Hlth. Sci. Univ.
- 10:40 Calcium dynamics in arterial smooth muscle. **G. A. Amberg.** Colorado State Univ.
- 11:05 Signaling ER redox and folding stress to maintain proper vascular function. **C. S. Sevier.** Cornell Univ.
- 11:30 Endoplasmic reticulum stress induces sarco/endoplasmic reticulum calcium ATPase and alters calcium homeostasis in the vasculature. **K.M. Spitler, F.R. Giachini and R.C. Webb.** Georgia Hlth. Sci. Univ. and Fed. Univ. of Mato Grosso, Brazil. (863.2)
- 11:45 ER stress induction increases NADPH oxidase and reduces eNOS activity in endothelial cells. **M. Galán, M. Kassan, Q. Alkhafaf, M. Trebak and K. Matrougui.** Tulane Univ. and Ctr. of Cardiovasc. Sci., Albany, NY. (863.11)
- 12:00 T-type  $Ca^{2+}$  channels and the induction of CICR in vascular smooth muscle. **K. Bigdely-Shamloo, E.J. Vigmond and D.G. Welsh.** Univ. of Calgary, Canada. (863.10)
- 12:15 Time course of doxorubicin accumulation and dysfunction in the rat aorta. **N.M. Gibson, D.S. Hydock and R. Hayward.** Univ. of Northern Colorado. (866.9)

**318. HISTORY OF PHYSIOLOGY GROUP LECTURE**

MON. 12:45 PM—SAN DIEGO MARRIOTT MARQUIS & MARINA, LA COSTA

*Title:* Lessons in Respiratory Physiology from the Oxford:Copenhagen Debate and the Three Danish Musketeers

*Speaker:* **J. A. Dempsey.** Univ. of Wisconsin-Madison.

**319. EDWARD F. ADOLPH DISTINGUISHED LECTURESHIP OF THE APS ENVIRONMENTAL AND EXERCISE PHYSIOLOGY SECTION**

MON. 2:00 PM—SAN DIEGO CONVENTION CENTER, 24

**Metabolic Diseases**

*Title:* Exercise Only Affects Muscle? Fat Chance

*Speaker:* **L. Goodyear.** Harvard Med. Sch.

**320. CARL GOTTSCHALK DISTINGUISHED LECTURESHIP OF THE APS RENAL SECTION**

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, 24

*Title:* Playing in Traffic: Sorting and Signaling in Renal Epithelial Cells

*Speaker:* **M. J. Caplan.** Yale Univ. Sch. of Med.

**321. CELL MOTILITY IN HEALTH AND DISEASE**

**Symposium**

(Sponsored by: The Biomedical Engineering Society)

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, 25C

CHAired: A. KONTROGIANNI-KONSTANTOPOULOS AND D. WIRTZ

- 3:30 Dysregulation of receptor tyrosine kinase signaling in tumor cell migration and invasion. **D. Lauffenburger.** MIT.
- 3:55 The role of matrix alignment in tumor progression. **P. J. Keely.** Univ. of Wisconsin-Madison.
- 4:20 Cancer cell motility in 3-D: time travel in space. **D. Wirtz.** Johns Hopkins Univ.
- 4:45 The smooth muscle cytoskeleton in health and disease. **K. G. Morgan.** Boston Univ.
- 5:10 Novel insights in the regulation of actomyosin contraction in healthy and diseased muscle. **A. Kontrogianni-Konstantopoulos.** Univ. of Maryland Sch. of Med.

**322. CELLULAR  $CO_2$ ,  $HCO_3^-$  AND PH SENSING**

**Symposium**

(Sponsored by: APS Cell and Molecular Physiology Section)

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, 26

CHAired: J. PRAETORIUS AND D. BROWN

**Transporters and Ion Channels**

- 3:30  $CO_2/HCO_3^-/pH$  chemosensing via soluble adenylyl cyclase. **J. Buck.** Cornell Univ. Weill Med. Col.
- 4:00 Luminal chemosensing in the duodenal mucosa. **Y. Akiba.** UCLA, CURE.
- 4:30 The G protein-coupled receptor GPR4 in renal pH sensing. **S. Petrovic.** Wake Forest Univ.
- 5:00  $CO_2$  and  $HCO_3^-$  sensing in the renal proximal tubule. **W. F. Boron.** Case Western Reserve Univ. Sch. of Med.

**323. COMPENSATORY RESPONSES TO ACUTE OR CHRONIC HYPOXIA EXPOSURE****Featured Topic***(Sponsored by: APS Hypoxia Group)*

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, 22

CHAired: W. SCHRAGE

**Hypoxia and Oxidative Stress****Central Control of Homeostasis**

- 3:30 Pulmonary system limitations in COPD: similar to athletes at altitude? **M. Amann.** VA Med. Ctr., Salt Lake City.
- 4:00 Crucial role of phospholipase C gamma 2 in hypoxic pulmonary vasoconstriction. **V.R. Yadav, Y-M. Zheng and Y-X. Wang.** Albany Med. Col. (896.8)
- 4:15 Stimulus-specific cerebrovascular dysfunction in humans with metabolic syndrome. **J.W. Harrell, E.J. McKenna, L.A. Linstroth, B.J. Morgan and W.G. Schrage.** Sch. of Med. and Publ. Hlth., Univ. of Wisconsin-Madison. (896.2)
- 4:30 Insulin, C-peptide, glucose, and heart rate responses to acute intermittent hypoxia in the neonatal rat: body temperature and chemical sympathectomy. **M.A. Guenther, E.D. Bruder, K. Chintamaneni and H. Raff.** Aurora St. Luke's Med. Ctr., Milwaukee and Med. Col. of Wisconsin. (896.1)
- 3:45 Impaired cardiac norepinephrine transport in the hypertensive rat. **J. Shanks, S. Mane, R. Ryan and D.J. Paterson.** Oxford Univ. (1092.5)
- 5:00 Local control of skeletal muscle blood flow during hypoxic exercise. **D. P. Casey.** Mayo Clin.

**324. EMERGING PARADIGMS IN MICROVASCULAR SIGNALING****Featured Topic***(Sponsored by: APS Cardiovascular Section)*

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, 28A

CHAired: A. STRAUB AND E. B. WESTCOTT

**Blood Pressure Regulation**

- 3:30 ATP-mediated vasodilation occurs via vascular hyperpolarization in humans. **A.R. Crecelius, B.S. Kirby, G.J. Luckasen, D.G. Larson and F.A. Dinunno.** Colorado State Univ. and Poudre Valley Hlth. Syst., Loveland, CO. (1058.1)
- 3:45 The role of Pannexin-1 in the control of resistance vessel tone. **M. Billaud.** Univ. of Virginia Sch. of Med.
- 4:00 Hypertension-induced endothelial cell angiotensin-2 release is inhibited by angiotensin-1. **T. Korff, E. Ernst, R. Nobiling, A. Feldner, Y. Reiss, K.H. Plate, U. Fiedler, H.G. Augustin and M. Hecker.** Heidelberg Univ., Univ. of Frankfurt and ProQinase GmbH, Freiberg. (1058.3)
- 4:15 Myoendothelial contacts within the skeletal muscle arterial network: a potential mediator for divergent control of vascular tone. **B.S. Kirby, A. Bruhl and S. Earley.** Colorado State Univ. (1058.4)

- 4:30 eNOS inhibition is protective against oxygen glucose deprivation in brain microvascular endothelial cells by preempting eNOS uncoupling. **P.S. Katz, E.A. Wappler, P.V. Katakam and D.W. Busija.** Tulane Univ. Sch. of Med. (1058.5)
- 4:45 Interference of peroxisome proliferator-activated receptor-gamma in vascular muscle enhances myogenic tone in small resistance arteries via protein kinase C-induced inhibition of large conductance Ca<sup>2+</sup>-activated K<sup>+</sup> channel (BKCa) act **P. Ketsawatsomkron, R.A. Lorca, S.K. England, F.M. Faraci and C.D. Sigmund.** Univ. of Iowa and Washington Univ. (1058.6)
- 5:00 Attenuation of conducted vasodilatation in the skeletal muscle during hyperhomocysteinemia. **S. Givvimani, N. Narayanan, N. Tyagi and S.C. Tyagi.** Univ. of Louisville. (1058.7)
- 5:15 Manipulating IP3R-mediated calcium release in permeabilized endothelial cell tubes of resistance arteries.

**325. IMPACT OF ENVIRONMENTAL ESTROGENS AND ANDROGENS ON HUMAN AND ANIMAL HEALTH AND REPRODUCTIVE FUNCTION****Symposium***(Sponsored by: APS Comparative and Evolutionary Physiology Section)*

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, 27

CHAired: N. STACHENFELD AND B. B. REES

**Metabolic Diseases****Physiology of Development**

- 3:30 Estrogenic activities in marine wildlife: potential causes and population impacts. **D. Schlenk.** Univ. of California, Riverside.
- 4:00 Reproductive effects of pesticide exposure in amphibians. **T. Hayes.** Univ. of California, Berkeley.
- 4:30 Environmental estrogens and disorders of the reproductive tract. **H. S. Taylor.** Yale Univ.
- 5:00 Anogenital distance as a readout of fetal androgen exposure. **S. H. Swan.** Mount Sinai Sch. of Med.

**326. JOSEPH ERLANGER DISTINGUISHED LECTURESHIP OF THE APS CENTRAL NERVOUS SYSTEM SECTION**

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, 23

**Central Control of Homeostasis****Metabolic Diseases***Title: Peptides, Food Intake and Body Weight: Problems of Interpretation**Speaker: S. C. Woods.* Univ. of Cincinnati.

### 327. MOLECULAR SENSORS IN AFFERENTS NEURONS THAT CONTRIBUTE TO PAIN, FATIGUE, AND ACTIVATION OF AUTONOMIC REFLEXES IN HEALTH AND DISEASE

#### Featured Topic

(Sponsored by: APS Neural Control and Autonomic Regulation Section)

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, 25A

CHAired: C. BENSON

- 3:30 ASICs as sensors of metabolites. **C. Benson**. Univ. of Iowa Carver Col. of Med.
- 4:00 Applying information from rat and mouse group III-IV afferents to human subjects and patients. **A. R. Light**. Univ. of Utah.
- 4:30 Metabolite-detecting and adrenergic gene expression after 40K time trial performance during thermoneutral and heat-stressed conditions. **T.A. VanHaitsma, A.R. Light, K.C. Light, R.W. Hughen and A.T. White**. Univ. of Utah. (892.5)
- 4:45 Evidence for chemosensitive fibers in the aortic depressor nerve in mice but not in rats. **H.M. Stauss, D.A. Morgan and K. Rahmouni**. Univ. of Iowa. (892.6)
- 5:00 A novel pH conditioned Cl<sup>-</sup> conductance in nodose ganglia neurons. **R. Wang, C.A. Whiteis, C.J. Benson, M.W. Chapleau and F.M. Abboud**. Univ. of Iowa and VA Med. Ctr. (892.7)
- 5:15 Modulation of baroreceptor afferent terminal excitability and reflex responses by phospholipase D-coupled metabotropic glutamate receptors. **J.F. Paton, R.W. Banks and G.S. Bewick**. Univ. of Bristol Sch. of Physiol. and Pharmacol., Univ. of Durham Sch. of Biol. and Biomed. Sci. and Univ. of Aberdeen Sch. of Med. Sci. (892.8)

### 328. NOVEL SITES OF REGULATION IN THE PULMONARY VASCULATURE: CONTRADICTIONS AND NONTRADITIONAL RESPONSES

#### Symposium

(Sponsored by: APS Respiration Section)

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, 28B

CHAired: M. W. ELDRIDGE AND M. BATES

- 3:30 Hypoxic pulmonary vasodilation: a paradigm shift. **K. Olson**. Indiana Univ. Sch. of Med.
- 4:00 Hypoxia-induced intrapulmonary shunting: passive pathways or active regulation? **M. Bates**. Univ. of Wisconsin-Madison.

- 4:30 Constriction in the microvasculature: muscle is not required. **C. St. Croix**. Univ. of Pittsburgh.
- 5:00 Control of pulmonary microvascular perfusion: it's not just arterioles anymore.

### 329. ORIGINS OF IMPAIRED CARDIOVASCULAR-RENAL FUNCTION AND BODY FLUID BALANCE

#### Featured Topic

(Sponsored by: APS Water and Electrolyte Homeostasis)

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, 25B

CHAired: H. NISHIMURA

#### Metabolic Diseases

#### Translational Physiology

- 3:30 Overview: fetal programming from gene to function. **J. R. Ingelfinger**. Harvard Med. Sch., MassGeneral Hosp. for Children.
- 4:00 Prenatal and postnatal programming of hypertension and kidney disease. **M. Baum**. Univ. of Texas Southwestern Med. Ctr.
- 4:30 Antioxidant treatment during development prevents low birth weight, hypertension, and enhanced sensitivity to mild renal ischemia in offspring exposed to placental insufficiency. **N.B. Ojeda, S. Wilkening, J. Dasinger, B.T. Alexander, G. Graves and P. Rhodes**. Univ. of Mississippi Med. Ctr. (1101.1)
- 4:45 Early life stress induces endothelial dysfunction in a mouse model of maternal separation. **D.H. Ho, M.L. Yu, C. Bazacliu and J.S. Pollock**. Georgia Hlth. Sci. Univ. (1101.2)
- 5:00 Gestational chronic intermittent hypoxia causes asymmetric growth restriction and alters cholesterol homeostasis in the liver of Sprague-Dawley rats. **W. Iqbal, E. Barry, D. Hardy and J. Ciriello**. Univ. of Western Ontario and McMaster Univ., Canada. (1101.3)
- 5:15 Effects of prenatal betamethesone exposure and unilateral nephrectomy on sodium uptake in ovine renal proximal tubule cells from young adult male sheep. **Y. Su, J. Bi, L. Tang, J.P. Figueroa and J.C. Rose**. Wake Forest Univ. Hlth. Sci. (1102.3)

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## Physiology InFocus

### Physiology in Medicine

- 330. USING PHYSIOLOGY TO TRANSLATE CARDIAC REMODELING AND HEART FAILURE** 4:00 The importance of cardiac physiology in mice and humans. **M. Scherrer-Crosbie**. Massachusetts Gen. Hosp.
- Symposium** 4:30 Using physiology in the drug pipeline for post-MI remodeling and heart failure. **K. Small**. Merck.
- MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, 20A 5:00 The importance of physiology in systems biology approaches to understanding post-MI remodeling. **Y. Jin**. Univ. of Texas at San Antonio.
- CHAired:* M. L. LINDSEY AND M. HORN
- Translational Physiology**
- 3:30 Using physiologic monitoring to translate heart failure therapy into improved outcomes. **L. W. Stevenson**. Brigham and Women's Hosp.

# Join Us Next Year!

## Experimental Biology 2013

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# TUESDAY, APRIL 24

## Across Societies – Experimental Biology

### 331. MARC AND PROFESSIONAL DEVELOPMENT PROGRAMS

#### Workshop

TUE. 9:00 AM—SAN DIEGO CONVENTION CENTER, HALL D, CAREER CENTER

#### Career Development

The Experimental Biology 2012 Career Center activities have been arranged by the FASEB Office of MARC & Professional Development. Access to the Career Center is FREE to all registered EB 2012 meeting attendees.

- 9:00 The job talk. **A. Green.**  
9:15 Making the connection: the relationship between the resume, the interview and the job. **J. Blumenthal.**  
10:00 Academic job search: CVs, letters, statements and start-ups. **B. Lindstaedt.**  
10:00 Navigating graduate work protocol, milestones, requirements. **H. Adams.**  
10:15 Negotiation strategies for scientists. **D. Behrens.**  
10:30 Transforming your CV. **N. Saul.**  
11:00 PhD negotiation skills and strategies: how to get what you want and need. **A. Green.**  
11:30 Successful behaviors for winning an interview. **J. Blumenthal.**  
1:00 Making the grade: job talk/chalk talk. **D. Behrens.**  
1:00 Developing/writing the doctoral dissertation. **H. Adams.**  
1:00 Achieving your goals. **B. Lindstaedt.**  
1:30 CV → resume. **A. Green.**  
2:00 Career decisions: how to select a career path that's best for you. **B. Lindstaedt.**

- 2:15 Talking about yourself: interviewing well. **N. Saul.**  
2:30 Beyond the bench: preparing for your career transition in the life sciences. **J. Tringali.**  
3:00 Leadership principles. **H. Adams.**  
3:15 The right attitude and behaviors while job searching: from the resume to the job offer. **J. Blumenthal.**  
3:30 Job hunting in the biotech industry. **B. Lindstaedt.**

### 332. NATIONAL INSTITUTES OF HEALTH: PROGRAMS AND POLICIES UPDATE FROM INSTITUTES

#### Tutorial

(Sponsored by: American Association of Anatomists, The American Physiological Society, American Society for Biochemistry and Molecular Biology, American Society for Investigative Pathology, American Society for Nutrition, American Society for Pharmacology and Experimental Therapeutics)

TUE. 2:00 PM—SAN DIEGO CONVENTION CENTER, 1A

CHAired: J. CHATHAM AND S. BARMAN

#### Public Policy

- 2:00 NHLBI: current programs and new initiatives. **S. Shurin.** NHLBI/NIH.  
2:30 Common fund programs: what are they and are you eligible for funding? **E. Wilder.** OD/NIH.  
3:00 NIGMS strategic plan for training: what does it mean for you? **J. Greenberg.** NIGMS/NIH.  
4:30 NIH peer review: where are we and where are we going? **R. Nakamura.** CSR/NIH.

TUE

## Anatomy

### 333. EPIGENETICS AND REGULATORY RNAS

#### Platform

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 7B

CHAired: B. FUTSCHER

#### Regulatory RNA Mini-Meeting

- 8:00 **333.1** Modulation of Shh signaling by microRNAs. **Y. Xu, D. Hu, R. Barbeau, A. Barczak and R. Marcucio.** UCSF.  
8:20 Negative regulation of enhancer-associated RNA in macrophages. **M.T. Lam, H. Cho, S. Heinz, C. Benner, M.U. Kaikkonen, Y. Tanaka-Oishi, M. Kosaka, C. Lee, R.M. Evans and C.K. Glass.** UCSD and Salk Inst. (912.1)  
8:40 **333.2** Non-coding RNAs: epigenetic regulators of gene transcription in human cells. **K.V. Morris.** The Scripps Res. Inst.  
9:00 **333.3** Vascular epigenetics by regulatory RNA: chance and necessity (algorithms) in adaptation reactions. **J.H. Wissler.** ARCONS Inst. for Applied Res. & Didactics, Bad Nauheim.

- 9:20 **333.4** Epigenomic implications of antisense transcription. **C. Wahlestedt.** Univ. of Miami Miller Sch. of Med.  
9:40 **333.5** ncRNAs, subnuclear architecture, and relocation of regulated transcription units: a strategy for controlling regulated gene programs in the three-dimensional space of the nucleus. **M.G. Rosenfeld, L. Yang, C. Lin, W. Liu, E. Nunez, W. Li and Q. Hu.** UCSD, HHMI.

### 334. CRANIOFACIAL BIRTH DEFECTS

#### Symposium

(Cosponsored by: AAA's Advisory Committee for Young Anatomists)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 8

CHAired: L.B. RUEST

#### Developmental Biology

- 8:00 Chair's introduction.  
8:05 **334.1** Redefining cleft lip and palate. **A.R. Vieira.** Univ. of Pittsburgh.

8:30 **334.2** A role for microRNAs in Axenfeld Rieger syndrome and craniofacial/tooth anomalies. **B.A. Amendt, H. Cao, J. Wang, X. Li and D. Gutierrez.** Texas A&M Hlth. Sci. Ctr.-IBT, Houston.

8:55 **334.3** The role of cellular junctions in neural crest cell emigration. **L.A. Taneyhill.** Univ. of Maryland College Park.

9:20 **334.4** TWISTing a Hand on the mandible. **L.B. Ruest, Y. Zhang, E.L. Blackwell, M.T. McKnight and G.R. Knutsen.** Texas A&M Hlth. Sci. Ctr.-Baylor Col. of Dent.

9:45 Discussion.

### 335. ADULT STEM CELLS: FROM BASIC RESEARCH TO CLINICAL APPLICATIONS

#### Symposium

(Cosponsored by: The Anatomical Record)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 9

CHAired: M. DEZAWA

8:00 Chair's introduction.

8:05 **335.1** Potential therapies with adult stem/progenitor cells from bone marrow (MSCs) and the proteins they produce in response to injuries from injured tissues. **D.J. Prockop.** Texas A&M Hlth. Sci. Ctr. Col. of Med., Temple.

8:30 **335.2** Crosstalk mechanism between injured epithelia and bone marrow. **K. Tamai, Y. Kikuchi, S. Iinuma, R. Fujita, N. Manjyo and Y. Kaneda.** Osaka Univ. Grad. Sch. of Med.

8:55 **335.3** Muse cells: a novel type of adult human pluripotent stem cells in mesenchymal tissues and their contribution to tissue repair. **M. Dezawa.** Tohoku Univ. Grad. Sch. of Med., Japan.

9:20 **335.4** The present and the future of stem cell therapies. **K. Giacin.** Stemcyte, Ewing, NJ.

9:45 Discussion.

### 336. MICRORNAs IN CARDIAC DEVELOPMENT AND DISEASE

#### Minisymposium

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 7B

CHAired: D-Z. WANG

#### Regulatory RNA Mini-Meeting

#### Cardiovascular

10:30 Chair's introduction.

10:35 **336.1** microRNAs in cardiac development and function. **D-Z. Wang.** Children's Hosp. Boston and Harvard Med. Sch.

11:00 **336.2** microRNA regulation of cardiac cell fate, morphogenesis and function. **D. Srivastava.** UCSF.

11:25 **336.3** microRNA expression in heart failure. **J.D. Port, C. Sucharov, A.D. Robertson and M.R. Bristow.** Univ. of Colorado Sch. of Med., Aurora.

11:50 MicroRNAs and Heart Remodeling. **Gerald W. Dorn.** Washington Univ.

12:15 Discussion.

### 337. THE ROLE OF VARIATION DURING MORPHOGENESIS IN EVOLUTION AND DISEASE

#### Symposium

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 8

CHAired: B. HALLGRIMSSON AND R. MARCUCIO

#### Developmental Biology

10:30 Chair's introduction.

10:35 **337.1** Making a head: diverse craniofacial outcomes in disease. **J.T. Richtsmeier, N. Martinez-Abadias, Y. Heuze, C.J. Percival, S. Motch, C.A. Hill, T.M. Ryan, Y. Wang, K. Aldridge and E.W. Jabs.** Penn State, Univ. of Missouri-Columbia and Mount Sinai Sch. of Med.

11:00 **337.2** Tissue interactions that regulate facial morphogenesis. **R. Marcucio, N. Young, D. Hu and B. Hallgrimsson.** UCSF and Univ. of Calgary, Canada.

11:25 **337.3** In silico organogenesis: measuring and modelling vertebrate limb development. **J. Sharpe.** Ctr. for Genomic Regulation, Barcelona.

11:50 **337.4** The phenogenomics of craniofacial shape. **B. Hallgrimsson, H.A. Jamniczky, N. Martínez-Abadias, N.M. Young and R.S. Marcucio.** Univ. of Calgary, Canada and UCSF.

12:15 Discussion.

### 338. STEM CELL BIOLOGY

#### Symposium

(Sponsored by: CSAS and AAA)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 9

CHAired: C. ZHAO

#### Regeneration/Tissue Engineering

10:30 Chair's introduction.

10:35 **338.1** Role of an integrin-interacting protein in the control of EMT in cancer and fibrosis. **H. Zhang.** Peking Univ. Hlth. Sci. Ctr.

11:00 **338.2** Artificial neural network scaffold transplanted promotes the recovery of structure and function after rat spinal cord transection. **Y-s. Zeng.** Sun Yat-sen Univ., China.

11:25 **338.3** Histone methylation and microRNA mediated regulation of the multipotential state of Flk1<sup>+</sup> mesenchymal stem cells. **R. C. Zhao.** Chinese Acad. of Med. Sci. and Peking Union Med. Col.

11:50 **338.4** Intrinsic and extrinsic control of the balance between stem cell self-renewal and differentiation. **T. Xie.** Stowers Inst. for Med. Res.

12:15 Discussion.

**339. DEVELOPMENT AND GROWTH****Platform**

TUE. 2:30 PM—SAN DIEGO CONVENTION CENTER, 7B

CHAired: P. TRAINOR

**Developmental Biology**

- 2:30 **339.1** A novel kinin-kallikrein pathway regulates vertebrate mouth formation. **R. Sindelka, L. Jacox, A. Dickinson and H. Sive.** Whitehead Inst. for Biomed. Res., Harvard Med. Sch. and Virginia Commonwealth Univ.
- 2:45 A novel gene *Crispld2* may contribute to facial dysmorphology in a chicken model of Crouzon's syndrome. **X. Li, S. Tropp, N. Young, B. Hallgrimsson and R. Marcucio.** UCSF, San Francisco Gen. Hosp. and Univ. of Calgary, Canada. (907.15)
- 3:00 **339.2** The role of the transcription factor BCL11B in the regulation of growth and asymmetric development of the mouse incisor. **K. Kyrylkova, S. Kyryachenko, C. Kioussi and M. Leid.** Oregon State Univ.
- 3:15 **339.3** Regulated metabolism of vitamin A by retinol dehydrogenase 10 is critical for embryonic development of the heart. **L.L. Sandell.** Univ. of Louisville.
- 3:30 **339.4** Hedgehog responsive mesenchymal clusters direct emergence of intestinal villi. **D.L. Gumucio, K.D. Walton, Å. Kolterud, M.J. Czerwinski, J.S. Kushwaha, A. Prakash, M.J. Bell and S. Schnell.** Univ. of Michigan, Karolinska Inst., Huddinge and Duke Univ.
- 3:45 **339.5** Retinoic acid antagonism of *Fgf8* during forelimb development. **T.J. Cunningham and G. Duester.** Sanford Burnham Med. Res. Inst., La Jolla.
- 4:00 **339.6**  $\alpha_{2A}$  and  $\alpha_{2C}$  adrenergic receptors are involved in the regulation of bone growth, structure and function. **C.H. Gouveia, G.M. Martins, M.B. Teixeira, C.C. Costa and P.C. Brum.** Univ. of São Paulo.
- 4:15 **339.7** Cellular patterns of bat (*Carollia*) forelimb skeletogenesis and their biomechanical consequences. **L.N. Cooper, J. Jast, R. Behringer, J.J. Rasweiler IV and K.E. Sears.** Univ. of Illinois, Urbana, MD Anderson Cancer Ctr., Univ. of Texas and SUNY Downstate Med. Ctr.

**340. REFRESHER COURSE—THE FACTS ABOUT FORMALDEHYDE: WHAT EVERY ANATOMIST SHOULD KNOW****Symposium**

TUE. 2:30 PM—SAN DIEGO CONVENTION CENTER, 8

CHAired: R. FISHER

**Education & Teaching**

- 2:30 Chair's introduction.
- 2:34 **340.1** Occupational formaldehyde exposure and cancer risk. **L. Beane Freeman.** NCI/NIH.
- 3:03 **340.2** Assessing formaldehyde exposure in your gross lab: occupational exposure limits and best practices. **J.C. Rosen.** Univ. of Arizona.
- 3:32 **340.3** Effectiveness, adaptation, and health risks of embalming fluids: just what is the solution? **K. Sparey.** Univ. of Bristol, U.K.
- 4:01 **340.4** Engineering controls to reduce formaldehyde exposures: what works, what doesn't, and why? **F.R. Demer.** Univ. of Arizona.

**341. DISEASES OF THE NERVOUS SYSTEM****Symposium**

(Sponsored by: CSAS and AAA)

TUE. 2:30 PM—SAN DIEGO CONVENTION CENTER, 9

CHAired: Y-Q. LI

**Neurobiology**

- 2:30 Chair's introduction.
- 2:35 **341.1** TMEM166, a transmembrane protein, regulates cell autophagy and apoptosis in focal cerebral ischemia. **C. Zhou.** Peking Univ., China.
- 3:00 **341.2** The experimental therapy of brain injury by tissue engineering with hyaluronic acid based scaffold. **X. Qunyan, W. Ying, H. Shaoping, T. Weiming and C. Fuzhai.** Capital Med. Univ. and Tsinghua Univ., China.
- 3:25 **341.3** Mechanisms underlying antinociception exerted by endomorphin in the spinal dorsal horn. **Y-Q. Li.** Fourth Military Med. Univ., China.
- 3:50 **341.4** Didox? a multipotent drug for treating demyelinating disease. **G.H. DeVries, R. Farrer, C. Papadopoulos, C. Campbell, J. Litz, J. Paletta, J. Dupree and H. Elford.** McGuire VA Med. Ctr., Richmond, VA Hines VA Hosp., IL, VCU Hlth. Sci. and Molecules for Hlth. Inc., Richmond.
- 4:15 Discussion.

## POSTER PRESENTERS: UPLOAD YOUR POSTER

Where: E-Poster Counter, Hall D Lobby  
Deadline: Wed., April 25, 3:30 PM

Uploaded posters will be available online to all registered attendees following the meeting at [www.experimentalbiology.org](http://www.experimentalbiology.org)

## LAST DAY TO VISIT EXHIBITS

Tuesday, April 24  
9:00 AM – 4:00 PM

## Biochemistry and Molecular Biology

### 342. DELANO AWARD FOR COMPUTATIONAL BIOSCIENCES LECTURE

#### Award

TUE. 8:30 AM—SAN DIEGO CONVENTION CENTER, 6B

- 8:30 Introductory remarks. **A. Brunger**.  
 8:35 **342.1** Physical principles underlying cadherin-mediated cell-cell recognition. **B. Honig**. Columbia Univ. and HHMI.

### 343. WILLIAM C. ROSE AWARD LECTURE

#### Award

TUE. 9:05 AM—SAN DIEGO CONVENTION CENTER, 6B

- 9:05 Introductory remarks. **C. Bustamante**.  
 9:10 **343.1** Touring the protein energy landscape: the view depends on where and how you look. **S. Marqusee**. Univ. of California, Berkeley.

### 344. TRANSCRIPTIONAL REGULATION DURING GROWTH AND DEVELOPMENT

#### Symposium

TUE. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6F

CHAired: J. WYsocka

- 9:55 Chair's introduction.  
 10:00 **344.1** Mechanisms of transcriptional regulation in the p53 network. **J. Espinosa**. HHMI, Univ. of Colorado Boulder.  
 10:25 Age-dependent regulation of non-coding RNAs in male germ cell development. **A.C.S. Luk, S.H. Ng, W-Y. Chan and T-L. Lee**. The Chinese Univ. of Hong Kong Sch. of Biomed. Sci. (922.17)  
 10:40 **344.2** Mother knows best: developmental plasticity during gut development. **S. Mango, K. Choi and T. Brock**. Harvard Univ. and Knudra Transgenics, Salt Lake City.  
 11:05 Liganded thyroid hormone receptor induces nucleosome removal and histone modifications to activate transcription during adult stem cell development. **Y-B. Shi**. NICHD/NIH. (922.1)  
 11:20 Identification of novel stem cell-specific accessible chromatin domains. **S.T. Okino, M. Kong and Y. Wang**. Bio-Rad Labs., Hercules, CA. (923.3)  
 11:35 **344.3** Activating the genome during development and exit from mitosis. **K.S. Zaret, C-R. Xu and J. Caravaca**. Perelman Sch. of Med., Univ. of Pennsylvania.  
 12:00 Conclusion.

### 345. NETWORKS AND SPACE

#### Symposium

TUE. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6E

CHAired: S. ALTSCHULER

- 9:55 Chair's introduction.  
 10:00 **345.1** Dynamic information flow during neutrophil polarization. **L. Wu, C-J. Ku, Y. Wang, O. Weiner and S. Altschuler**. Univ. of Texas Southwestern Med. Ctr. and UCSF.

- 10:25 Membrane lipid composition influences a neuronal cell fate decision in *C. elegans*. **K. Kauv, J.C. Bettinger and A.G. Davies**. Virginia Commonwealth Univ. (994.1)  
 10:40 **345.2** Spatial organization of signaling in bacterial chemotaxis. **V. Sourjik**. ZMBH, Univ. of Heidelberg.  
 11:05 Robust and sensitive control of nitrogen sequestration in *Escherichia coli*. **M. Kim, Z. Zhang, D. Yan, A. Groisman and T. Hwa**. UCSD and Indiana Univ. Sch. of Med. (777.1)  
 11:20 Regulation of activation of Rac1 and Cdc42 GTPases in CHR-288-11 cells. **R.P. Bhullar and B. Xu**. Univ. of Manitoba. (769.1)  
 11:35 **345.3** Mechanical tension spatially restricts signals to the leading edge during neutrophil migration. **O.D. Weiner**. UCSF.  
 12:00 Conclusion.

### 346. FACTORS MODULATING PROTEIN QUALITY CONTROL

#### Symposium

TUE. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6D

CHAired: J. GESTWICKI

- 9:55 Chair's introduction.  
 10:00 **346.1** The interaction of factors required for ER-associated degradation. **J.L. Brodsky**. Univ. of Pittsburgh.  
 10:25 Role of p97 AAA ATPase in the autophagolysosomal degradation of hepatic CYP2B1. **P. Acharya and M.A. Correia**. UCSF. (547.1)  
 10:40 **346.2** IP3 receptor processing by the ERAD pathway. **R.J.H. Wojcikiewicz**. SUNY Upstate Med. Univ.  
 11:05 Regulation of chaperone activity in the endoplasmic reticulum. **K. Gehring and G. Kozlov**. McGill Univ. (955.5)  
 11:20 Functional complementation of Hsp90 domains. **K.A. Maharaj, S. Gill and D.T. Gewirth**. Hauptman-Woodward Med. Res. Inst. and Univ. at Buffalo, SUNY. (955.2)  
 11:35 **346.3** Insights into prion biology: protein misfolding in its cellular environment. **T. Serio**. Brown Univ.  
 12:00 Conclusion.

### 347. METABOLIC ENGINEERING: FROM ANTIBIOTICS TO BIOFUELS

#### Symposium

TUE. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6C

CHAired: D. CANE

- 9:55 Chair's introduction.  
 10:00 **347.1** Harnessing unusual precursors in polyketide biosynthesis. **M.G. Thomas and H. Park**. Univ. of Wisconsin-Madison.  
 10:25 Characterizing the plantazolicins: structure and discriminating activity of a novel class of natural products. **K.J. Molohon, J.O. Melby, J. Lee, B.S. Evans, K.L. Dunbar, S.B. Bumpus, N.L. Kelleher and D.A. Mitchell**. Univ. of Illinois at Urbana-Champaign and Northwestern Univ. (552.1)

- 11:35 **347.2** Development of *Streptomyces* bacteria as lignocellulose biorefineries. **J.K. Sello**. Brown Univ.
- 11:20 Heterologous expression of human phosphodiesterase 3A improves ethanol production in *Saccharomyces cerevisiae*. **D.K. Rhee, S.C. Hockman, F. Ahmad and V.C. Manganiello**. NHLBI/NIH. (960.1)
- 11:05 Combinatorial biosynthesis of unnatural polyketides using a type III polyketide synthase from *Oryza sativa*. **J.Y. Chow, J. Wongsantichon, R. Robinson, Y.H. Gan and W.S. Yew**. Natl. Univ. of Singapore and Inst. of Molec. and Cell Biol., Singapore. (756.10)
- 10:40 **347.3** Metabolic engineering of *Saccharomyces cerevisiae* for alkaloid production. **C.D. Smolke**. Stanford Univ.
- 12:00 Conclusion.

### 348. CANCER CELL METABOLISM

#### Symposium

TUE. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6A

CHAired: R. SHAW

- 9:55 Chair's introduction.
- 10:00 **348.1** Role of autophagy in cancer. **E. White**. Cancer Inst. of New Jersey, New Brunswick.
- 10:25 Retinoic acid induces a metabolic switch in SH-SY5Y cells from glycolysis to oxidative phosphorylation. **Z. Xun, D-Y. Lee, J. Lim, C. Canaria, A. Barnebey, S. Yanonne, B. Bowen, T. Northen and C. McMurray**. Lawrence Berkeley Natl. Lab. and Mayo Clin. and Fndn. (967.1)
- 10:40 **348.2** Role of MCT1 in cancer metabolism. **H. Christofk**. UCLA.
- 11:05 BRAF<sup>V600E</sup> and PI3K-activated signaling pathways cooperate to regulate phosphorylation of ribosomal protein S6 in human melanoma cells. **J.M. Silva and M. McMahon**. UCSF. (967.8)
- 11:20 Hyperactivation of mitochondrial metabolism in cancer cells in situ. **M. Lisanti and F. Sotgia**. Kimmel Cancer Ctr., Thomas Jefferson Univ. (966.1)
- 11:35 **348.3** Cancer metabolism, HIF-1, and novel anti-cancer therapies. **G.L. Semenza**. Johns Hopkins Univ. Sch. of Med.
- 12:00 Conclusion.

### 349. NOVEL METABOLIC ROUTES OF GLYCOCONJUGATE ASSEMBLY

#### Symposium

TUE. 9:55 AM—SAN DIEGO CONVENTION CENTER, 1B

CHAired: J. HANOVER

- 9:55 Chair's introduction.
- 10:00 **349.1** The biosynthesis of polysialic acid: a developmentally regulated, anti-adhesive glycan. **K.J. Colley, M.G. Thompson, D.A. Foley and J.L. Zapater**. Univ. of Illinois Col. of Med.
- 10:25 Unusual chemical and enzymatic stability of polysialic acid containing *N*-glycolylneuraminic acid. **L. Davies, O. Pearce, M. Tessier, S. Assar, V. Smutova, A. Pshezhetsky, R. Woods and A. Varki**. UCSD, Univ. of Georgia and CHU Sainte-Justine, Univ. of Montreal. (610.1)

- 10:40 **349.2** Biochemical reconstitution and resolution of lipid flippase activities required for protein glycosylation in the ER. **A.K. Menon**. Weill Cornell Med. Col.
- 11:05 Structural and functional characterization of glucosidase II N-glycan binding domain. **N.M. Dahms, L.J. Olson, S.G. Alculumbre, I.D. Stigliano, F.C. Peterson, J.J. Caramelo, A.J. Parodi and C. D'Alessio**. Med. Col. of Wisconsin and Fndn. Inst. Leloir and IIBBA, CONICET, Buenos Aires. (796.1)
- 11:20 Thrombospondin-1 signaling via CD47 regulates T lymphocyte glycosaminoglycan biosynthesis. **S. Kaur, S.A. Kuznetsova, M.L. Pendrak, J.M. Sipes and D.D. Roberts**. NCI/NIH. (607.3)
- 11:35 **349.3** Synthesis of the plant cell wall's most complex glycan: pectin?surprises in glycosyltransferase processing and anchoring in the Golgi. **D. Mohnen, M. Atmodjo, L. Tan, R. Amos, X. Zhua, J.A. Atwood III, R. Orlando, A. Burrell, Y. Sakuragi and Z. Hao**. Univ. of Georgia and Univ. of Copenhagen.
- 12:00 Conclusion.

### 350. PROMOTING CONCEPT DRIVEN TEACHING STRATEGIES IN BMB THROUGH CONCEPT ASSESSMENT

#### Symposium

(Supported by an educational grant from National Science Foundation)

TUE. 9:55 AM—SAN DIEGO CONVENTION CENTER, 1A

CHAired: E. BELL

- 9:55 Welcome and session overview. **E. Bell**. Univ. of Richmond.
- 10:00 Teaching and learning evolutionary principles, Socratically. **M. Klymkowsky**. Univ. of Colorado Boulder.
- 10:45 Developing concept-based assessments for biochemistry and molecular biology. **K. Frame**. Natl. Assoc. of Biology Teachers.
- 11:30 Using a concept inventory to gauge student understanding in a large class. **C. Bailey**. Univ. of Nebraska, Lincoln.
- 12:00 Discussion.

### 351. WORK LIFE BALANCE: A PROFESSIONAL DEVELOPMENT WORKSHOP FOR STUDENTS, POSTDOCS AND JUNIOR FACULTY

#### Workshop

(Sponsored by: ASBMB Membership Committee)

TUE. 12:30 PM—SAN DIEGO CONVENTION CENTER, 11A

CHAired: S. R. PFEFFER

Dr. Suzanne Pfeffer, ASBMB President, will engage participants in a discussion to address work-life balance and the practice of successful time management to achieve and sustain personal and professional satisfaction.

Lunch available for pre-registered event attendees.

### 352. ASBMB YOUNG INVESTIGATOR AWARD LECTURE

#### Award

TUE. 2:55 PM—SAN DIEGO CONVENTION CENTER, 6B

- 3:55 Introductory remarks. **E. Olson.**  
 3:00 **352.1** Black spot, black death, black pearl: the tales of bacterial effectors. **K. Orth.** Univ. of Texas Southwestern Med. Ctr.

### 353. RNA-BASED REGULATION: A DIVERSITY OF MECHANISMS

#### Symposium

TUE. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6F

CHAired: T. JOHNSON

- 3:45 Chair's introduction.  
 3:50 **353.1** mRNA decay in mammals. **L.E. Maquat.** Univ. of Rochester Med. Ctr.  
 4:15 Long non-coding RNA NEAT 1 & 2 regulates phosphorylation of SR proteins and PKC $\beta$ II splicing during 3T3 L1 adipogenesis. **D.R. Cooper, G. Carter, P. Li, J. Watson and N.A. Patel.** Univ. of South Florida and J.A. Haley Veterans Hosp. (941.2)  
 4:30 **353.2** microRNA regulation in stem cells and cancer. **R.I. Gregory.** Children's Hosp. Boston.  
 4:55 Discrete LIN28 binding sites in mature messenger RNA sequences reveals regulation of a network of splicing factors and downstream alternative splicing patterns. **M.L. Wilbert, S.C. Huelga, A.Q. Vu, T.J. Stark, K.B. Massirer, S. Chen, T.Y. Liang and G.W. Yeo.** UCSD. (951.4)  
 5:10 Structure and mechanism of the CRISPR associated complex for antiviral defense (CASCADE). **C.M. Lawrence, N.G. Lintner, M. Kerou and M.F. White.** Montana State Univ. and Biomed. Sci. Res. Complex, St. Andrews, U.K. (941.1)  
 5:25 **353.3** The CRISPR-Cas system: small RNA-guided invader silencing in prokaryotes. **B. Terns, C. Hale, J. Carte, J. Elmore, S. Majumdar, C.V.C. Glover III, B. Graveley and M. Terns.** Univ. of Georgia and Univ. of Connecticut Hlth. Ctr.  
 5:50 Conclusion.

### 354. COUPLING OF DNA REPAIR AND REPLICATION

#### Symposium

TUE. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6E

CHAired: L. SYMINGTON

- 3:45 Chair's introduction.  
 3:50 **354.1** Replication forks restarted by homologous recombination display a high frequency of errors at inverted repeats. **A.M. Carr and J.M. Murray.** Univ. of Sussex, U.K.  
 4:15 Multiple forms of the *E. coli* SOS response protein UmuD. **J.N. Ollivierre, Q. Huang and P.J. Beuning.** Northeastern Univ. (539.7)  
 4:30 **354.2** Rescue of stalled replication forks by the DNA translocase FANCM. **A. Constantinou, J. Basbous, S. Luke-Glaser and K. Gari.** Inst. of Human Genet., Montpellier, Univ. of Heidelberg and London Res. Inst., South Mimms.

- 4:55 Structural insights into the function of FANCM-mediated complexes. **D. Saro, A. Sachpatzidis, X-F. Zheng, T.R. Singh, R.A. Meetei, Y. Xiong and P. Sung.** Yale Univ., Cincinnati Children's Hosp. and Univ. of Cincinnati Col. of Med. (536.8)

- 5:10 Complex formation between LL-37 and CpG DNA: thermodynamic properties and effects in a prostate cancer progression model. **M.L. Craig, C. Dodson, A.S. Gupta and P.D. Deeble.** Mary Baldwin Col., VA. (740.6)

- 5:25 **354.3** Cellular mechanisms of triplet repeat maintenance: helicase requirements for replication through DNA structure barriers. **C.H. Freudenreich, R.P. Anand and J. Nguyen.** Tufts Univ. and Brandeis Univ.

- 5:50 Conclusion.

### 355. ORGANIZATION OF THE SECRETORY PATHWAY

#### Symposium

TUE. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6D

CHAired: C. RABOUILLE

- 3:45 Chair's introduction.  
 3:50 **355.1** The role of Ypt/Rab GTPases in traffic coordination. **N. Segev, Z. Lipatova, D. Taussig and J. Kim.** Univ. of Illinois at Chicago.  
 4:15 Regulation of PI4KII $\alpha$  distribution between the Golgi and endosomal compartments. **M. Jovic, N. Bojjireddy, M. Kean, A-C. Gingras, J. Brill and T. Balla.** NICHD/NIH, Samuel Lunenfeld Res. Inst. and The Hosp. for Sick Children, Toronto. (988.9)  
 4:30 **355.2** Self-organization of transitional ER sites. **B. Glick, Y. Liu, N. Bharucha, E. Montegna and D. Bhattacharyya.** Univ. of Chicago and ACTREC, Navi, Mumbai, India.  
 4:55 Calcium-mediated regulation of the Ran gradient and karyopherin nuclear transport receptors. **A. Grenet, S. Woodward and K.K. Resendes.** Westminster Col., PA. (588.1)  
 5:10 Time-dependent changes in long range sphingolipid organization revealed by high-resolution secondary ion mass spectrometry. **M.L. Kraft, H.A. Klitzing, K. Lou, J. Zimmerberg and P.K. Weber.** Univ. of Illinois at Urbana-Champaign, NICHD/NIH and Lawrence Livermore Natl. Lab. (987.1)  
 5:25 **355.3** Positioning the Golgi apparatus at microtubule minus ends. **A. Linstedt and S. Yadav.** Carnegie Mellon Univ.  
 5:50 Conclusion.

### 356. TARGETED CANCER DRUG DEVELOPMENT: DEFINING MOLECULAR PROFILES OF SENSITIVITY

#### Symposium

TUE. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6C

CHAired: W. HAHN

- 3:45 Chair's introduction.  
 3:50 **356.1** How metabolism informs cancer drug discovery. **S.A. Biller.** Agios Pharmaceut., Cambridge, MA.  
 4:20 **356.2** Harnessing genetic dependencies in cancer therapy. **A. Ashworth.** The Instn. of Cancer Res., London.

- 4:50 Blocking of CDCP1 in vivo cleavage presents Akt-dependent survival of cancer cells and inhibits their metastatic colonization via PARP1-mediated apoptosis. **B. Casar, J.D. Hooper, J.P. Quigley and E.I. Deryugina.** The Scripps Res. Inst. and Mater Med. Res. Inst., South Brisbane. (797.8)
- 5:05 Golgi apparatus location and regulation of mTOR is regulated by novel Golgi recruiting protein GRP. **J.D. Thomas and X.F.S. Zheng.** Rutgers and UMDNJ-Robert Wood Johnson Med. Sch. (799.4)
- 5:20 Talk TBA. **N. Rosen,** Mem. Sloan-Kettering Cancer Ctr.
- 5:50 Conclusion.

### 357. LIPID SIGNALING, INFECTION AND ATHEROSCLEROSIS

#### Symposium

TUE. 3:45 PM—SAN DIEGO CONVENTION CENTER, 6A

CHAired: P. ESPENSHADE

- 3:45 Chair's introduction.
- 3:50 **357.1** Diacylglycerol acyltransferase 1 functions as a cellular hub to target hepatitis C virus proteins NS5A and core to lipid droplets. **M. Ott, G. Camus, E. Herker, C. Harris and R.V. Farese.** Gladstone Insts. and UCSF.
- 4:15 Bile acids induce diacylglycerol kinase- $\theta$  expression in HepG2 liver cells. **K. Cai and M.B. Sewer.** Skaggs Sch. of Pharm. and Pharmaceut. Sci., UCSD. (790.11)
- 4:30 **357.2** Genomics and lipidomics of macrophage activation. **C.K. Glass.** UCSD.
- 4:55 Defining the role of SREBPs in viral infection. **A.G. York and S.J. Bensinger.** UCLA. (991.5)
- 5:10 Role of hepatic monounsaturated fatty acid synthesis in metabolic regulation. **M. Strable, M. Flowers, X. Liu and J.M. Ntambi.** Univ. of Wisconsin-Madison. (596.1)
- 5:25 **357.3** SREBP-1a, lipid metabolism and the innate immune response. **S-S. Im and T.F. Osborne.** Sanford-Burnham Med. Res. Inst., Orlando.
- 5:50 Conclusion.

### 358. BIOCHEMICAL MEDIATORS OF THE HOST-PATHOGEN INTERACTION

#### Symposium

TUE. 3:45 PM—SAN DIEGO CONVENTION CENTER, 1B

CHAired: C. BARRY, III

- 3:45 Chair's introduction.
- 3:50 **358.1** Bioorthogonal chemistries for glycoprofiling and beyond. **C.R. Bertozzi.** Univ. of California, Berkeley.
- 4:15 Towards the glycoproteome of *Mycobacterium tuberculosis*. **S. Hess, C. Bell, G.T. Smith and M.J. Sweredoski.** Caltech and Univ. of Montreal. (800.6)
- 4:30 **358.2** Effects of mycobacteria or HIV on the host antimicrobial peptide cathelicidin. **S.C. Flores and J.R. Honda.** Univ. of Colorado Sch. of Med.
- 4:55 Further characterization of a unique mycobacterial heme uptake system. **C.W. Goulding, C. Owens, N. Chim, C. Harmston, A. Iniguez, H. Contreras and R. Morse.** Univ. of California, Irvine. (801.1)
- 5:10 Isotuberculosinol: an immunomodulatory diterpenoid from *Mycobacterium tuberculosis*. **R.J. Peters.** Iowa State Univ. (800.2)
- 5:25 **358.3** Biogenesis of mycobacterial cell envelope glycoconjugates. **M. Jackson, R. Dhouib, H. Skovierova, G. Larrouy-Maumus, S.K. Angala, W.H. Wheat, H. Pham, M. Gilleron, P.J. Brennan, G. Puzo and J. Nigou.** Colorado State Univ. and IPBS-CNRS, Toulouse.
- 5:50 Conclusion.

### 359. ASBMB WOMEN SCIENTISTS' NETWORKING EVENT/RECEPTION

#### Special Event

TUE. 6:00 PM—SAN DIEGO CONVENTION CENTER, 11A

Join author and fellow biochemist, Ellen Daniell, for a topical discussion of how women scientists can better support each other.

**E. Daniell,** author, *Every Other Thursday: Stories and Strategies from Successful Women Scientists*

## Nutrition

### 360. MONOUNSATURATES: THE FORGOTTEN FATS

#### Symposium

(Supported by an educational grant from Haas Avocado Board)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 20D

CHAired: D. HEBER

- 8:00 Welcome and brief overview of dietary MUFA. **D. Heber.** David Geffen Sch. of Med., UCLA.
- 8:24 Effect of MUFA on glycemic control and satiety. **J. Sabate.** Loma Linda Univ.

- 8:48 Acute effects of monounsaturated fatty acids with and without omega-3 fatty acids on vascular reactivity in individuals with type 2 diabetes. **P. M. Kris-Etherton.** Penn State.
- 9:12 Effects of MUFA on visceral fat and inflammation. **Z. Li.** David Geffen Sch. of Med., UCLA.
- 9:36 MUFA-rich foods in weight management. **R. Mattes.** Purdue Univ.



### 361. EXPANDING THE FRONTIERS OF NUTRITION RESEARCH: NEW QUESTIONS NEW METHODS AND NEW APPROACHES

#### Symposium

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 31A/B/C

CHAIRED: D. PELLETIER

COCHAIRED: C. PORTER

- 8:00 Frontiers in nutrition research: new questions, new methods and new approaches (overview). **D. Pelletier**. Cornell Univ.
- 8:30 The Food Dignity Project: action research and CBPR as frontiers in nutrition. **C. Porter**. Univ. of Wyoming.
- 9:00 Implementation science in developing countries: a sampling of questions, methods and approaches in large scale micronutrient programs. **L. Neufeld and S. Wuehlen**. Micronutrient Initiative, Ottawa.
- 9:30 Implementation science within the U.S.: questions, methods and approaches and state of the field. **G. Aarons**. UCSD.

### 362. FOOD AND NUTRITION BOARD UPDATE: NOT AT ALL QUIET ON THE LABELING FRONT, AND REMARQUES ABOUT SODIUM

#### Symposium

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 29A/B

CHAIRED: L. MEYERS

COCHAIRED: D.M. BIER

#### Education

#### Public Policy

- 8:00 Welcome and Food and Nutrition Board update. **L. D. Meyers**. IOM.
- 8:05 IOM report on front of package nutrition systems and symbols. **D. M. Bier**. USDA, Houston.
- 8:25 Moderated discussion. What's next? What are the challenges? **A. Lichtenstein**. Tufts Univ.
- 9:20 Recap of highpoints of IOM report. **G. K. Beauchamp**. Monell Chem Senses Ctr.
- 9:30 Moderated discussion including audience participation - What's happening now? What's anticipated? How do we document the impact? **TBD**.

### 363. EFFECTS OF DIETARY BIOACTIVE COMPONENTS ON EXPERIMENTAL MODELS OF CHRONIC DISEASE RISK

#### Minisymposium

(Sponsored by: Dietary Bioactive Components RIS)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 32B

CHAIRED: J. WHELAN

COCHAIRED: M. PICKLO

- 8:00 **363.1** Pyrroloquinoline quinone (pqq) and indicators of antioxidant potential, inflammation and metabolism in humans. **R.B. Rucker, C. Harris, W. Chowanadisai and C. Slupsky**. Univ. of California, Davis.
- 8:15 **363.2** Tanshinones inhibit androgen-dependent prostate cancer via downregulation of aurora A and suppression of androgen-receptor signaling. **J-R. Zhou, Y. Gong, H. Abdolmaleky and G. Blackburn**. Beth Israel Deaconess Med. Ctr., Harvard Med. Sch.
- 8:30 **363.3** Effect of breakfast cereals with varying doses of oat fiber on appetite and satiety. **C.J. Rebello, W.D. Johnson, M. O'Shea, A. Kurilich and F.L. Greenway**. Pennington Biomed. Res. Ctr., Baton Rouge and PepsiCo, Barrington, IL.
- 8:45 **363.4** Effects of leucine on mitochondrial biogenesis and cell cycle in A-375 melanoma cells. **T.M. Filhiol, M.E. Johnstone and M.B. Zemel**. Univ. of Tennessee, Knoxville.
- 9:00 **363.5** Cinnamon counteracts the negative effects of a high fat/high fructose diet on brain insulin signaling and behavior. **B. Qin, F. Canini, A.M. Roussel and R.A. Anderson**. USDA, Beltsville, MD, Integrity Nutraceut. Intl., Spring Hill, TN, CRSSA Army Res. Ctr. for Hlth., Grenoble and Joseph Fourier Univ., Grenoble.
- 9:15 **363.6** Green tea extract protects against fibrogenesis associated with nonalcoholic steatohepatitis in diet-induced obese rats. **A.M. Bower, H.J. Park, M-Y. Chung, J. Lee and R.S. Bruno**. Univ. of Connecticut.
- 9:30 **363.7** Effects of bitter melon and Toll-like receptor 4 on glucose and lipid parameters in mice fed high fat diet. **M. Meister, S.E. Ter, D. Baker, S. Peterson, S.L. Clarke, B.J. Smith and E.A. Lucas**. Oklahoma State Univ.
- 9:45 **363.8** Consumption of capsaicin and capsiate potentiate glucose-stimulated insulin secretion in 90% pancreatectomized diabetic rats. **S. Park, D.Y. Kwon, M.J. Kim and H.J. Yang**. Hoseo Univ., South Korea and Korean Food Res. Insts., Sunghnam-Si.

### 364. OBESITY, INFLAMMATION AND NUTRIGENOMICS

#### Minisymposium

(Sponsored by: Nutrient Gene Interactions RIS)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 32A

CHAIRED: D. HWANG

COCHAIRED: T. ANTHONY

- 8:00 **364.1** Effects of prebiotic inclusion and chain length on intestinal barrier, histomorphology, and mRNA abundance in obese C57BL/6J mice. **K.D. Cephas, H.F. Mangian, K.A. Tappenden and K.S. Swanson**. Univ. of Illinois at Urbana Champaign.

**LAST DAY TO  
VISIT EXHIBITS**

**Tuesday, April 24**

**9:00 AM – 4:00 PM**

- 8:15 **364.2** Purified diets are obesigenic, promote insulin resistance and confer sensitivity to chemical colitogens. **J.D. Aitken, M. Vijay-Kumar, G. Srinivasan and A. Gewirtz.** Georgia State Univ.
- 8:30 **364.3** Plum polyphenolics prevent adipogenesis, inflammation and obesity-induced metabolic disorders in obese Zucker rats. **G.D. Noratto, S. Simbo, H.S. Martino, D. Byrne and S. Mertens-Talcott.** Texas A&M Univ. and Inst. for obesity Res. and Prog. Eval., College Station.
- 8:45 **364.4** In vivo mouse model for examining contribution of inflammation to development of obesity and diabetes. **S. Komarnytsky, D. Esposito and I. Raskin.** North Carolina State Univ., Kannapolis and Rutgers Univ.
- 9:00 **364.5** High fat diet-induced muscle insulin resistance: role of cytokines and local macrophages. **B. Vandanmagsar, E. Bermudez, E. Ravussin and R. Mynatt.** Pennington Biomed. Res. Ctr., Baton Rouge.
- 9:15 **364.6** Fatty acid transport protein mediates macrophage polarization. **Y. Qin, B. Sampey, G. Sacks, A. Freerman, L. Li, R. Coleman, A. Stahl and L. Makowski.** Gillings Sch. of Global Publ. Hlth., Univ. of North Carolina at Chapel Hill and Univ. of California, Berkeley.
- 9:30 **364.7** Adipocytes from obese subjects increase NF- $\kappa$ B activation in invasive breast cancer cells. **N. Siriwardhana, A. Karwandyar, J. Wimalasena and N. Moustaid-Moussa.** Univ. of Tennessee and Univ. of Tennessee Med. Ctr., Knoxville.
- 9:45 **364.8** Saturated fatty acids activate TLR-mediated pro-inflammatory signaling pathways. **D. Hwang, S. Huang, J.M. Rutkowski, R.G. Snodgrass, K.D. Ono-Moore, D.A. Schneider, J.W. Newman and S.H. Adams.** USDA, Davis and Univ. of California, Davis.
- 9:00 **365.5** Plasma alpha-tocopherol transport studied using deuterium-labeled collard greens. **M.G. Traber, S.W. Leonard, X. Fu, M.A. Grusak and S. Booth.** Oregon State Univ., USDA at Tufts, USDA, Houston and Baylor Col. of Med.
- 9:15 **365.6**  $\alpha$ -Tocopherol supplementation reduces  $\gamma$ -tocopherol-dependent scavenging of reactive nitrogen species by decreasing  $\gamma$ -tocopherol. **R. Pei, S.W. Leonard, M.G. Traber and R.S. Bruno.** Univ. of Connecticut and Oregon State Univ.
- 9:30 **365.7** A complete meal-based algorithm for predicting nonheme iron absorption. **S.M. Armah, A. Carriquiry, J.D. Cook and M.B. Reddy.** Iowa State Univ. and Kansas Univ. Med. Ctr.
- 9:45 **365.8** Biofortified red mottled beans (*Phaseolus vulgaris* L) in a maize and bean diet provide more bioavailable iron than standard red mottled beans: studies in poultry (*Gallus gallus*) and an in vitro digestion/Caco 2 model. **E. Tako, M.W. Blair and R.P. Glahn.** USDA, Ithaca and Cornell Univ.

## 366. DIET AND CANCER: MOLECULAR TARGETS

### Minisymposium

(Sponsored by: Diet and Cancer)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 30C

CHAired: N. EMENAKER

COCHAired: H. XIAO

- 8:00 **366.1** Comparative proteomic profiling of human breast cell lines. **T.J. Turbyville, J. Blonder, S. Das, X. Ye, D.A. Prieto, T.D. Veenstra, J.A. Milner and D.F. Romagnolo.** SAIC-NCI, Frederick, NCI/NIH and Univ. of Arizona.
- 8:15 **366.2** BRCA-1 promoter hypermethylation and silencing induced by the aromatic hydrocarbon receptor and preventative effects of resveratrol. **A. Papoutsis, J. Borg, O. Selmin and D. Romagnolo.** Univ. of Arizona.
- 8:30 **366.3** Docosahexaenoic acid alters cell death, cancer and cell-cycle signaling networks in breast cancer cell lines. **C.J. Field, J.B. Ewaschuk, R. Nelson, M. Newell and R. Jacobs.** Univ. of Alberta.
- 8:45 **366.4** DHA alters EGFR spatiotemporal dynamics to suppress signal transduction. **H.F. Turk and R.S. Chapkin.** Texas A&M Univ.
- 9:00 **366.5** Synergistic inhibition of lung cancer cell growth by nobiletin and atorvastatin in combination. **N. Charoensinphon, J. Zheng, P. Qiu, P. Ngauv and H. Xiao.** Univ. of Massachusetts Amherst and Ocean Univ. of China.
- 9:15 **366.6** Chemopreventative phytochemical 3,3'-diindolylmethane inhibits histone deacetylases in prostate cancer cells. **L.M. Beaver, T-W. Yu, E.I. Sokolowski, A. Hsu, D.E. Williams, R.H. Dashwood and E. Ho.** Oregon State Univ.
- 9:30 **366.7** Effect of (-)-epigallocatechin gallate on cyclin D1 downregulation at the post-translational level. **X. Zhang and S.J. Baek.** Col. of Vet. Med., Univ. of Tennessee and Col. of Animal Sci. and Technol., Northwest A&F Univ., China.
- 9:45 **366.8** Bovine lactoferrin and bovine lactoferricin are internalized by colon cancer cells and exhibit elevated apoptosis. **R. Jiang and B. Lönnnerdal.** Univ. of California, Davis.

## 365. MICRONUTRIENT BIOAVAILABILITY

### Minisymposium

(Sponsored by: Vitamins and Minerals RIS)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 30D

CHAired: L. SALDANHA

COCHAired: E. JANLE

- 8:00 **365.1** Vitamin D3 supplementation leads to increased total calcium absorption in 4- to 8-year-old children. **S. Abrams, K. Hawthorne and Z. Chen.** Baylor Col. of Med.
- 8:15 **365.2** Iron absorption in Peruvian breast-fed infants at two and five months of age. **J.L. Finkelstein, K.O. O'Brien, S.A. Abrams and N. Zaveleta.** Cornell Univ., Baylor Col. of Med. and Texas Children's Hosp. and Nutr. Res. Inst., Lima, Peru.
- 8:30 **365.3** The addition of preformed vitamin A, but not orange-fleshed sweet potato with high beta-carotene content, to rice-based meals reduces zinc absorption in vitamin A-depleted Bangladeshi women. **A. Perez-Exposito, B. Hossain, L.R. Woodhouse, M.J. Haskell, K.M. Jamil, M.M. Islam, J.M. Pearson and K.H. Brown.** Inter-American Develop. Bank, Panama, Intl. Ctr. for Diarrhoeal Dis. Res., Dhaka, Bangladesh, USDA, Davis and Univ. of California, Davis.
- 8:45 **365.4** Acute neurocognitive effects of multi-vitamin/mineral preparations on brain imaging assessed with steady state topography and fMRI during periods of mental effort. **A. Scholey, S. Maggini, D. Camfield, I. Bauer, C. Neale, D. White, K. Savage and C. Stough.** Swinburne Univ., Australia and Bayer Consumer Care AG, Basel.

### 367. NUTRITION, COGNITIVE, PHYSICAL AND FUNCTIONAL HEALTH IN OLDER ADULTS

#### Minisymposium

(Sponsored by: Aging and Chronic Disease RIS)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 30B

CHAired: D. HOUSTON

COCHAired: C. TANGNEY

- 8:00 Overview.
- 8:15 **367.1** Nutrient biomarker patterns and rates of cognitive decline in dementia-free elders. **G.L. Bowman, J.F. Quinn, J.A. Kaye and J. Shannon.** Oregon Hlth. & Sci. Univ.
- 8:30 **367.2** Memory performance is related to dietary, metabolic, and inflammatory parameters in older adults. **D.L. Ballantyne, M.D. Shidler, R. Krikorian and S-Y. Lee.** Univ. of Cincinnati and Univ. of Cincinnati Acad. Hlth. Ctr.
- 8:45 **367.3** Effects of weight loss or exercise on muscle quality in obese older women. **E.M. Evans, R.D. Larson, C.L. Johnson, D.D. Guest, B.M. Das, C.L. Ward, D.D. Chen and J.G. Georgiadis.** Univ. of Georgia and Univ. of Illinois at Urbana-Champaign.
- 9:00 **367.4** Incidence of physical impairment and disability in Puerto Rican adults: the Boston Puerto Rican Health Study. **C. Castaneda-Sceppa, L.L. Price, L. Falcon and K.L. Tucker.** Northeastern Univ. and Tufts Med. Ctr.
- 9:15 **367.5** Intergenerational exergaming physical activity program increases flexibility and strength in older adults. **K.A. Strand, S.L. Francis, J.A. Margrett, W.D. Franke and M.J. Peterson.** Iowa State Univ.
- 9:30 **367.6** Fatigability as a function of physical activity energy expenditure: prove of concept. **M. Buchowski, L. Whitaker, J. Powers, K. Chen and J. Schnelle.** Vanderbilt Univ. and NIDDK/NIH.
- 9:45 Summary.

### 368. BREASTFEEDING: DETERMINANTS INITIATION, DURATION AND OTHER LACTATION SUCCESS OUTCOMES

#### Minisymposium

(Sponsored by: Lactation RIS)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 30A

CHAired: C. LOVELADY

COCHAired: B. OLSON

- 8:00 **368.1** The early breastfeeding experience of obese mothers—a mediation analysis. **Z. Maalouf-Manasseh, K.G. Dewey, C.J. Chantry, J.M. Peerson and L.A. Nommsen-Rivers.** Univ. of California, Davis and Davis Med. Ctr. and Cincinnati Children's Hosp. Med. Ctr.
- 8:15 **368.2** Poor positioning, decreased prolactin levels, and low milk output associated with early cessation of exclusive breastfeeding in obese women. **L.E. Hauff and E.W. Demerath.** Cornell Univ. and Univ. of Minnesota, Minneapolis.

- 8:30 **368.3** The effect of maternal anxiety /depression on breastfeeding outcomes: Maternal Adversity Vulnerability and Neurodevelopment Study. **D. Adedinsewo, A.S. Fleming, M. Steiner, M.J. Meaney and A.W. Girard.** Emory Univ. Rollins Sch. of Publ. Hlth., Univ. of Toronto Mississauga, McMaster Univ. and St. Joseph's Hosp., Canada and McGill Univ.
- 8:45 **368.4** Maternal hospital experiences and exclusive breastfeeding in the first six months among WIC participants. **M. Koleilat, S. Whaley and L. Jiang.** PHFE WIC Prog., Irwindale, CA.
- 9:00 **368.5** How often are others participating in infant-feeding? An exploratory analysis of secondary objectives of the Baby-Mine Study. **K.M. Bower, J.C. Nicklas, J.J. Helvey, A.N. Sberna, J.L. Burney, B.P. Greer and K.F. Kavanagh.** Univ. of Tennessee, Knoxville.
- 9:15 **368.6** Clinical application of measurement of breastmilk. **J.C. Kent, D. Langton, A. Hepworth and P. Hartmann.** Univ. of Western Australia and King Edward Mem. Hosp., Subiaco, Australia.
- 9:30 **368.7** Determinants of breastfeeding modes in the prevention of mother-to-child HIV transmission Kesho Bora study. **K. Bork, C. Cames and A. Cournil.** IRD, Montpellier.
- 9:45 **368.8** Facilitators and barriers to implementing mother-to-mother support groups to improve breastfeeding and complementary feeding practices in the Peruvian highlands. **A.G. Shaw, M.Q. Campos, L.G. Leon, A. Webb Girard and L. Golding.** Rollins Sch. of Publ. Hlth., Emory Univ. and CARE Intl., Lima, Peru and Atlanta.

### 369. CHILD NUTRITION AND GROWTH: ISSUES AND CHALLENGES

#### Minisymposium

(Sponsored by: Nutritional Epidemiology RIS)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 29C

CHAired: K. KORDAS

COCHAired: N. AHLUWALIA

- 8:00 Overview.
- 8:15 **369.1** Association of serum 25-hydroxyvitamin D concentrations with dietary patterns in U.S. children. **B. Martineau, B. Van Fleit and V. Ganji.** Georgia State Univ.
- 8:30 **369.2** Lower dairy calcium and dairy vitamin D intakes are associated with increased skeletal muscle fatty infiltration in adolescent girls. **D. Vassallo, V. Lee, M. Laudermilk, R. Blew and S. Going.** Univ. of Arizona and Univ. of Pennsylvania.
- 8:45 **369.3** Total forearm bone mineral density measured by a portable peripheral X-ray agrees with dual-energy X-ray absorptiometry. **T.J. Hazell, C.A. Vanstone, T.T. Pham, S. Jean-Philippe, C.J. Rodd and H.A. Weiler.** Sch. of Dietetics and Human Nutr., McGill Univ. and Montreal Children's Hosp.
- 9:00 **369.4** The association between food patterns and adiposity in Canadian children. **J. Wang, L. Shang, K. Gray-Donald, M. Lambert, J. O'Loughlin and A. Tremblay.** Sch. of Dietetics and Human Nutr., McGill Univ., Fourth Military Med. Univ., China, Univ. of Montreal and Univ. Laval, Canada.
- 9:15 **369.5** Television viewing and intake of added sugars related to increased central adiposity in prepubertal children. **N.A. Khan, L.B. Raine, E. Drollette, M. Scudder, M. Pontifex, D.M. Castelli, C.H. Hillman, S.M. Donovan and E.M. Evans.** Univ. of Illinois, Urbana, Univ. of Texas at Austin and Univ. of Georgia.

- 9:30 **369.6** Inflammation, iron status, and growth of school-age children: a prospective study. **W. Perng, A. Baylin, C. Marin, M. Mora-Plazas and E. Villamor.** Univ. of Michigan Sch. of Publ. Hlth. and Natl. Univ. of Colombia.
- 9:45 **369.7** Ethnic disparity in body mass index among 5-to-8-year-old children in Hawaii. **R. Novotny, C.E.S. Oshiro and L.R. Wilkens.** Univ. of Hawaii at Manoa, Kaiser Permanente Hawaii and Univ. of Hawaii Cancer Ctr., Honolulu.

## 1165. ENERGY BALANCE, MACRONUTRIENT AND WEIGHT MANAGEMENT

### Minisymposium

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 29D

CHAired: M. VAN LOAN

COCHAired: L. WHIGHAM

- 8:00 Low-calorie sweetener use is increasing in the United States. **A.C. Sylvetsky, J.A. Welsh and M.B. Vos.** Emory Univ. and Children's Healthcare of Atlanta. **(820.35)**
- 8:15 The effects of low, moderate, or high protein yogurt snacks on appetite control and subsequent eating in healthy women. **S.M. Douglas, L.C. Ortinau, H.A. Hoertel and H.J. Leidy.** Univ. of Missouri-Columbia. **(820.37)**
- 8:30 Effect of resistance training on changes in body composition and macronutrient utilization after weight loss in older women. **J. Zhou and W.W. Campbell.** Purdue Univ. **(820.39)**
- 8:45 Dietary fructose was not a causal factor in rise in obesity prevalence between 1970 and 2008. **T.P. Carr and T.J. Carden.** Univ. of Nebraska-Lincoln. **(820.40)**
- 9:00 Comparison of a higher protein yogurt versus other commonly consumed afternoon snacks on time to meal request. **L.C. Ortinau, J.M. Culp, H.A. Hoertel, S.M. Douglas and H.J. Leidy.** Univ. of Missouri-Columbia and General Mills Inc., Minneapolis. **(820.32)**
- 9:15 The effects of low versus higher protein yogurt consumed as afternoon snacks on appetite control and time to dinner request in healthy women. **L.C. Ortinau, J.M. Culp, H.A. Hoertel, S.M. Douglas and H.J. Leidy.** Univ. of Missouri-Columbia, General Mills Inc., Minneapolis. **(820.34)**
- 9:30 Effects of protein quantity and source (animal versus plant) on appetite and plasma amino acid responses in energy-restricted subjects. **H.K. Wilson, C.L.H. Armstrong, J.A. Hogan and W.W. Campbell.** Purdue Univ. **(820.38)**
- 9:45 Higher energy expenditure but lower physical activity levels with increasing obesity. **J.P. DeLany, J.M. Jakicic, D.E. Kelley, K.C. Hames and B.H. Goodpaster.** Univ. of Pittsburgh and Merck Sharp & Dohme Corp., Rahway, NJ. **(1012.4)**

## 370. ADIPOSE DYSFUNCTION, INTERACTION OF ROS AND INFLAMMATION

### Symposium

*(Supported by educational grants from Nestle, Kraft Foods, Inc. and USDA ARS)*

*(Sponsored by: Nutrient-Gene Interaction RIS, Obesity RIS, and Energy and Macronutrient Metabolism RIS)*

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 20D

CHAired: M. PICKLO

COCHAired: K. CLAYCOMBE AND M. MEYDANI

- 10:30 The good, the bad and the ugly: adaptive and pathologic roles of inflammation and ROS in obesity. **M. S. Obin.** USDA at Tufts Univ.
- 11:00 The effect of macrophage secreted factors on preadipocyte fate: adipogenesis and survival. **A. Sorisky.** Univ. of Ottawa.
- 11:30 Inflammation, mitochondrial dysfunction and oxidative stress. **D. Bernlohr.** Univ. of Minnesota.
- 12:00 The Nrf2/anti-oxidant pathway and adipocyte function. **J. Chan.** Univ. of California, Irvine.

## 371. THE FUTURE OF NUTRITION RESEARCH

### Symposium

*(Sponsored by: Public Policy Committee)*

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 31A/B/C

CHAired: S.M. HUTSON

### Public Policy

### Career Development

- 10:30 The current status of nutrition research. **T. Badger.** Univ. of Arkansas Children's Nutr. Ctr.
- 10:40 Identifying nutrition research gaps. **S. Hutson.** Virginia Tech.
- 10:50 The future of nutrition research. **R. M. Russell.** ODS/NIH
- 10:55 Forum discussion. **S. Hutton.** Virginia Tech.
- Speakers:* **J. Milner,** NCI/NIH  
**D. Bier,** Children's Nutr. Res. Ctr., Houston  
**A. C. Ross,** Pen State  
**Z. Li,** UCLA  
**D. Klurfrld,** USDA, Beltsville, MD.  
**J. Mein,** Monsanto  
**P. Stover,** Cornell Univ.

**372. CLINICAL NUTRITION UPDATE 2012****Symposium**

(Supported by an educational grant from Abbott Nutrition)

(Sponsored by: Medical Nutrition Council (MNC))

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 29A/B

CHAired: E. SALTZMAN

COCHAired: C.W. BALES AND M.A. JOHNSON

**Education****Career Development**

- 10:30 Surviving breast cancer survivorship: what is the role of diet and physical activity? **W. Demark-Wahnefried.** Univ. of Alabama at Birmingham.
- 10:54 Nutrition in oral health. **C. A. Palmer.** Friedman Sch. of Nutr. Sci. and Policy and Tufts Univ. Sch. of Dental Med.
- 11:18 Iron supplementation: when and when not? **N. F. Krebs.** Univ. of Colorado Denver.
- 11:42 Celiac disease: update on diagnosis and treatment. **D. L. Seidner.** Vanderbilt Univ. Med. Ctr.
- 12:06 Update on hospital nutrition support. **T. R. Ziegler.** Emory Univ.

**373. DIETARY BIOACTIVE COMPONENTS****Minisymposium**

(Supported by an educational grant from Abbott Nutrition)

(Sponsored by: Dietary Bioactive Components RIS)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 32B

CHAired: K.J. YEUM

COCHAired: J.B. BLUMBERG AND STUDENT CHAIR: K. ZUNGIA

- 10:30 Overview.
- 10:45 **373.1** Comparison of phenolic acid profiles and anti-inflammatory effects of two major species of blueberries in the U.S. **J. Kang, K.M. Thakali and X. Wu.** Univ. of Arkansas for Med. Sci.
- 11:00 **373.2** ReishiMax improves antioxidant capacity in an oxidative stress model and extends lifespan in a natural aging model. **J. Yang, Z. Wu, Y. Yao, Y. Zhang, C. Zhao, Y. Dong, N. Tan and J-S. Zhu.** Pharmanex Beijing Pharmacol. Ctr., Nu Skin Ctr. for Anti-Aging Res., Provo, UT and Hong Kong Polytech Univ.
- 11:15 **373.3** Flavan-3-ol isolated from rhizome of *Drynaria fortunei* (Kunze) J. Sm. exerts osteoprotective effects via its actions on osteoblastogenesis and osteoclastogenesis. **M-S. Wong, K-C. Wong, X. Dong, M-C. Law and T-H. Chan.** The Hong Kong Polytech Univ.
- 11:30 **373.4** Soluble corn fiber effects on calcium absorption and retention in adolescent girls and boys. **C.M. Whisner, B.R. Martin, A. Clavijo, C.H. Nakatsu, G.P. McCabe, L.D. McCabe and C.M. Weaver.** Purdue Univ.
- 11:45 **373.5** A double-blind, randomized, controlled clinical study to evaluate the properties of *Saccharomyces cerevisiae* CNCM I-3856 on irritable bowel syndrome management. **P. Desreumaux, B. Housez, M. Cazaubiel, F. Pelerin and P. Jüsten.** Hosp. Univ., Lille, Biofortis, Nantes and- Lesaffre Intl., Lille.

12:00 **373.6** Preliminary characterization of secreted bioactive compounds from *Bifidobacterium longum* with modulatory activity towards enterocytic fasting induced adipocyte factor. **P. Pham, R. Cotten, T. Kolinek, S. Parker, D. Vattem and V. Maitin.** Texas State Univ., San Marcos.

12:15 **373.7** Consumption of *Helianthus tuberosus* Linne and chungkookjang have additive anti-diabetic effects in diabetic rats. **S. Park, D.Y. Kwon, H.J. Yang, M.J. Kim and J. Daily.** Hoseo Univ., South Korea, Korean Food Res. Insts., Sungnam-si and Daily Manufacturing Inc., Rockwell Inc.

**374. CHILDHOOD OBESITY: WHEN SHOULD WE INTERVENE?****Minisymposium**

(Sponsored by: Obesity RIS)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 32A

CHAired: S. GOODELL

COCHAired: W. DIETZ

- 10:30 **374.1** Gestational weight gain is associated with postpartum weight retention and infant anthropometrics. **F. Begum, I. Colman, L. McCargar, R.C. Bell and APRON. Study Team.** Univ. of Alberta and Univ. of Ottawa.
- 10:45 **374.2** Breastfeeding and obesity: WIC policy changes increase breastfeeding rates and reduce obesity at age four. **S. Whaley, M. Koleilat and M. Whaley.** PHFE WIC Prog., Irwindale, CA.
- 11:00 **374.3** Early obesity prevention: a randomized trial of a practice-based intervention in 0-24 months infants. **N. Schroeder, B. Rushovich, E. Bartlett, J. Gittelsohn and B. Caballero.** USDA, Beltsville, Univ. of Maryland Baltimore and Johns Hopkins Univ.
- 11:15 **374.4** The Feeding Infants and Toddlers Study 2008: dramatic changes in the amount and quality of vegetables in the diet occur after the first year of life. **D.M. Deming, K.C. Reidy, R.R. Briefel, M.K. Fox and E. Condon.** Nestle Infant Nutr., Floral Park, NJ and Mathematica Policy Res., Washington, DC and Cambridge, MA.
- 11:30 **374.5** Child obesity and motor development delays. **A. Andres, C.L. Chiaro, X. Tang, P.H. Casey, J.B. Bellando and T.M. Badger.** Arkansas Children's Nutr. Ctr. and Univ. of Arkansas for Med. Sci.
- 11:45 **374.6** Parenting styles moderate links of feeding practices to odds of child obesity and overweight. **A.B. Okwonga, L. Hubbs-Tait, G. Topham, R. Larzelere, J. Rutledge, L. Cui, T.S. Kennedy, M. Page and A. Harrist.** Oklahoma State Univ. and Louisiana Tech Univ.
- 12:00 **374.7** Are obese and overweight children disliked in 1st grade? Teacher and classmate ratings. **A.W. Harrist, L. Cui, T.M. Swindle, M.C. Page, L. Hubbs-Tait and G.L. Topham.** Oklahoma State Univ. and Univ. of Arkansas for Med. Sci.
- 12:15 **374.8** Demographic, environmental and psychosocial influences on the physical activity of adolescents from diverse ethnic groups: structural equation modeling analysis. **A. Hilmers, T-A. Chen and K. Cullen.** Children's Nutr. Res. Ctr., Houston.

### 375. INTESTINAL PHYSIOLOGY AND DIGESTIVE FUNCTION

#### Minisymposium

(Sponsored by: Experimental Animal Nutrition RIS)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 30D

CHAired: J. ODLE

COCHAired: S.W. KIM

- 10:30 Overview.
- 10:45 **375.1** Development of a simple in vitro digestion model suitable for multi-nutrient food systems. **V.M. Garcia-Campayo, K. Ross, P. Ayeni, A. Bonnema and A. Berger.** Cargill Inc., MN.
- 11:00 **375.2** Development of a proof of concept bioassay core laboratory for in vivo testing of functional food products in animal models. **K.L. McCutcheon, R.J. Martin and M.J. Keenan.** LSU AgCtr.
- 11:15 **375.3** Chronic antibiotic administration increases intestinal mass but inhibits functional adaptation in an intestinal failure piglet model. **J.L. Barnes and K.A. Tappenden.** Univ. of Illinois at Urbana-Champaign.
- 11:30 **375.4** Intestinal effects of alanyl-glutamine dipeptide-supplemented diet in a mouse model of DSS-induced colitis. **S. Benton, L. Hao, D. Merlin, D.P. Jones and T.R. Ziegler.** Emory Univ. and Georgia State Univ.
- 11:45 **375.5** The gut microbiome of kittens is affected by dietary protein: carbohydrate ratio and correlated with blood metabolite and hormone concentrations. **S. Hooda, B.M. Vester Boler, S.E. Dowd and K.S. Swanson.** Univ. of Illinois, Urbana and Res. and Testing Lab., Lubbock.
- 12:00 **375.6** Adaptation to every other day feeding leads to an increase in small intestine transit-amplifying cells and a decrease in gonadal fat. **A.T. Mah, L. Van Landeghem, R.E. Blue and P.K. Lund.** Univ. of North Carolina at Chapel Hill.
- 12:15 **375.7** Differential regulation of pancreas digestive enzymes during the development of diet-induced-obesity of C57BL/6Jmice. **R.Z. Birk, I. Rubio-Aliaga, M.V. Boekschoten, M. Müller and H. Daniel.** Ariel Univ. Ctr., Israel, Tech Univ. Munich and Wageningen Univ., Netherlands.

### 376. DIET AND CANCER: ANIMAL STUDIES

#### Minisymposium

(Sponsored by: Diet and Cancer RIS)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 30C

CHAired: M.Y. HONG

COCHAired: N. SIRIWARDHANA

- 10:30 **376.1** A new molecular mechanism for blockade of prostaglandin E2 expression by sulforaphane. **D.J. Templeton, J. Zhou and J.V. Cross.** Univ. of Virginia.
- 10:45 **376.2** Dietary supplementation with methylseleninic acid, but not selenomethionine, reduces spontaneous metastasis of Lewis lung carcinoma in mice. **L. Yan and L.C. Demars.** USDA, Grand Forks.
- 11:00 **376.3** Polyphenolic extract from *Mangifera indica* is cytotoxic in ER + BT474 breast cancer cells and targets the SHIP-1-phosphatidylinositol3-kinase-Akt through microRNA-155. **N. Banerjee, S. Arbizu, K.A. Krenek and S.M. Talcott.** Texas A&M Univ.

- 11:15 **376.4** The effect of tomato powder, soy germ, or a combination on prostate carcinogenesis in TRAMP mice. **K. Zuniga, S. Clinton, J.M. Thomas-Ahner and J.W. Erdman, Jr.** Univ. of Illinois at Urbana-Champaign and The Ohio State Univ.
- 11:30 **376.5** Modulation of the metabolism of the carcinogen PhIP in rats by cruciferous and apiaceous vegetables. **J.K. Kim, C. Chen, D.D. Gallaher and S. Peterson.** Univ. of Minnesota, St. Paul.
- 11:45 **376.6** Gamma-tocopherol but not mixed tocopherols attenuates moderate colon inflammation and inflammation-promoted colon tumorigenesis in mice. **Q. Jiang, Z. Jiang, M. Moreland, Y. Jones, P. Snyder and Y. Jang.** Purdue Univ.
- 12:00 **376.7** Effects of high-fat diet on intestinal permeability and inflammation-associated tumorigenesis. **M-Y. Kim, Y-J. Bae, Y-K. Bak, J. Kim and M-K. Sung.** Sookmyung Women's Univ. and Hanbuk Univ., South Korea.
- 12:15 **376.8** Bioinformatics approaches for weight loss-induced cancer preventive mechanisms. **J. Standard, Y. Jiang, J. Chen, L. Lu, J. Tomich, R. Welti and W. Wang.** Kansas State Univ.

### 377. TRANSLATION OF NUTRITION SCIENCE TO PUBLIC HEALTH

#### Minisymposium

(Sponsored by: Nutrition Translation RIS)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 30B

CHAired: B. RICE

- 10:30 Overview.
- 10:45 **377.1** A novel student-centered nutrition medicine education model. **C.M. Lenders, K. Gorman and K. Peace.** Boston Univ. Med. Ctr. and Boston Univ. Sch. of Med.
- 11:00 **377.2** Dietary, lifestyle, medical, and stress-relief choices in promoting health. **S.J. Wimalawansa.** UMDNJ-Robert Wood Johnson Med. Sch., New Brunswick.
- 11:15 **377.3** Correlation of the nutrition metric profiling tool. **A. Magness, M. McAllaster, K. McInnis, C. Roberts-Gray, S. Sweitzer and M. Briley.** Univ. of Texas at Austin, Johns Hopkins Bloomberg Sch. of Publ. Hlth. and Third Coast R&D, Galveston.
- 11:30 **377.4** Children's perceptions of obesity and its relation to nutrition and physical activity. **C.D. Economos, P.J. Bakun, J. Bloom Herzog, P.R. Dolan, V.M. Lynskey, S. Sharma and M.E. Nelson.** Friedman Sch. of Nutr. Sci. and Policy, Tufts Univ. and ChildObesity180, Boston.
- 11:45 **377.5** School children's consumption of fat-free, low added sugar flavored milk. **B.A. Yon and R.K. Johnson.** Univ. of Vermont.
- 12:00 **377.6** Understanding the role of physical- and screen-activity in promoting overweight in children: an international perspective. **D. Gregori, I. Baldi and M. Ghidina.** Univ. of Padua and OBEY-AD Coop. Study Gp. and Zeta Res. srl, Trieste.
- 12:15 Summary.

### 378. GLOBAL HEALTH: DIETARY INTAKES AND HEALTH OUTCOMES IN DIVERSE POPULATIONS

#### Minisymposium

(Sponsored by: Nutritional Epidemiology RIS)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 30A

CHAired: J. McDERMID

COCHAired: L. TROY

- 10:30 **378.1** Burden and determinants of childhood undernutrition in an urban slum community in Ibadan, Nigeria. **F.O. Samuel and F.B. Fadeyi.** Univ. of Ibadan, Nigeria.
- 10:45 **378.2** Food sources of energy and key micronutrients in diets of the Bangladeshi population. **O. Bermudez, K. Lividini, M-F. Smitz and J.L. Fiedler.** Tufts Univ. Sch. of Med. and Harvest Plus/Intl. Food Policy Res. Inst., Washington, DC.
- 11:00 **378.3** Race, diet, and body size contribute to skeletal parameters in female adolescents. **B. Martin, C. Whisner, L. Delany and C.M. Weaver.** Purdue Univ.
- 11:15 **378.4** Understanding the patterns and trends of potassium intake and sodium/potassium ratio in China, 1991–2009. **S. Du, A. Neiman, H. Wang, B. Zhang and B.M. Popkin.** Univ. of North Carolina at Chapel Hill, Ctrs. for Dis. Control and Prevent. and Natl. Inst. of Nutr. and Food Safety, Chinese CDC, Beijing.
- 11:30 **378.5** Association between oral health and nutrient intake in twelve-year old Puerto Rican children. **C. Palacios, R. Torres, E. Santos, S. Rivas-Tumanyan, L. Orraca and A. Elias.** Sch. of Publ. Hlth. and Sch. of Dent. Med., Univ. of Puerto Rico Med. Sci. Campus.
- 11:45 **378.6** Food-waste study in 10 classes of first grade students to examine the proposed USDA guidelines for the School Breakfast Program 2011. **N. Carr and S. Kranz.** Purdue Univ.
- 12:00 **378.7** Empty calories consumption in Brazil: an analysis of the Brazilian National Dietary Survey 2008-2009. **R.A. Pereira, D.R. Miles, R. Sichieri and B.M. Popkin.** Univ. of North Carolina at Chapel Hill, Fed. Univ. of Rio de Janeiro and State Univ. of Rio de Janeiro.
- 12:15 **378.8** Variations in diet intake across sociodemographic characteristics and lifestyles in an adult population in San Juan, Puerto Rico. **U. Colon-Ramos and C. Perez-Cardona.** George Washington Univ. and Univ. of Puerto Rico.

### 379. DIETARY SUPPLEMENTS AS A POPULATION EXPOSURE IN CAUSATION, PREVENTION AND MANAGEMENT OF DISEASE

#### Minisymposium

(Sponsored by: Nutritional Epidemiology RIS)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 29D

CHAired: R. BAILEY

COCHAired: Y. SONG

- 10:30 **379.1** Making sense of dietary supplement research and a framework for the future. **P.M. Coates and R. Bailey.** ODS/NIH.

- 10:45 **379.2** Concomitant use of dietary supplements and prescription medications among U.S. adult civilians with a doctor-informed chronic disease: NHANES 2005-2008. **E.K. Farina, K.G. Austin, V.L. Fulgoni and H.R. Lieberman.** U.S. Army Res. Inst. of Envrn. Med., Natick, MA and Nutr. Impact LLC, Battle Creek, MI.
- 11:00 **379.3** Dietary supplement use during pregnancy: results from the National Health and Nutritional Examination Survey. **A. Branum, B. Singer and R. Bailey.** Ctrs. for Dis. Control and Prevent., Hyattsville, MD, Univ. of Maryland College Park and ODS/NIH.
- 11:15 **379.4** Use of natural health products among pregnant women in Alberta. **M. Fajer Gomez, S. Thomas, S. Loehr, C.J. Field and L. McCargar.** Univ. of Alberta and Alberta Inst. for Human Nutr.
- 11:30 **379.5** Dietary supplements service members are using in Afghanistan and why they use them. **C.E. Carvey, S.M. McGraw and H.R. Lieberman.** U.S. Army Res. Inst. of Envrn. Med., Natick, MA.
- 11:45 **379.6** Dietary supplement users report physicians are primary source of information in East and West geographic regions. **A. Kazaks, M. Rozga and J. Stern.** Bastyr Univ., WA, Michigan State Univ., Univ. of California, Davis.
- 12:00 **379.7** Release 2 of the U.S. Dietary Supplement Ingredient Database: research protocols and ingredient estimates for children's and adult multivitamins. **K.W. Andrews, J.M. Roseland, J.M. Holden, A.M. Middleton, A.M. Solomon, L. Douglass, J.T. Dwyer, R.L. Bailey, L.G. Saldanha and M.G. Daniel.** USDA, Beltsville, Consulting Statistician, Longmont, CO and ODS/NIH.
- 12:15 **379.8** Review of select dietary supplement interventions for endothelial dysfunction. **R.B. Costello, C. Lentino, L. Saldanha, P. Srinivas and C. Sempos.** ODS/NIH and NHLBI/NIH.

### 380. BEHAVIORAL SCIENCE AND EATING BEHAVIOR CHANGE

#### Minisymposium

(Sponsored by: Nutrition Education RIS)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 29C

CHAired: Y. CHU

COCHAired: M. SPENCE AND STUDENT CHAIR: S. HIRSHBERG

- 10:30 **380.1** Social influences on sugar consumption during pregnancy. **J. Graham, L.E. Forbes, M. Mayan, L. McCargar, R.C. Bell and Sweet Moms Team.** Univ. of Alberta.
- 10:45 **380.2** Association of the parental feeding practices and type and home availability of sugar-sweetened beverages and fruit juice of preschool children from low income families. **K. Lora, C. Quesada, D. Wakefield and A. Ferris.** Univ. of Connecticut Hlth. Ctr., East Hartford.
- 11:00 **380.3** Relationship between executive function, mood, and eating behavior in preschoolers. **J. Pieper and K. Laugero.** Univ. of California, Davis and USDA, Davis.
- 11:15 **380.4** Relationships between emotional eating and coronary heart disease risk factors in college students. **J. Arts, J. Fernandes, S. Schembre, S. Hirshberg and I. Lofgren.** Univ. of Rhode Island, Falmouth Hosp., MA and Univ. of Southern California Keck Sch. of Med.

- 11:30 **380.5** Grocery store podcast about omega-3 fatty acids positively impacted shopping behavior. **D. Bangia, D.M. Palmer and C. Johnson.** Rutgers, The State Univ. of New Jersey.
- 11:45 **380.6** The effect of eating speed on energy intake in normal weight and overweight/obese subjects. **J. Copeland, A. James, B. Chatley, K. Brown, K. Pelzel, J. Crane, S. Mashni, L. Dart, D. Rhea and M. Shah.** TCU.
- 12:00 **380.7** Change in eating behaviors in a 6 month pilot worksite weight loss intervention. **P.J. Batra, T. Salinardi, L. Robinson, E. Saltzman, S. Roberts and S.K. Das.** Tufts Univ., Boston.
- 12:15 **380.8** A randomized trial of genetic information for personalized nutrition on behaviour outcomes. **D.E. Nielsen and A. El-Soheemy.** Univ. of Toronto.

### 381. W.O. ATWATER LECTURE

#### Keynote Lecture

*(Supported by an educational grant from USDA, Beltsville)*

*(Sponsored by: USDA, Beltsville)*

TUE. 12:45 PM—SAN DIEGO CONVENTION CENTER, 20D

*Title:* From Instinct to Intellect: 150 Years in Evolution of Energy Balance in Man

*Speaker:* **J. O. Hill.** Univ. of Colorado Denver.

### 382. EMERGING BIOMARKERS FOR CARDIOVASCULAR DISEASE: BEYOND LDL CHOLESTEROL

#### Symposium

*(Supported by an educational grant from National Dairy Council)*

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 20D

*CHAired:* K.M. PARK

*COCHAired:* B.H. RICE

- 3:00 Diet, LDL subfractions, and cardiovascular disease risk. **R. M. Krauss.** Children's Hosp. Oakland Res. Inst.
- 3:30 Should we target HDL-cholesterol to reduce coronary heart disease risk? **G. A. Francis.** UBC James Hogg Res. Ctr.
- 4:00 The impact of nutrition on inflammatory biomarkers of cardiovascular disease. **I. Jialal.** Univ. of California, Davis.
- 4:30 Lipoprotein oxidation in cardiovascular disease: chief culprit or innocent bystander? **J. W. Heinecke.** Univ. of Washington Sch. of Med.

### 383. INTERVENTION POINTS IN OBESITY: HOW EFFECTIVE ARE WORKSITE INTERVENTIONS FOR WEIGHT CONTROL AND REDUCING EXCESS HEALTH CARE COSTS ASSOCIATED WITH OBESITY?

#### Symposium

*(Sponsored by: Medical Nutrition Council (MNC) and Obesity RIS)*

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 31A/B/C

*CHAired:* S.B. ROBERTS

*COCHAired:* N. KREBS

- 3:00 Introduction. **S. B. Roberts.** USDA at Tufts Univ.
- 3:05 Worksite interventions for primary prevention of weight gain. **S. Beresford.** Univ. of Washington.
- 3:33 Evidence for effectiveness of worksites programs for weight loss and prevention of weight regain. **S. Das.** Friedman Sch. of Nutr. Sci. and Policy, Tufts Univ.
- 4:00 Cost-benefit projections for health care savings associated with worksite weight loss programs. **C. Meyerhoefer.** Lehigh Univ.
- 4:30 Panel discussion.

### 384. SCIENTIFIC CAREER ADVANCEMENT FOR EARLY STAGE INVESTIGATORS

#### Symposium

*(Sponsored by: Young Professional Interest Group (YPIG))*

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 29A/B

*CHAired:* V.V. POTTER

#### Education

#### Career Development

- 3:00 Upper level scientist from government agency. **K. M. O'Connell.** USDA.
- 3:20 Industry scientist. **C. L. Sherry.** Abbot Nutr.
- 3:40 New professor from research university. **J. W. Perfield.** Univ. of Missouri-Columbia.
- 4:00 New professor from small liberal arts college. **K. F. Hilpert.** SUNY Oneonta.
- 4:20 Tenured professor from research university. **E. M. Evans.** Univ. of Georgia.
- 4:40 New professor from medical school. **A. L. Hevener.** UCLA.

Please Silence Your Cell Phones during Sessions



**385. CARDIOVASCULAR EFFECTS OF DIETARY BIOACTIVE COMPONENTS****Minisymposium***(Sponsored by: Dietary Bioactive Components RIS)*

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 32B

CHAired: D. KLIMIS-ZACAS

COCHAired: J.Y. LEE AND STUDENT CHAIR: K. SANT

- 3:00 **385.1** Grape polyphenols improve blood pressure and vascular function in men with metabolic syndrome. **J. Barona, J.S. Volek and M.L. Fernandez.** Univ. of Connecticut and Univ. of Antioquia, Colombia.
- 3:15 **385.2** A mixture of grape seed and skin extract, green tea extract, resveratrol, and quercetin reduces blood pressure in hypertensive subjects with metabolic syndrome. **T. Jalili, S. Beisinger, A. Quadros and A. Rabovsky.** Univ. of Utah and Melaluca Inc., Idaho Falls.
- 3:30 **385.3** Arterial stiffness and blood pressure are reduced after watermelon supplementation in obese with prehypertension and hypertension. **A. Figueroa, M.A. Sanchez-Gonzalez, A. Wong and B.H. Arjmandi.** Florida State Univ.
- 3:45 **385.4** Characterization of flavanol and procyanidin absorption and metabolism in humans: identification of potential bioactive metabolites. **J.I. Ottaviani, T.Y. Momma, C.L. Keen and H. Schroeter.** Univ. of California, Davis and Mars Inc., McLean, VA.
- 4:00 **385.5** Wild blueberry consumption markedly attenuates concentration and expression of inflammatory markers in the obese Zucker rat. **S. Vendrame, A. Daugherty, A.S. Kristo and D. Klimis-Zacas.** Univ. of Maine.
- 4:15 **385.6** Hypolipidemic effect of a blue-green alga, *Nostoc commune* var. *sphaeroides* Kützing, is attributed to algal residue but not lipid extract in C57BL/6J mice. **C.S. Ku, B. Kim, T.X. Pham, Y. Yang, Y. Park, T.P. Carr, C. Weller and J. Lee.** Univ. of Connecticut and Univ. of Nebraska-Lincoln.
- 4:30 **385.7** Whole apple but not apple pectin affects cardiac pathology and the oxidative stress/antioxidant transcriptome in obese rats. **E.M. Seymour, P.R. Brickner, K.N. Bosak, M.G. Kondoleon and S.F. Bolling.** Univ. of Michigan.
- 4:45 **385.8** Evaluation of oxidative stress and energy metabolism in the heart of rats supplemented with different vitamin D doses. **P.P. Santos, B. Rafacho, L. Ardisson, A. Gonçalves, V. Pires, M. Minicucci, P. Azevedo, A.O. Campana, A.A. Fernandes, L. Zornoff and S. Paiva.** Botucatu Med. Sch. and Biosci. Inst., UNESP, Brazil.

**386. VITAMIN D AND OBESITY: FROM CELLULAR TO CLINICAL TRIALS****Minisymposium***(Sponsored by: Vitamins and Minerals RIS)*

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 32A

CHAired: C. PALACIOS

COCHAired: M.J. HAMADEH

- 3:00 **386.1** Associations between common variants in CYP24A1 and risk of obesity in Chinese Hans. **L. Lu, W. Gan, J. Zhu, H. Tang, H. Li and X. Lin.** Inst. for Nutr. Sci., Shanghai and Shanghai Fengxian District Ctr. for Dis. Control and Prevent.
- 3:15 **386.2** Vitamin D regulates apoptosis in adipocytes via Ca<sup>2+</sup> signaling. **I.N. Sergeev.** South Dakota State Univ.
- 3:30 **386.3** High-dose (4000 IU) vitamin D supplementation improves insulin resistance in obese adolescents. **A.M. Belenchia, A.K. Tosh, L.S. Hillman and C.A. Peterson.** Univ. of Missouri-Columbia and Univ. of Missouri Hosp. & Clins.
- 3:45 **386.4** Association between vitamin D metabolites in fat tissue and serum 25-hydroxyvitamin D in overweight and obese adults. **B.D. Piccolo, E. Gertz, A.P. Thomas, N.L. Keim, S.H. Adams, E. Seyoum, G. Dolnikowski and M. Van Loan.** Univ. of California, Davis, USDA, Davis and USDA at Tufts Univ.
- 4:00 **386.5** Association between vitamin D status, cardiometabolic risk factors and metabolic syndrome in Puerto Rican adults. **C. Palacios, C. Perez, M. Guzman, A.P. Ortiz and E. Suarez.** Sch. of Publ. Hlth. and Sch. of Med., Med. Sci. Campus, Univ. of Puerto Rico.
- 4:15 **386.6** Vitamin D supplementation increases true fractional calcium absorption in the absence of caloric restriction. **S.A. Shapses, D. Sukumar, Y. Schluskel, S.H. Schneider and H. Ambia-Sobhan.** Rutgers Univ. and UMDNJ, New Brunswick.
- 4:30 **386.7** Vitamin D status in relation to metabolic risk factors in older Puerto Ricans. **A. Jamal-Allial, Y. Homsy and K.L. Tucker.** Northeastern Univ., Berkshire Med. Ctr. and Tufts Univ.
- 4:45 **386.8** Vitamin D and TNF-alpha effects on adipogenesis and inflammation in human adipocytes. **R.J. Wood, B.E. Gray, Y-C. Kim and A.G. Ronnenberg.** Univ. of Massachusetts Amherst.

**387. RISK FACTOR MODIFICATION IN CHRONIC DISEASE I: MACRONUTRIENT MANIPULATION****Minisymposium***(Sponsored by: Aging and Chronic Disease RIS)*

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30D

CHAired: C. BALES

COCHAired: C. TANGNEY

- 3:00 Overview.
- 3:15 **387.1** Effects of diet macronutrient composition on visceral adiposity during weight maintenance. **A.K. Miskimon, L.L. Goree, A.C. Ellis, P. Chandler-Laney, K. Casazza, M. Lockhart and B.A. Gower.** Univ. of Alabama at Birmingham.

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3:30 **387.2** A one-year high-protein, low-fat weight-loss diet improves body composition and cardiometabolic risk factors in overweight males. **T. Wycherley, G. Brinkworth, P. Clifton and M. Noakes.** Univ. of South Australia, Commonwealth Sci. and Indust. Res. Org., Adelaide and Baker IDI Heart and Diabetes Inst., Adelaide.

3:45 **1013.36** Impact of dietary protein intake and high-intensity interval exercise on abdominal obesity and metabolic syndrome risk in premenopausal women. **K. Pilolla, W. Sweat, G. Maddalozzo and M. Manore.** Oregon State Univ.

**Abstract 387.3 moved to the end of Tuesday Poster Session 812.**

4:00 **387.4** Intradialytic protein supplementation improves co-morbid disease risk in hemodialysis patients. **E. Tomayko, B. Yudell, E. Jeanes, B. Kistler, P. Fitschen, J.H. Jeong, P-T. Wu, H.R. Chung, E.M. Evans and K. Wilund.** Univ. of Illinois at Urbana and Chicago and Univ. of Georgia.

4:15 **387.5** Effect of fructose on triglycerides: a meta-analysis of controlled feeding trials. **L. Chiavaroli, J.L. Sievenpiper, A. Mirrahimi, A.I. Cozma, R.J. de Souza, M. Yu, A.J. Carleton, J. Beyene, C.W.C. Kendall and D.J.A. Jenkins.** Univ. of Toronto and McMaster Univ., Canada.

4:30 **387.6** Grape seed extract modifies insulin resistance induced by a high fat/carbohydrate meal in metabolic syndrome patients. **I. Edirisinghe, J. Randolph, M. Cheema, E. Park, B. Burton-Freeman and T. Kappagoda.** Illinois Inst. of Technol. and Univ. of California, Davis.

4:45 **387.7** Dose response association of glycemic index with CHD risk: a systematic review and meta-analysis of prospective cohorts. **A. Mirrahimi, R.J. de Souza, L. Chiavaroli, J.L. Sievenpiper, J. Beyene, A.J. Hanley, L.S. Augustin, C.W.C. Kendall and D.J.A. Jenkins.** Univ. of Toronto and McMaster Univ., Canada.

## 388. DIET AND CANCER: TRANSLATIONAL, CLINICAL AND SURVIVORSHIP

### Minisymposium

(Sponsored by: Diet and Cancer RIS)

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30C

CHAired: J. WHELAN

COCHAired: J.R. ZHOU

3:00 Overview.

3:15 **388.1** Paraoxonase 1 as a marker of short-term death in breast cancer recurrence. **J-M. Bard, I. Jaffré, M-P. Joalland, J-M. Classe, M. Campone and C. Bobin-Dubigeon.** René Gauducheau Ctr., Univ. of Nantes, Res. Ctr. and Human Nutr. and Inst. of Cancer Nantes-Angers, INSERM U892.

3:30 **388.2** Alcohol and breast cancer risk in five ethnic groups: the Multiethnic Cohort. **S-Y. Park, L.N. Kolonel, B.E. Henderson and L.R. Wilkens.** Univ. of Hawaii Cancer Ctr. and Univ. of Southern California.

3:45 **388.3** Serum 25-hydroxyvitamin D and breast cancer in the military: a nested case-control study. **S.B. Mohr, E.D. Gorham, J.E. Alcaraz, C.I. Kane, C.A. Macera, J.K. Parsons, D.L. Wingard, R. Horst and C.F. Garland.** UCSD, Naval Hlth. Res. Ctr., San Diego, San Diego State Univ. and Heartland Assays, Ames, IA.

4:00 **388.4** Living WCRF recommendations associated with less prostate cancer aggressiveness among African and Caucasian Americans. **L. Arab, J. Su, S. Steck, A. Ang, E. Fontham, J. Bensen and J. Mohler.** UCLA, NCI/NIH, Univ. of South Carolina, LSU, New Orleans, Univ. of North Carolina at Chapel Hill and Roswell Park Cancer Inst.

4:15 **388.5** High-dose oral vitamin D3 administration increases serum and prostate levels of vitamin D metabolites safely in prostate cancer patients. **D. Wagner, T. Van der Kwast, A. Dias, L. Klotz, N. Fleshner, A. Finelli and R. Vieth.** Univ. of Toronto, Mount Sinai Hosp., Univ. Hlth. Network and Sunnybrook Hlth. Sci. Ctr., Toronto.

4:30 **388.6** Inhibition of nuclear factor kappa B activation in early stage chronic lymphocytic leukemia by omega 3 fatty acids. **J.F. Fahrman, O. Ballester, G. Ballester, T. Witte, A. Salazar, G. Ion, D. Primerano, G. Boskovic, J. Denvir and E. Hardman.** Marshall Univ. and Cabell Huntington Hosp., WV.

4:45 **388.7** Reduction in high-calorie food reward after a lifestyle intervention in obese endometrial cancer survivors. **N.L. Nock, A. Dimitropoulos, H. Frasure and V. von Gruenigen.** Case Western Reserve Univ., Univ. Hosps. Case Med. Ctr. and SUMMA Hlth. Syst., Akron.

## 389. REVITALIZING LOCAL FOOD SYSTEMS

### Minisymposium

(Sponsored by: Community and Public Health Nutrition RIS)

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30B

CHAired: C. PORTER

COCHAired: N. FITZGERALD

3:00 **389.1** Food dignity: five community food system stories. **C.M. Porter, S. Daftary, H. Herrera, E.J. Sequeira and V. Sutter.** Univ. of Wyoming, United Community Ctrs., Brooklyn, Dig Deep Farms & Produce, Oakland, CA, Cornell Coop. Ext. Tompkins County and Blue Mountain Assocs. Inc., Riverton, WY.

3:15 **389.2** What influences the sustainability of community-based child nutrition programs in the Peruvian highlands? **S.S. Kim, H. Creed-Kanashiro, R. Bartolini, M.A. Consta, J-P. Habicht and R.J. Stoltzfus.** Cornell Univ. and Nutr. Res. Inst., Lima, Peru.

3:30 **389.3** Developing a food policy council through community-based participatory research. **N. Fitzgerald, L. Finston, K. Morgan and W. Hallman.** Rutgers Univ., Elijah's Promise and Rutgers Coop. Ext., New Brunswick.

3:45 **389.4** Successful strategies and barriers to community gardening in metro Atlanta, Georgia. **J.L. Self, A. Wyatt and A. Webb Girard.** Emory Univ.

4:00 **389.5** Nutrition education and cooking classes with teen and adolescent mothers. **I. Scripa, C. Dobson, E. Yamaguchi and M. Taylor.** Univ. of North Carolina at Greensboro and YWCA of Greensboro.

4:15 **389.6** Who is cooking? U.S. patterns and trends on food preparation and consumption of home-cooked food between 1965 and 2008. **L.P. Smith, S.W. Ng, M.M. Slining and B.M. Popkin.** Univ. of North Carolina at Chapel Hill.

4:30 **389.7** Formative research supports a change agent approach to prevent obesity in American Indian households. **P. Gadhoke, K. Christiansen, M. Rowan, J. Anliker, K. Frick and J. Gittelsohn.** Johns Hopkins Bloomberg Sch. of Publ. Hlth. and Univ. of Massachusetts Amherst.

4:45 **389.8** Understanding American-Indian children's perceived barriers and facilitators to following the Dietary Guidelines for Americans. **L. Jahns, A. Wadsworth, C. Morin and L.R. McDonald.** USDA, Grand Forks, Cankdeska Cikana Community Col. and Four Winds Community Sch., ND.

### 390. LACTATION: BIOLOGY OF MILK PRODUCTION AND SECRETION

#### Minisymposium

(Sponsored by: Lactation RIS)

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 30A

CHAired: M. McGUIRE

COCHAired: F. HASSIOTOU

3:00 Overview.

3:15 **390.1** The immunological cellular and biochemical contents of breastmilk respond to maternal or infant infections. **F. Hassiotou, P. Metzger, N. Trengove, C. Tat Lai, P. Hartmann and L. Filgueira.** Univ. of Western Australia, Crawley and Albert Ludwigs Univ. Freiburg.

3:30 **390.2** Coordinated response of the fat and cellular content of breastmilk to the degree of fullness of the breast. **F. Hassiotou, L. Filgueira, A. Hepworth, N. Trengove, C. Tat Lai and P. Hartmann.** Univ. of Western Australia, Crawley.

3:45 **390.3** Relationship between maternal diet, plasma lipids and human milk cholesterol and fatty acids. **J.G. Woo, S.S. Summer, A.L. Morrow and J.E. Heubi.** Cincinnati Children's Hosp. Med. Ctr.

4:00 **390.4** Elevated dairy fat intake by lactating women increases milk fat and alters fatty acid profile, but does not change gene expression in the milk fat globule transcriptome. **K.M. Hunt, S.L. Brooker, J.E. Williams, M.K. McGuire and M.A. McGuire.** Univ. of Idaho and Washington State Univ.

4:15 **390.5** Next generation sequencing of the washed milk fat globule transcriptome. **D.G. Lemay, O.A. Ballard, N.D. Horseman, A.L. Morrow and L.A. Nommsen-Rivers.** Univ. of California, Davis, Cincinnati Children's Hosp. Med. Ctr. and Univ. of Cincinnati.

4:30 **390.6** ZnT4 transports zinc to critical zinc-dependent proteins in the trans-Golgi network and exports Zn across the cell membrane in mammary epithelial cells. **N. McCormick and S.L. Kelleher.** Penn State.

4:45 **390.7** ZnT2 accumulates zinc in lysosomes and mitochondria to signal mammary gland involution. **S.R. Hennigar, S. Sharma, Y. Ah Seo and S.L. Kelleher.** Penn State.

### 391. FEEDING YOUNG CHILDREN

#### Minisymposium

(Sponsored by: Community and Public Health Nutrition RIS)

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 29D

CHAired: K. HARDING

COCHAired: T. ERINOSH

3:00 **391.1** Intergenerational transmission of factors that determine infant feeding practices: a qualitative approach to examining Guatemalan maternal experiences. **R. Garcia, O. Padilla, C.M. Doak, M. Vossenaar and N.W. Solomons.** CeSSIAM, Guatemala City and VU Univ., Amsterdam.

3:15 **391.2** Disparities in childcare and breastfeeding rates among U.S. children of single mothers. **J. Kim.** Univ. of Illinois, Champaign.

3:30 **391.3** Participant utilization and satisfaction with fruits, vegetables and jarred baby foods in the new supplemental nutrition program for women, infants and children food package. **L.P. Kim, S.S. Whaley and G.G. Harrison.** Pepperdine Univ., PHFE-WIC, Irwindale, CA and UCLA Sch. of Publ. Hlth.

3:45 **391.4** Evaluating the quality of foods and beverages offered to preschool children at childcare centers using the Healthy Eating Index-2005. **T. Erinosh, S. Ball, P. Hanson and D. Ward.** Univ. of North Carolina at Chapel Hill.

4:00 **391.5** Contribution of leading food sources, meals and presentations to dietary intake in government sponsored day-care centers in Guatemala (SOSEP). **L. Hernández, G. Montenegro-Bethancourt, L. Kim, O.I. Bermudez, M. Vossenaar and N.W. Solomons.** CeSSIAM, Guatemala City and Tufts Univ. Sch. of Med.

4:15 **391.6** Preschooler's sack lunches do not meet the dietary recommendations for calcium. **M.J. Romo-Palafax, S.J. Sweitzer, M.E. Briley and C. Robert-Gray.** Univ. of Texas at Austin and Third Coast R&D, Galveston.

4:30 **391.7** Is fruit and vegetable intake of preschool children associated with parental feeding practices? **J.E. Shim, J. Kim and STRONG Kids Research Team.** Seoul Natl. Univ. and Univ. of Illinois at Urbana-Champaign.

4:45 **391.8** Designing a culturally sensitive intervention to promote healthy eating and physical activity behavior in children and their parents in rural Louisiana communities. **G.S. Johnson, B.B. McGee, C. Johnson and V. Richardson.** Southern Univ. and A&M Col.

### 392. MICRONUTRIENTS: MEASUREMENT, INTERVENTION AND OUTCOMES

#### Minisymposium

(Sponsored by: International Nutrition Council (INC))

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 29C

CHAired: P. CHRISTAIN

COCHAired: R. WESSELLS

3:00 Overview.

3:15 **392.1** Prevalence of low plasma zinc concentration and related risk factors among young children and women of reproductive age in a nationally representative sample survey in Cameroon. **K.H. Brown, R. Engle-Stone, A.O. Ndjebayi, M. Nankap and D.W. Killilea.** Univ. of California, Davis, Helen Keller Intl., New York and Children's Hosp. of Oakland Res. Inst.

3:30 **392.2** Intestinal permeability at baseline is negatively associated with change in plasma zinc concentration following short-term zinc supplementation. **K.R. Wessells, S.Y. Hess, Z.P. Ouédraogo, N. Rouamba, R. Goto, J-B. Ouédraogo and K.H. Brown.** Univ. of California, Davis, Hlth. Res. and Sci. Inst., Bobo-Dioulasso, Burkina Faso and Univ. of Cambridge.

3:45 **392.3** Effects of high-dose antenatal 3rd-trimester vitamin D supplementation (35,000 IU/week) on maternal and newborn vitamin D status: a randomized placebo-controlled trial in Dhaka, Bangladesh. **D.E. Roth, A. Al Mahmud, R. Raqib and A.H. Baqui.** The Hosp. for Sick Children and Univ. of Toronto, Intl. Ctr. for Diarrhoeal Dis. Res., Bangladesh, Dhaka and Johns Hopkins Bloomberg Sch. of Publ. Hlth.

4:00 **392.4** Selling Sprinkles as part of a health products package may reduce fever and diarrhea incidence but not respiratory illness in preschool children in Western Kenya. **F.K.E. Grant, R. Martorell, R. Ayala-Flores, C.R. Cole, U. Ramakrishnan, L.J. Ruth, M. Patel, P.C. Juliao, R. Quick and P.S. Suchdev.** Rollins Sch. of Publ. Hlth., Emory Univ., Ctrs. for Dis. Control and Prevent. and Cincinnati Children's Hosp. Med. Ctr.

4:15 **392.5** Maternal iodine deficiency during pregnancy and child growth to 5 years of age in rural Bangladesh. **H. Jing, A.A. Shamim, K. Schulze, N. Jahan, H. Ali, A.B. Labrique, P. Christian and K.P. West, Jr.** Johns Hopkins Bloomberg Sch. of Publ. Hlth. and The JiViTA Proj., Bangladesh.

4:45 **392.6** A plasma retinome in school aged children of Nepal. **K.P. West, Jr., R.N. Cole, K. Schulze, I. Ruczinski, P. Christian, S. Shrestha, L. Wu, J. Yager and J.D. Groopman.** Johns Hopkins Sch of Publ. Hlth. and Johns Hopkins Univ.

## Pathology

### 393. SCIENTIFIC SLEUTHING OF HUMAN DISEASE FOR HIGH SCHOOL TEACHERS

#### Special Session

(Supported by an educational grant from Intersociety Council for Pathology Information)

(Sponsored by: ASIP Education Committee)

TUE. 8:30 AM—SAN DIEGO MARRIOTT MARQUIS & MARINA, DEL MAR

CHAired: K. NEJAK-BOWEN AND M.B. FURIE

#### Education

Are you a high school science teacher interested in integrating concepts of human disease into your regular science curricula, or an undergraduate from a local college or university who is interested in learning more about pathology? If so, this workshop is for you! "Scientific Sleuthing of Human Disease for High School Teachers" will include presentations and handouts by three leading research pathologists on specific topics appropriate for classroom use, as well as information on pathology resources on the web. And this year we are adding a special "hands-on" component, where workshop attendees will have the opportunity to examine plasticized lung specimens up close and personal! The session will end with a tour of the latest scientific equipment and advances in technology in the Convention Center exhibit hall. Teachers are also welcome to bring students who have completed or are enrolled in an advanced biology course.

Space in this free workshop is limited, so register early!

- 8:30 Check-in and continental breakfast.
- 9:10 Welcome and introduction: pathology resources on the Internet. **K. Nejak-Bowen.** Univ. of Pittsburgh Med. Sch.
- 9:30 Menacing microbes: the threat of bioterrorism. **M. B. Furie.** Stony Brook Univ.
- 10:15 Break.
- 10:30 Stem cells: a case of Dr. Jekyll and Mr. Hyde. **S. P.S. Monga.** Univ. of Pittsburgh Med. Sch.
- 11:15 Break.
- 11:30 Smoking-related lung disease in 3D: not your standard lecture. **D. S. Zander.** Penn State Hershey Med. Ctr.
- 12:15 Tour the exhibits.

### 394. MOLECULAR AND CELLULAR BASIS OF DISEASE: HOST-MICROBE INTERACTIONS: THE MICROBIOTA AND SYSTEMIC DISEASE

#### Symposium

TUE. 8:30 AM—SAN DIEGO CONVENTION CENTER, 16A

CHAired: A.S. NEISH

COCHAired: S. LYNCH

#### Host-Microbe Interactions

- 8:30 Role of the microbiota in IBD. **W. Garrett.** Harvard Sch. of Publ. Hlth.
- 9:15 Microbiota and metabolic syndrome in mice lacking toll-like receptor 5. **R. E. Ley.** Cornell Univ.
- 10:00 Microbiota in systemic autoimmunity. **A. V. Chervonsky.** Univ. of Chicago.
- 10:45 **394.1** *Lactobacillus rhamnosus* GG inhibits neutrophil extracellular trap formation. **L. Vong, R.J. Lorentz, A.J. Sousa, M. Glogauer and P.M. Sherman.** The Hosp. for Sick Children and Univ. of Toronto.
- 11:00 **394.2** *Lactobacillus* colonization induces ROS-dependent intestinal development. **R.M. Jones, L. Luo, P.W. Lin and A.S. Neish.** Emory Univ.
- 11:15 **394.3** Commensal microbiota modulate ROS-dependent cytoprotective gene expression in *Drosophila* intestinal epithelia. **J. Mercante, R.M. Jones, C. Gates, L. Luo, K. Moberg and A.S. Neish.** Emory Univ.
- 11:30 **394.4** *Giardia duodenalis*: a model of pathogen-mediated disruptions in the human microbiota in leading to the development of chronic gastrointestinal disease. **J. Beatty, S. Akierman, H. Ceri, K. Rioux, P. Beck and A. Buret.** Univ. of Calgary, Canada.

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### 395. SCVP SYMPOSIUM: THE PATHOGENESIS AND MOLECULAR DIAGNOSIS OF CARDIOMYOPATHIES

#### Symposium

(Sponsored by: ASIP and the Society for Cardiovascular Pathology)

TUE. 8:30 AM—SAN DIEGO CONVENTION CENTER, 16B

CHAired: L.M. BUJA AND J. SEIDMAN

#### Cardiac Pathobiology

- 8:30 Genetic etiology and diagnosis of hypertrophic cardiomyopathy. **J. Seidman**. Harvard Med. Sch.
- 9:15 Pathogenesis and molecular diagnosis of dilated cardiomyopathy. **L. Mestroni**. Univ. of Colorado Denver.
- 10:00 Molecular genetics and pathogenesis of arrhythmogenic right ventricular cardiomyopathy. **A. J. Marian**. Univ. of Texas Hlth. Sci. Ctr. at Houston.
- 10:45 Genetic and epigenetic risks modifiers for common heart failure. **G. W Dorn**. Washington Univ. Sch. of Med.

### 396. AUTOPHAGY IN CELLULAR HOMEOSTASIS AND DISEASES

#### Workshop

TUE. 8:30 AM—SAN DIEGO CONVENTION CENTER, 17A

CHAired: A.I. IVANOV AND X-M. YIN

- 8:30 Ras, autophagy, and glycolysis. **J. Debnath**. UCSF.
- 9:15 Autophagic regulation of mitochondria turnover in oxidative stress. **X-M. Yin**. Indiana Univ. Sch. of Med.
- 10:00 **396.1** Heavy metal scavenger metallothionein mitigates deep hypothermia-induced myocardial contractile anomalies: role of autophagy. **S. Jiang and J. Ren**. Univ. of Wyoming.
- 10:18 **396.2** Endotoxin-stimulated hepatic stellate cells promote survival of hepatocytes in endotoxemia by inducing endoplasmic reticulum stress and autophagy. **C.R. Gandhi, C. Huang and D.B. Stolz**. VA Pittsburgh Healthcare Syst. and Univ. of Pittsburgh.
- 10:36 Exogenous calcium induces autophagy via classical autophagic machinery and recruits endoplasmic reticulum membranes to form autophagosomes. **X. Chen, M. Li, W. Gao and X-M. Yin**. Indiana Univ. - Purdue Univ. Indianapolis and Univ. of Pittsburgh.
- 10:54 **396.4** Modulation of autophagy by bile acids in hepatocytes and liver. **S.J. Manley, G. Guo, U. Apte and W-X. Ding**. Univ. of Kansas Med. Ctr.
- 11:12 **396.5** mdx Mice have a defect in autophagy that is restored by rapamycin-loaded nanoparticle treatment. **A.J. Li, K.P. Bibee, J.N. Marsh, C.C. Weihi and S.A. Wickline**. Washington Univ. in St. Louis.

### 397. COMBATING CANCER THROUGH IMPROVED DIAGNOSIS AND THERAPEUTICS

#### Minisymposium

TUE. 8:30 AM—SAN DIEGO CONVENTION CENTER, 15B

CHAired: M.E. SOBEL

COCHAired: A. GASPERI-CAMPANI

#### Neoplasia

- 8:30 **397.1** Precancerous and cancerous predictive signatures using a custom designed novel gene expression assay. **H.F. Vase, J.E. Drew, A. Farquharson, R. Ross, F. Carey and R. Steele**. Univ. of Aberdeen and Ninewells Hosp. and Med. Sch., Dundee, U.K.
- 8:30 **397.2** New diagnostic approaches mediated by oligonucleotide aptamer (a revolutionary antibody?). **Y. Zu, Z. Zeng and P. Zhang**. The Methodist Hosp., Houston.
- 8:45 **397.3** CSR1 inhibits XIAP. **J. Luo, Z-L. Zheng and Y.P. Yu**. Univ. of Pittsburgh.
- 9:00 **397.4** The  $\alpha 7$ -nicotinic receptor antagonist induces robust apoptosis in human SCLC. **K.C. Brown, J.K. Lau, A.M. Dom, B.S. Shiflett, T.R. Witte, W.E. Hardman, H. Luo, Y.C. Chen, A.B. Carpenter and P. Dasgupta**. Joan C. Edwards Sch. of Med., Marshall Univ. and Alderson-Broaddus Col., WV.
- 9:15 **397.5** Antisense oligonucleotide therapy: combating aberrant  $\beta$ -catenin in hepatocellular carcinoma using peptide nucleic acids without transfecting agents. **E.R. Delgado, R. Bahal, D. Ly and S.P. Monga**. Univ. of Pittsburgh Sch. of Med. and Carnegie Mellon Univ.
- 9:30 **397.6** Rational selection of antigens for targeted therapy of liver metastases. **A. Turtoi, A. Blomme and V. Castronovo**. Univ. of Liege, Belgium.
- 9:45 **397.7** Caveolin-1 silencing induces the inhibition of osteosarcoma cells proliferation. **A. Gasperi-Campani, F. Pancotti and L. Roncuzzi**. Univ. of Bologna and Inst. Orthoped. Rizzoli, Bologna.
- 10:00 **397.8** B-lymphocyte stimulator in neuroendocrine tumors: correlation with disease behaviour. **M. Fabris, E. Tonutti, S. Pizzolitto, M. Isola, F. Curcio and F. Grimaldi**. Azienda Hosp., Udine and Univ. of Udine, Italy.

### 398. NEUROPATHOLOGY

#### Minisymposium

TUE. 8:30 AM—SAN DIEGO CONVENTION CENTER, 15A

CHAired: C. WILEY

COCHAired: E. MASLIAH

#### Neuropathology

- 8:30 **398.1** Gender differences in decreased ambulation and balance associated with Alzheimer's disease. **E. O'Mahony, H. Schlueter, J. Hong and S. Stavrianeas**. Willamette Univ.
- 8:45 **398.2** Imaging functional anatomy in the brain of mouse models of human disease. **E.L. Bearer, J.J. Gallagher, A. Gonzales and R.E. Jacobs**. Univ. of New Mexico and Caltech.
- 9:00 **398.3** Reduced ABC efflux transporter function in activated microglia: implications in neurodegeneration. **C. Gibson, J.R. Richardson and L.M. Aleksunes**. Rutgers Univ. and UMDNJ, Piscataway.

- 9:15 **398.4** Thymoquinone inhibition of proinflammatory cytokines and nitric oxide production in LPS-activated BV2 microglia cells. **E. Taka, E.A. Mazzio, C.B. Goodman and K.F.A. Soliman.** Col. of Pharm. and Pharmaceut. Sci., Florida A&M Univ.
- 9:30 **398.5** Mitochondrial DNA mutations in locus coeruleus neurons of Alzheimer disease brain. **B.V. Trikamji and B. Miller.** Texas Tech Univ. Hlth. Sci. Ctr.
- 9:45 **398.6** Pyruvate protects the HT22 neuronal cells treated with rtPA against hypoxia-reoxygenation damage. **M-G. Ryou, R. Liu, R.T. Mallet and S-H. Yang.** Univ. North Texas Hlth. Sci. Ctr.
- 10:00 **398.7** Effect of endothelial nitric oxide synthase genotype on outcomes after experimental thromboembolic stroke. **I.Y. Sazonova, M.N. Hoda, M.A. Zemskova and D.C. Hess.** Georgia Hlth. Sci. Univ.
- 10:15 **398.8** The sympathetic neuron autonomous role of Egr3 in sympathetic target tissue innervation and gene expression. **D.H. Quach, X. Gao, K. Gruner and W. Tourtellotte.** Northwestern Univ., Chicago.
- 10:30 **398.9** TDP-43/TBPH enhances neurotoxicity in a *Drosophila* model relevant to Alzheimer's disease. **Z. Norton and M.B. Feany.** Brigham and Women's Hosp./Harvard Med. Sch.
- 10:45 **398.10** Biochemical properties of highly neuroinvasive prion strains. **C.J. Sigurdson, C. Bett, S. Joshi-Barr, M. Lucero, M. Trejo, P. Liberski, J. Kelly and E. Masliah.** UCSD, Med. Univ. of Lodz, Poland and The Scripps Res. Inst.
- 11:00 **398.11** Molecular analysis of genetic variation in prions of *Saccharomyces cerevisiae*. **A.C. Kelly, F. Shewmaker and R. Wickner.** NIDDK/NIH and Uniformed Svcs. Univ. of Hlth. Sci.

### 399. REGULATION OF THE EXTRACELLULAR MATRIX IN THE PATHOPHYSIOLOGY OF DISEASE

#### Minisymposium

(Sponsored by: ASIP Cell Injury Scientific Interest Group)

TUE. 8:30 AM—SAN DIEGO CONVENTION CENTER, 17B

CHAired: C. YATES-BINDER

COCHAired: J. HOMEISTER

#### Cell and Tissue Injury

- 8:30 Introductory remarks.
- 8:40 Regulation of angiogenesis via dual receptor antagonism. **R. V. Iozzo.** Thomas Jefferson Univ.
- 9:30 **399.1** Exosites, allosteric, and active site in MMP engagement of elastin, collagen, and heparin from the matrix. **S.R. Van Doren, Y. Fulcher, T. Byrne, Y. Zhao, F. Zhang, R. Linhardt and G. Fields.** Univ. of Missouri-Columbia, Rensselaer Polytech Inst. and Torrey Pines Inst. for Molec. Studies, Port St. Lucie, FL.
- 9:50 **399.2** MMP-9 overexpression in macrophages regulates the post-myocardial infarction inflammatory response through SCYE1. **R. Zamilpa, T.A. Ramirez, Q. Dai, T. Dayah, N. Nguyen, J. Zhang, S.S. Ahuja, J. D'Armiento, Y-F. Jin and M.L. Lindsey.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio and Columbia Univ.

- 10:10 **399.3** Transplantation of mesenchymal stem cells and fibroblasts in a bio-compatible matrix corrects defective dermal remodeling. **C.C. Yates-Binder, M. Rodrigues, D. Whaley and A. Wells.** Univ. of Pittsburgh Sch. of Med. and Pittsburgh VA Med. Ctr.
- 10:30 **399.4** Cell therapy: intravenous renal cell transplantation for acute and chronic renal failure. **K.J. Kelly and J.H. Dominguez.** Indiana Univ. Sch. of Med.
- 10:50 **399.5** High fat diet induces lung fibrosis in ApoE-deficient mice potentially through increase in systemic and lung tumor necrosis factor. **A.S. Naura, J. Ju, H. Kim, Y. Errami and H. Boulares.** LSU Hlth. Sci. Ctr., New Orleans.
- 11:10 **399.6** Late remodeling of extracellular matrix after acute inflammatory injury or chronic distension. **I.H. Prist, A.G. Salles, T.M. de Lima-Salgado and H.P. de Souza.** Fac. of Med., Univ. of São Paulo.

### 400. NEUROPATHOLOGY SCIENTIFIC INTEREST GROUP LUNCH/NETWORKING SESSION

(This session is not CME accredited.)

#### Special Session

(Sponsored by: ASIP Neuropathology Scientific Interest Group)

TUE. 11:45 AM—SAN DIEGO CONVENTION CENTER, 33A

CHAired: C.A. WILEY AND C. KOLARCIK

#### Neuropathology

The ASIP Neuropathology Scientific Interest Group will hold its first meeting at noon on Tuesday April 24th. Our first session will be an informal gathering of investigators from a broad range of disciplines who share a common interest in mechanisms of neurological disease. Given the diverse group of investigators attending the annual ASIP meeting, we hope to foster cross-disciplinary discussions to build multi-disciplinary networks. We are particularly interested in engaging current pre-doctoral students and postdoctoral trainees that may be interested in neuropathology research. After brief introductions, we will highlight current hot topics in neurological disease and make plans for programming at future ASIP meetings. Light refreshments will be provided.

### 401. ISAMM SYMPOSIUM: ADVANCES IN ULTRASENSITIVE RNA IN SITU HYBRIDIZATION

(This session is not CME accredited.)

#### Symposium

(Sponsored by: ASIP and the International Society for Analytical and Molecular Morphology)

TUE. 2:00 PM—SAN DIEGO CONVENTION CENTER, 17B

CHAired: R.R. TUBBS AND L.E. DEBAULT

- 2:00 Introductory remarks. **R. R. Tubbs.** Cleveland Clin. Lerner Col. of Med.
- 2:10 RNA in situ hybridization coming of age: advanced RNA-based molecular diagnostics. **Y. Luo.** Advanced Cell Diagnostics Inc.

- 3:10 RNA ish—a useful tool to evaluate head and neck carcinomas for transcriptionally-active HPV. **J. S. Lewis.** Washington Univ.
- 4:10 Concluding remarks. **L. E. De Bault.** Univ. of Oklahoma Hlth. Sci. Ctr.

**402. MOLECULAR AND CELLULAR BASIS OF DISEASE: HOST-MICROBE INTERACTIONS: SESSION 2: NEW CONCEPTS IN VASCULAR BIOLOGY: ENDOTHELIAL BACTERIAL INTERACTIONS**

**Symposium**

TUE. 2:00 PM—SAN DIEGO CONVENTION CENTER, 16A

*CHAIRED:* M. HICKEY

*COCHAIRED:* F.W. LUSCINSKAS

**Host-Microbe Interactions**

- 2:00 Imaging the inflammatory response—examination of bacterial interactions in the vasculature. **M. J. Hickey.** Monash Univ.
- 2:45 New technologies applied to the study of bacterial pathogenesis. **D. T. Hung.** Broad Inst. of MIT and Harvard Med. Sch.
- 3:30 Penetration of the blood-brain barrier by bacterial pathogens. **K. S. Doran.** San Diego State Univ.
- 4:15 **402.1** In situ quantification of macrophage AIM2 inflammasome activation during *Francisella tularensis* infection by fluorescence proximity ligation. **G. DeLoid and L. Kobzik.** Harvard Sch. of Publ. Hlth. and Brigham and Women's Hosp.

**403. NATIONAL INSTITUTES OF HEALTH: PROGRAMS AND POLICIES UPDATE FROM INSTITUTES**

(This session is not CME accredited.)

**Symposium**

(Sponsored by: ASIP, American Physiological Society, American Association of Anatomists, American Society for Biochemistry and Molecular Biology, American Society for Nutrition and American Society for Pharmacology and Experimental Therapeutics)

TUE. 2:00 PM—SAN DIEGO CONVENTION CENTER, 1A

*CHAIRED:* J. CHATHAM AND S. BARMAN

**Public Policy**

- 2:00 NHLBI: current programs and new initiatives. **S. Shurin.** NHLBI/NIH.
- 2:30 Common fund programs: what are they and are you eligible for funding? **E. Wilder.** OD/NIH.
- 3:00 NIGMS strategic plan for training: what does it mean for you? **J. Greenberg.** NIGMS/NIH.
- 3:30 NIH peer review: where are we and where are we going? **R. Nakamura.** CSR/NIH.

**404. PROTEIN MISFOLDING AND CHAPERONOPATHIES**

**Symposium**

TUE. 2:00 PM—SAN DIEGO CONVENTION CENTER, 17A

*CHAIRED:* M.S. WILLIS AND J. LIN

- 2:00 Endoplasmic reticulum stress and cell survival. **J. H. Lin.** UCSD.
- 2:30 The role of ER-associated degradation in channelopathies due to protein misfolding. **T. Mu.** Case Western Reserve Univ. Sch. of Med.
- 3:00 Chaperones as the underlying pathophysiology of disease (chaperonopathies). **A. J.L. Macario.** Univ. of Maryland Sch. of Med.
- 3:30 Endoplasmic reticulum chaperones in development and human diseases. **A. S. Lee.** Univ. of Southern California Norris Cancer Ctr.
- 4:00 Progressive aggregation despite chaperone associations of a mutant SOD1-YFP in transgenic mice that develop ALS. **M. Feany.** Brigham and Women's Hosp.
- 4:30 To eat or not to eat: neuronal metabolism, mitophagy, and Parkinson's disease. **C.T. Chu.** Univ. of Pittsburgh Med. Sch.

**405. NOVEL TREATMENT FOR LIVER INJURY, FIBROSIS AND CANCER**

**Minisymposium**

(Sponsored by: ASIP Liver Pathobiology Scientific Interest Group)

TUE. 2:00 PM—SAN DIEGO CONVENTION CENTER, 16B

*CHAIRED:* C. GHANDHI

*COCHAIRED:* P. STOCK

**Liver Pathobiology**

- 2:00 **405.1** Glypican-3 as a potential therapeutic target for hepatocellular carcinoma immunotherapy. **T. Trinh and C. Liu.** Univ. of Florida.
- 2:15 **405.2** Fibroblast growth factor 5 can inhibit the growth of hepatocellular cell line. **B.I. Yeh, J. Namkung, Y.J. Jung and S. Rhee.** Yonsei Univ. Wonju Col. of Med. and Grad. Sch. of Educ. and Sch. of Biol. Sci., Chung-Ang Univ., South Korea.
- 2:30 **405.3** Development of novel small molecules targeting  $\beta$ -catenin driven hepatocellular carcinoma. **E.R. Delgado, G. Mustata and S.P.S. Monga.** Univ. of Pittsburgh Sch. of Med. and Univ. of Southern Indiana.
- 2:45 **405.4** PEZH2 and H3K27me3 are associated with Mallory-Denk body forming liver cell phenotype and HCC. **B. French, F. Bardag-Gorce, J. Oliva, J. Li, J. Zhong and S.W. French.** LA BIOMED.
- 3:00 **405.5** Modulatory effects of mesenchymal stem cells on hepatic mitochondrial reactive oxygen species production in dietary-induced insulin resistance. **V.Z. Nyamandi, C. Hughey, V. Johnsen, H. Virtanen, D.S. Hittel and J. Shearer.** Univ. of Calgary, Canada.
- 3:15 **405.6** miR150-knockout prevents Fas-induced liver injury via Akt pathway. **W. Chen, C. Han and T. Wu.** Tulane Univ. Sch. of Med.

- 3:30 **405.7** Therapeutic administration of a direct thrombin inhibitor reduces hepatic inflammation in a mouse model of hypercholesterolemia. **K.M. Kassel, B.P. Sullivan, B.L. Cople and J.P. Luyendyk.** Univ. of Kansas Med. Ctr.
- 3:45 **405.8** Aldehyde dehydrogenase-2 ameliorates chronic alcohol ingestion-induced hepatic steatosis and inflammation. **R. Guo and J. Ren.** Univ. of Wyoming.
- 4:00 **405.9** Development of liver fibrosis is critically regulated by phosphodiesterase 4 sub-family. **L. Gobejishvili, K. Breittkopf, J. Zhang, D. Avila, S.S. Dooley, S. Barve and C.J. McClain.** Univ. of Louisville and Univ. of Heidelberg, Germany.
- 4:15 **405.10** Transcriptional regulation of the methionine adenosyltransferase 2A gene during hepatic stellate cell quiescence and activation. **K. Ramani and M.L. Tomasi.** Keck Sch. of Med., Univ. of Southern California.

#### 406. ENDOTHELIAL AND EPITHELIAL CONTRIBUTIONS TO HOMEOSTASIS AND THE INFLAMMATORY RESPONSE

(This session is not CME accredited.)

##### Poster Discussion

(Sponsored by: ASIP Inflammation/Immunopathology and Mucosal Pathobiology Scientific Interest Groups)

TUE. 5:30 PM—SAN DIEGO MARRIOTT MARQUIS & MARINA, DEL MAR

CHAired: F.W. LUSCINSKAS, A. NEISH AND A. NUSRAT

##### Inflammation

##### Epithelial Pathobiology

We are pleased to announce a special interest group encompassing epithelial and endothelial cell biology, mucosal inflammation, and leukocyte biology. Tissue injury in response to environmental and exogenous challenges is associated with an inflammatory response that often occurs at biological interfaces, such as epithelial mucosa in the intestinal, respiratory and urogenital tract, or endothelia in organs and peripheral vasculature. Leukocyte trafficking during the inflammatory response at the interface presents a special problem in that these tissues must maintain (or restore) vital physiological functions inherent to the cell types that line biologic spaces. This special interest group is aimed at bringing together investigators, fellows and students who share a passion for this topic. It will be a great opportunity for common scientific discussions and an incentive for new collaborations.

- P1 *Salmonella typhimurium* induces HXA3 secretion by decreasing cellular levels and activity of the oxidoreductase enzymes GPX 1 and PHGPX. **T. Agbor and B. McCormick.** Univ. of Massachusetts Med. Sch. (276.1)
- P2 *Entamoeba histolytica* induces a robust acute inflammatory response with increased colonic permeability and altered tight junction proteins in *Muc2<sup>-/-</sup>* mice. **V. Kisson-Singh, F. Moreau and K. Chadee.** Univ. of Calgary, Canada. (275.7)
- P3 Phospholipase A2 is involved in *S. pneumoniae*-elicited PMN transepithelial migration. **R. Bhowmick, B.A. McCormick and J.M. Leong.** Tufts Univ. Sch. of Med. and Univ. of Massachusetts Med. Sch. (276.8)
- P4 Sorting nexin 27 mediates PDZ-directed trafficking of zona-occludens-2 to the tight junction. **C.L. Hueschen, S.P. Zimmerman, S.L. Milgram and M.P. Playford.** NHLBI/NIH. (275.4)
- P5 Tandem peptide blocks pemphigus vulgaris skin blistering in vivo and identifies a desmoglein receptor function leading to p38MAPK modulation. **V. Spindler, B. Kempf and J. Waschke.** Ludwig Maximilians Univ. Munich and Julius Maximilians Univ. Würzburg. (275.1)
- P6 Annexin A1 derived peptide Ac2-26 promotes epithelial wound healing through p120-Vav2-Rac1 signaling and ROS generation. **G. Leoni, A. Mohammad, M. Perretti, C. Parkos, A. Neish and A. Nusrat.** Emory Univ. and Barts and The London Sch. of Med. (56.4)
- P7 N-formyl peptide receptor-1 is important for homeostasis of intestinal epithelial cells. **A. Alam, G. Leoni, C. Wentworth, A. Nusrat and A.S. Neish.** Emory Univ. (56.2)
- P8 Commensal microbiota modulate ROS-dependent cytoprotective gene expression in *Drosophila* intestinal epithelia. **J. Mercante, R.M. Jones, C. Gates, L. Luo, K. Moberg and A.S. Neish.** Emory Univ. (394.3)
- P9 Cellular confluence and cohesion regulates CXCL11/IP9 expression during keratinocyte re-epithelialization. **A.C. Huen and A. Wells.** Univ. of Pittsburgh Med. Ctr. and VA Pittsburgh Healthcare Syst. (56.3)
- P10 Mucin protects against trypsin-mediated increases in intestinal epithelial permeability. **M. Chang, T. Alsaigh, E.B. Kistler and G.W. Schmid-Schönbein.** UCSD. (275.8)
- P11 *Giardia duodenalis*: a model of pathogen-mediated disruptions in the human microbiota in leading to the development of chronic gastrointestinal disease. **J. Beatty, S. Akierman, H. Ceri, K. Rioux, P. Beck and A. Buret.** Univ. of Calgary, Canada. (394.4)
- P12 *Lactobacillus rhamnosus* GG inhibits neutrophil extracellular trap formation. **L. Vong, R.J. Lorentz, A.J. Sousa, M. Glogauer and P.M. Sherman.** The Hosp. for Sick Children and Univ. of Toronto. (394.1)
- P13 Differential contribution of desmoglein 2 and 3 to cell adhesion and intracellular signaling in keratinocytes. **E. Hartlieb, V. Spindler and J. Waschke.** Ludwig Maximilians Univ., Munich. (833.2)
- P14 Overexpression of claudin-6, -7 or -9 modifies the activation of MMP-2 and MMP-9. **A.C. Torres Martinez, L.F. Montañó Estrada and E.P. Rendon-Huerta.** Fac. of Med., UNAM, Mexico City. (833.1)
- P15 Engagement of ICAM-1 mediates neutrophil crawling on the luminal surface of the intestinal epithelium and signals to regulate barrier function. **R. Sumagin and C.A. Parkos.** Emory Univ. (55.10)
- P16 Secondary lymphoid organs and CCR7 are dispensable for intestinal Th17 and Foxp3<sup>+</sup> Treg cell differentiation. **D. Geem, O. Medina, W. Kim, C. Huang, R. Newberry and T.L. Denning.** Emory Univ. and Washington Univ. Sch. of Med. (136.4)
- P17 Phosphoinositide 3-kinase activation and actin dynamics within force sensing anchors are required to stabilize VLA-4 integrin-mediated leukocyte adhesion. **J. Rullo, H. Becker, S. Hyduk and M. Cybulsky.** Univ. of Toronto and Univ. Hlth. Network, Toronto. (55.3)



- P18 Th17 lymphocyte adhesion to endothelium is highly dependent on E-selectin and ICAM-1 mediated interactions. **P. Alcaide, E. Maganto-Garcia, G. Newton, R. Travers, K.J. Croce, D-X. Bu, F.W. Lusinskas and A.H. Lichtman.** Tufts Med. Ctr. and Tufts Univ. Sch. of Med. and Brigham and Women's Hosp. (136.1)
- P19 Endothelial cell IQGAP1 is an important regulator of the transendothelial migration of leukocytes. **D.P. Sullivan and W.A. Muller.** Northwestern Univ., Chicago. (55.6)
- P20 HS1 is required for neutrophil polarization, LFA-1 activation and leukocyte recruitment. **M. Schnoor, S.M. Logermann, D. Jing, H. Li, S. Butz and D. Vestweber.** Max Planck Inst. for Molec. Biomed., Muenster. (55.1)
- P21 Lipocalin 2, an innate immune protein, plays a key role in immune-complex mediated inflammation. **J.D. Aitken, G. Srinivasan, R. Sashidhramurthy, C.A. Parkos, P. Selvaraj and M. Vijay-Kumar.** Georgia State Univ., Philadelphia Col. of Osteo. Med. and Emory Univ. (55.11)
- P22  $\alpha(1,3)$ -Fucosylation alters STAT3-dependent IL-17 production in vivo. **L.C. Mackey, J.M. Rose and J.W. Homeister.** Univ. of North Carolina at Chapel Hill. (136.2)
- P23 VEGFR2 activation during the early onset of flow is ligand-dependent and mediated by the release of autocrine VEGF. **N.G. dela Paz and J.A. Frangos.** La Jolla Bioengin. Inst. (656.8)
- P24 Structural determinants of  $\alpha$ -defensin mediated anti-inflammatory activities. **P. Schmitt Rivera, K. Kamdar, J. Schaal, K. Roberts, D. Tran, M.E. Selsted and A.J. Ouellette.** Keck Sch. of Med. of Univ. of Southern California. (835.1)
- P25 Resolvin D1 limits PMN recruitment to inflammatory loci: receptor-dependent bioactions. **L.V. Norling, J. Dalli, R.J. Flower, C.N. Serhan and M. Perretti.** Barts & The London Med. Sch. and Brigham and Women's Hosp., Harvard Med. Sch. (835.17)

## Pharmacology and Experimental Therapeutics

### 407. JOHN J. ABEL LECTURE

TUE. 8:30 AM—SAN DIEGO CONVENTION CENTER, 2

The John J. Abel Award in Pharmacology, supported by Pfizer, Inc., is named after the founder of ASPET and was established to stimulate fundamental research in pharmacology and experimental therapeutics by young investigators. Dr. Jin Zhang was selected for her contributions to cellular enzymology that have helped shape the field of pharmacology.

- 8:30 Introduction. **L. Wecker.** Univ. of South Florida Col. of Med.
- 8:35 Spatiotemporal regulation of protein kinases in living cells. **J. Zhang.** Johns Hopkins Sch. of Med.

### 408. MEMBRANE RAFTS IN ENDOTHELIAL SIGNALING

#### Symposium

(Sponsored by: The Divisions for Cardiovascular Pharmacology and Integrative Systems, Translational & Clinical Pharmacology)

TUE. 9:30 AM—SAN DIEGO CONVENTION CENTER, 2

CHAired: I. LEVITAN AND P-L. LI

- 9:30 The role of lipid rafts in endothelial redox signaling. **P-L. Li.** Med. Col. of Virginia, Virginia Commonwealth Univ.
- 10:00 Paradoxical effects of modified low-density lipoproteins on endothelial membrane rafts. **I. Levitan.** Univ. of Illinois at Chicago.
- 10:30 Role of membrane rafts and caveolae in the sensitivity of endothelial cells to hemodynamic forces. **V. Rizzo.** Temple Univ. Sch. of Med.
- 11:00 Membrane rafts in endothelial function of the cerebral circulation. **T. P. Davis.** Univ. of Arizona.

- 11:30 Enhanced membrane raft-redox signaling associated with NADPH oxidase in coronary arterial endothelium during hypercholesterolemia. **Y-M. Wei, Y. Zhang, K. Boini and P-L. Li.** Virginia Commonwealth Univ. (681.4)
- 11:45 Mechanisms of oxLDL on endothelial biomechanics. **M-J. Oh, T-P. Shentu and I. Levitan.** Univ. of Illinois at Chicago, Univ. of California, Riverside. (840.6)

### 409. TOLL-LIKE RECEPTORS IN NEUROPLASTICITY AND DISEASE

#### Symposium

(Sponsored by: The Divisions for Molecular Pharmacology; Neuropharmacology; and Integrative Systems, Translational & Clinical Pharmacology)

TUE. 9:30 AM—SAN DIEGO CONVENTION CENTER, 3

CHAired: M. MATTSON

- 9:30 Developmental reprogramming of TLR signaling. **Q. J. Pittman.** Univ. of Calgary, Canada.
- 10:00 Roles for TLRs in the regulation of behavior. **E. Okun.** Bar Ilan Univ, Israel and NIA/NIH.
- 10:30 Roles for TLRs in ischemic stroke and Alzheimer's disease. **M. Mattson.** NIA/NIH, Baltimore.
- 11:00 Mobilizing innate immune attack on brain amyloidosis. **T. Wisniewski.** NYU Sch. of Med.
- 11:30 Discussion.

#### 410. THE NOCICEPTIN/ORPHANIN FQ-NOP RECEPTOR SYSTEM: NEUROBIOLOGY, PHARMACOLOGY AND THERAPEUTIC OPPORTUNITIES

##### Symposium

(Sponsored by: The Divisions for Neuropharmacology and Behavioral Pharmacology)

TUE. 9:30 AM—SAN DIEGO CONVENTION CENTER, 4

CHAired: G. CALO

- 9:30 Milestones in nociceptin/orphanin FQ research. **R. K. Reinscheid**. Univ. of California, Irvine.
- 9:55 The nociceptin/orphanin FQ-NOP receptor system as a target for treating addiction. **N. P. Murphy**. UCLA.
- 10:20 Nociceptin/orphanin FQ receptors as candidate for innovative antidepressant drugs. **E. C. Gavioli**. Fed. Univ. of Rio Grande do Norte, Brazil.
- 10:45 Therapeutic potential of NOP agonists as analgesics without abuse liability. **M. C. Ko**. Univ. of Michigan Med. Sch.
- 11:10 NOP receptor ligands in parkinsonism and levodopa-induced dyskinesia. **M. Morari**. Univ. of Ferrara, Italy.
- 11:35 Crystal structure of the nociceptin/orphanin FQ receptor. **A. Thompson**. The Scripps Res. Inst.

#### 411. FROM STRUCTURE TO KNOCKOUT: COMMON THEMES BETWEEN CYPS AND ABC TRANSPORTERS

##### Symposium

(Sponsored by: The Divisions for Toxicology; Drug Metabolism; and Drug Discovery, Development & Regulatory Affairs)

TUE. 9:30 AM—SAN DIEGO CONVENTION CENTER, 5A

CHAired: M. VORE

- 9:30 Structure of multidrug resistance transporters. **G. Chang**. UCSD.
- 10:05 Structural characteristics of drug metabolizing P450s: implications for drug development. **E. F. Johnson**. The Scripps Res. Inst.
- 10:40 Role of ABC transporters in ADME: translation from knockout mice to clinics. **Y. Sugiyama**. RIKEN Yokohama Inst.
- 11:15 Humanized mouse lines and their application for prediction of human drug metabolism and toxicological risk assessment. **F. J. Gonzalez**. NCI/NIH.
- 11:50 Discussion.

#### 412. MODELS OF AFFECTIVE DISORDERS AND PHARMACOLOGICAL INTERVENTIONS: THE INFLUENCE OF ETIOLOGY IN TREATMENT APPROACH

##### Symposium

(Sponsored by: The Divisions for Behavioral Pharmacology; Drug Discovery, Development & Regulatory Affairs; and Neuropharmacology)

TUE. 9:30 AM—SAN DIEGO CONVENTION CENTER, 5B

CHAired: M. NADER AND L. HOWELL

- 9:30 Individual differences in response to treatments. **C. P. O'Brien**. Univ. of Pennsylvania Sch. of Med.
- 10:00 Cross-species tests of potential predictors of responders to antipsychotic treatments. **M. Geyer**. UCSD.
- 10:30 Convergence of impulsivity and addictive phenotypes: preclinical evidence for the role of serotonin 5-HT<sub>2A</sub> and 5-HT<sub>2C</sub> receptor homeostasis. **K. Cunningham**. Univ. of Texas Med. Branch.
- 11:00 The relationship between gender and psychotic symptoms in drug abusers. **R. De La Garza II**. Baylor Col. of Med.
- 11:30 Drug x host x environment interactions in nonhuman primate models of cocaine abuse. **M. A Nader**. Wake Forest Univ. Sch. of Med.

#### 413. WOMEN IN PHARMACOLOGY CAREER ROUNDTABLE

##### Special Session

TUE. 1:00 PM—SAN DIEGO CONVENTION CENTER, 12

#### 414. CARDIOVASCULAR PHARMACOLOGY DIVISION TRAINEE SHOWCASE

##### Oral

TUE. 2:30 PM—SAN DIEGO CONVENTION CENTER, 2

- 2:30 Wnt signaling mediates de-differentiation of endothelial cells during neovascularization. **E. Kohler, J. Baruah, D.T. Azar, R. Chang, A.B. Malik and K.K. Wary**. Univ. of Illinois at Chicago. (1121.1)
- 2:45 A novel antithrombotic agent targeting the human thromboxane A<sub>2</sub> receptor. **J.P. Murad, E.V.P. Espinosa, H.J. Ting, D. McClure and F.T. Khasawneh**. Western Univ. of Hlth. Sci. (1116.1)
- 3:00 Bivalirudin emulsions demonstrate efficacy of a nanoparticle strategy for inhibition and imaging of thrombosis. **J.W. Myerson, L. He, J.S. Allen, T.A. Williams, D.M. Tollefsen, G.M. Lanza, S.D. Caruthers and S.A. Wickline**. Washington Univ. in Saint Louis. (1116.4)
- 3:15 Sphingosine kinase-1 regulates VEGF-A induced angiogenesis by mediating the interaction between VEGFR2 and S1P1. **A.M. Chavez, K.R. Chava and D. Mehta**. Univ. of Illinois at Chicago. (841.2)

- 3:30 RhoA, phospholipase C $\epsilon$  and PKD signaling mediate S1P induced cardioprotection against ischemia/reperfusion. **S.Y. Xiang, K. Ouyang, J. Chen, A.V. Smrcka and J. Heller Brown.** UCSD and Univ. of Rocheser. (1114.5)
- 3:45 TRPV4 sparklets?elementary Ca<sup>2+</sup> signals underlying endothelial-dependent vascular function. **S. Sonkusare, A.D. Bonev, M.I. Kotlikoff and M.T. Nelson.** Univ. of Vermont and Cornell Univ. (670.6)

#### 415. NEUROPHARMACOLOGY DIVISION POSTDOCTORAL SCIENTIST AWARD FINALISTS

##### Oral

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 3

- 3:00 Chronic fluoxetine treatment is associated with persistent desensitization of the 5HT<sub>2A</sub> receptor and decreased cocaine-primed reinstatement in rhesus monkeys. **E.K. Sawyer and L.L. Howell.** Emory Univ. Yerkes Natl. Primate Res. Ctr. (844.7)
- 3:20 Dopamine and isoproterenol depolarize corticotrophin releasing factor neurons in the bed nucleus of the stria terminalis: a potential neurocircuit involved in relapse. **Y. Silberman, R.T. Matthews and D.G. Winder.** Vanderbilt Univ. Sch. of Med. (1039.3)
- 3:40 Identification of a novel dopaminergic agonist that selectively activates the D<sub>2</sub> dopamine receptor. **J.L. Conroy, R.B. Free, T.B. Doyle, N. Southall, M. Ferrer, Y. Han, J.A. Javitch and D.R. Sibley.** NINDS/NIH, NHGRI/NIH and Columbia Univ. Col. of P&S. (836.5)
- 4:00 Methamphetamine-induced locomotor sensitization in C57BL/6 mice requires the MT<sub>1</sub> melatonin receptor. **A.J. Hutchinson, J. Ma, R.L. Hudson and M.L. Dubocovich.** Univ. at Buffalo SUNY. (1040.6)
- 4:20 The NAMPT inhibitor FK866 reverses the damage in spinal cord injury. **E. Esposito, D. Impellizzeri, E. Mazzon, G. Fakhfouric, R. Rahimian, C. Travelli, G.C. Tron, A.A. Genazzani and S. Cuzzocrea.** Univ. of Messina and IRCCS Neurol. Ctr., Messina, Italy, Shahid Beheshti Univ. of Med. Sci. and Tehran Univ. of Med. Sci., Iran and Univ. of Piemonte Orientale, Italy. (845.2)
- 4:40 Cognitive and motor effects of endurance related compound AICAR: from muscle to brain. **T. Kobil and H. van Praag.** NIA/NIH, Baltimore. (847.2)
- 5:00 Regulation of glycogen phosphorylase by the malin-laforin complex. **V.V. Dukhande, T.M. Bridges and M.S. Gentry.** Univ. of Kentucky Col. of Med. (852.14)
- 5:20 Discussion.

#### 416. REGULATION OF TRP CHANNELS

##### Symposium

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 4

CHAired: M. ZHU

- 3:00 Physiological functions of TRP channels as revealed from TRP knockout mice. **V. Flockerzi.** Univ. of Saarland, Germany.
- 3:30 Functional regulation and physiological roles of TRPM channels. **A. Fleig.** Queen's Med. Ctr., Honolulu and Univ. of Hawaii at Manoa.
- 4:00 Phosphoinositide regulation of TRP channels. **T. Rohacs.** UMDNJ- New Jersey Med. Sch.
- 4:30 Function and regulation of intracellularly localized TRPML channels. **H. Xu.** Univ. of Michigan.
- 5:00 Differential effects of PI3K isoforms on TRPC channels in vascular smooth muscle: novel actions of PI(3)P-containing molecules. **A.P. Albert, J. Shi, M. Ju and W. Large.** St. George's Univ. of London. (1048.16)
- 5:15 Discussion.

#### 417. TOXICOLOGY DIVISION SYMPOSIUM: THE UTILIZATION OF GENETICALLY MODIFIED MICE TO DETERMINE MECHANISMS OF TOXICITY

##### Symposium

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 5A

CHAired: J. HINSON

- 3:00 Introduction. **J. A Hinson.** Univ. of Arkansas for Med. Sci.
- 3:10 Role of P450 and nuclear receptor transgenic mice in determining mechanisms of chemical hepatotoxicity. **F. J. Gonzalez.** NCI/NIH.
- 3:45 Transgenic mouse models for modulating glutathione synthesis. **T. J. Kavanagh.** Univ. of Washington.
- 4:20 Signal transduction pathways in the mechanisms of hepatotoxicity. **N. Kaplowitz.** Univ. of Southern California, Keck Sch. of Med.
- 4:55 Drug-induced enteropathy—mechanistic insights from gene knockout models. **U. A Boelsterli.** Univ. of Connecticut Sch. of Pharm.

#### 418. TARGETING PI3K FOR HUMAN DISEASES

##### Symposium

(Sponsored by: The Divisions for Drug Discovery, Development & Regulatory Affairs; Toxicology; and Molecular Pharmacology)

TUE. 3:00 PM—SAN DIEGO CONVENTION CENTER, 5B

CHAired: T. RAO

- 3:00 Chair's introduction.
- 3:05 PI3K structure, function, regulation in disease and drug targeting. **D. Fruman.** Univ. of California, Irvine.
- 3:35 PI3K-gamma: an essential regulator of tumor inflammation and tumor growth. **J. A. Varner.** UCSD.
- 4:05 Targeting the PI3K pathway for immune-mediated diseases. **C. Rommel.** Intellikine Inc.

**LAST DAY TO  
VISIT EXHIBITS**

**Tuesday, April 24  
9:00 AM – 4:00 PM**

- 4:35 PI3K  $\delta$  and steroid resistance in airway inflammation—mechanisms and opportunities. **K. Ito**. Imperial Col. London.
- 5:05 Kinase activity of phosphoinositide 3-kinase gamma is needed for T cell development, activation and chemotaxis. **N. Ladygina and W-P. Fung-Leung**. Janssen R&D, San Diego. (667.5)
- 5:20 Discussion.

#### 419. PAUL M. VANHOUTTE DISTINGUISHED LECTURE IN VASCULAR PHARMACOLOGY

TUE. 4:30 PM—SAN DIEGO CONVENTION CENTER, 2

The Paul M. Vanhoutte Lecture in Vascular Pharmacology was established to honor Dr. Vanhoutte's lifelong scientific contributions to our better understanding and appreciation of the importance of endothelial cells and vascular smooth muscle function in health and disease and for his mentoring of countless prominent endothelial and vascular biologists and pharmacologists. Dr. Richard Cohen receives this honor in recognition of his substantial lifelong scientific achievements and commitment in this research area that have led to the development of novel pharmacological agents to treat vascular dysfunction in the clinic.

- 4:30 Introduction. **N. Rusch**. Univ. of Arkansas for Med. Sci. Col. of Med.
- 4:35 Nitric oxide in metabolic cardiovascular disease. **R. A. Cohen**. Boston Univ. Sch. of Med.

## Physiology

#### 420. AUGUST KROGH DISTINGUISHED LECTURESHIP OF THE APS COMPARATIVE AND EVOLUTIONARY PHYSIOLOGY SECTION

(Supported by an educational grant from Novo Nordisk Foundation)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 24

*Title:* Tales from the Heart: A Comparative and Evolutionary Perspective of the Vertebrate Circulatory System

*Speaker:* **J. Hicks**. Univ. of California, Irvine.

#### 421. CELL-CELL AND CELL-MATRIX ADHESIONS IN CONTROL OF LUNG FLUID BALANCE AND INNATE IMMUNITY: TALKING IS CRITICAL!

##### Featured Topic

(Sponsored by: APS Respiration Section)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 28A

CHAired: **K. BIRUKOV AND D. MEHTA**

- 8:00 Vascular permeability control and signaling functions of VE-cadherin at the front, center and sides of endothelial cells. **E. Harris**. Stanford Univ.
- 8:25 Rap1 and afadin promote interactions between adherens junctions and tight junctions and regulate endothelial permeability. **A.A. Birukova, N. Zebda, T. Wu, O. Dubrovskiy, N. Sarich and K.G. Birukov**. Univ. of Chicago. (1063.1)
- 8:40 Increased claudin-5 increases lung epithelial permeability and is associated with disruption of tight junction assembly. **C. Overgaard, L.A. Mitchell, C. Ward, D.M. Guidot and M. Koval**. Emory Univ. Sch. of Med. (1063.12)

- 8:55 Cadherin ectodomains and cadherin-actin linkages regulate the endothelial barrier. **S.K. Quadri, L. Sun and J. Bhattacharya**. Columbia Univ. (1063.3)
- 9:10 Src family kinases collaborate with distinct TNF-alpha-induced signaling pathways to regulate actin dynamics at cell-cell junctions and barrier function in endothelial cells. **A.P. Adam, A. Lowery and P. Vincent**. Albany Med. Ctr. (1063.2)
- 9:25 Endothelial focal adhesion kinase maintains lung fluid balance and prevents cytokine storm. **T. Thennes, M. Tauseef, M. Bonini, J. Gothert, T-L. Shen, J-L. Guan, R. Sadikot and D. Mehta**. Univ. of Illinois at Chicago, Univ. Hosp. of Essen, Natl. Taiwan Univ. and Univ. of Michigan. (1063.8)
- 9:40 Innate immune function of adherens junctions in septic model of ALI. **G. Hu**. Univ. of Illinois at Chicago.

#### 422. CELLULAR SIGNALING, SECOND MESSENGERS, CELL-CELL INTERACTIONS

##### Featured Topic

(Sponsored by: APS Cell and Molecular Physiology Section)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 25C

CHAired: **N. BRADBURY AND MY. HELMS**

- 8:00 DNA-dependent protein kinase is critical for VCAM-1 expression upon TNF treatment through phosphorylation of p50 NF- $\kappa$ B: a critical involvement in vascular and lung inflammation. **J. Ju, A. Naura, Y. Errami, H. Kim, J. Kim, A.A. Beg, C. Giardina and H. Boulares**. LSU Hlth. Sci. Ctr.-New Orleans, Chonbuk Natl. Univ., South Korea, Moffitt Cancer Cancer, Tampa and Univ. of Connecticut. (1064.9)

- 8:15 RAGE signaling influences tobacco smoke-induced inflammation by pulmonary macrophages. **A.B. Robinson, K.D. Johnson, B.G. Bennion and P.R. Reynolds.** Brigham Young Univ. (1064.10)
- 8:30 ERK1/2-dependent bestrophin-3 expression prevents ER-stress-induced cell death of renal epithelial cells by reducing CHOP. **W-K. Lee, P.K. Chakraborty, E. Roussa, N.A. Wolff and F.Thévenod.** Univ. of Witten/Herdecke and Univ. of Freiburg, Germany. (1064.12)
- 8:45 Fibronectin stabilization and fibronectin-integrin signaling via MAPK are required in L-glutamine-mediated protection against gut injury. **S. Niederlechner, J. Klawitter, C. Baird, A. Kallweit, U. Christians and P. Wischmeyer.** Univ. of Colorado Denver, Aurora. (1064.13)
- 9:00 The  $\beta$ AR-PI3K signaling pathway crosstalk: differential effects on phosphorylation of p70s6K and FoxO in newborn and adult hearts. **Y-T. Tseng, W. Zhang, N. Yano, Q. Mao, M. Deng and J.F. Padbury.** Women & Infant's Hosp., Alpert Med. Sch., Brown Univ. and The 2nd Xiangya Hosp., Central South Univ., China. (1064.7)
- 9:15 Hyposmotic stress-induced cytoplasmic calcium increase involves TRPV4 and Src family kinase activation. **A. Mandal, M. Shahidullah and N.A. Delamere.** Univ. of Arizona. (1064.3)
- 9:30 Development of complex model systems for analysis of cell-cell and cell-microenvironment interactions in breast cancer. **A.P. Andersen, L. Ronnov-Jessen, A. Hulikova, P. Swietach and S.F. Pedersen.** Univ. of Copenhagen and Univ. of Oxford. (1064.1)
- 9:45 Specific targeting of pancreatic  $\beta$ -cells for imaging and therapy using multivalent targeting of receptor combinations. **N. Hart, J. Vagner, W.J. Chung, C. Weber, S. Limesand, C. Silva and R. Lynch.** Univ. of Arizona. (1064.2)

#### 423. EFFECT OF EXERCISE AND NUTRITIONAL PERTURBATIONS ON CUMULATIVE MUSCLE PROTEIN SYNTHESIS

##### Featured Topic

(Sponsored by: APS Endocrinology and Metabolism Section)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 25A

CHAired: S. RIECHMAN

##### Metabolic Diseases

- 8:00 Resistance exercise increases cumulative muscle protein synthesis. **J. D. Fluckey.** Texas A&M Univ.
- 8:30 A reassessment of mitochondrial biogenesis during caloric restriction using D<sub>2</sub>O. **B. F. Miller.** Colorado State Univ.
- 9:00 Muscle RING finger-1 inhibits IGF1-dependent Akt activation and exercise-induced cardiac hypertrophy. **K.M. Wadosky, J.E. Rodriguez and M.S. Willis.** Univ. of North Carolina at Chapel Hill. (1076.1)
- 9:15 Exercise mitigates beta-2 adrenergic receptor dysfunction by decreasing homocysteine in diabetes. **P.K. Mishra, I.G. Joshua and S.C. Tyagi.** Univ. of Louisville. (1076.2)

- 9:30 Inhibition of glycolysis and mTORC1 activation in human skeletal muscle with blood flow restriction exercise. **D.M. Gundermann, J.M. Dickinson, C.S. Fry, D.K. Walker, E. Volpi and B.B. Rasmussen.** Univ. of Texas Med. Branch. (1076.3)
- 9:45 Impact of chronic voluntary resistance training during recovery following hindlimb unloading on rat hindlimb muscles. **K.L. Shimkus, Y. Shirazi-Fard, H.A. Hogan and J.D. Fluckey.** Texas A&M Univ. (1076.4)

#### 424. FROM MICROSCOPES TO MICRONEUROGRAPHY: INNOVATIVE TECHNIQUES FOR THE STUDY OF CENTRAL NEURAL CONTROL

##### Symposium

(Sponsored by: Neural Control and Autonomic Regulation Section)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 26

CHAired: C. N. YOUNG AND C. G. CLARK

- 8:00 Biology at the tip of an atomic force microscope. **G. A. Meininger.** Univ. of Missouri-Columbia.
- 8:30 Delivering antioxidant proteins to central neurons using nanotechnology: implications for neuro-cardiovascular disease therapy. **M. C. Zimmerman.** Univ. of Nebraska Med. Ctr.
- 9:00 In vivo imaging of animal models of neurological disorders using two-photon excited fluorescence microscopy. **C. B. Schaffer.** Cornell Univ.
- 9:30 Real-time imaging of central cardiovascular control: concurrent microneurography and fMRI of the human brain. **V. G. Macefield.** Univ. of Western Sydney.

#### 425. MECHANISMS OF BLOOD PRESSURE REGULATION

##### Featured Topic

(Sponsored by: APS Renal Section)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 28B

CHAired: D. WEINER AND P. R. GRIMM

- 8:00 Activation of the novel estrogen receptor GPR30 reduces blood pressure and renal injury in the streptozotocin-induced diabetic rat infused with angiotensin II. **C. Maric-Bilkan and E. Flynn.** Univ. of Mississippi Med. Ctr. and Women's Hlth. Res. Ctr., Jackson. (1096.1)
- 8:15 Role of the sex chromosomal complement (XX or XY) to impact blood pressure and natriuresis in the model of aldosterone escape. **L. Li, S. Tsukerman, H. Ji, K. Sandberg and C. Ecelbarger.** Georgetown Univ. (1096.6)
- 8:30 ENaC is active in the ASDN in the absence of mineralocorticoid. **E. Mironova, V. Bugaj and J. Stockand.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio. (867.11)

- 8:45 SPAK, *osr1* and Cab39/MO25 form an interdependent signaling system which regulates thiazide-sensitive salt-transport, distal tubule mass and blood pressure. **P.R. Grimm, T. Taneja, J. Liu, R.A. Coleman, Y-Y. Chen, E. Delpire, J.B. Wade and P.A. Welling.** Univ. of Maryland Sch. of Med. and Vanderbilt Univ. Sch. of Med. (867.37)
- 9:00 Na-K ATPase regulation by cardioglycosides: role of AT1R. **S.J. Khundmiri, M.L. Merchant and E.D. Lederer.** Univ. of Louisville and Robley Rex VA Med. Ctr. (867.30)
- 9:15 Salt-deficient diet does not attenuate the development of slowly progressive ANG II-dependent hypertension in *Cyp1a1-Ren2* transgenic rats. **A.E. Collins, C.G. Howard and K.D. Mitchell.** Tulane Univ. (688.1)
- 9:30 PDGF receptor antagonism with imatinib mesylate improves renal hemodynamics independent of changes in blood pressure in *Cyp1a1-Ren2* transgenic rats with ANG II-dependent malignant hypertension. **M-Y. Kwak, C.G. Howard and K.D. Mitchell.** Tulane Univ. (690.5)
- 9:45 Renal vascular relaxation response to glucagon-like peptide-1 is impaired in spontaneously hypertensive rats. **R.O. Crajoinas, F.A. Savignano, J.S. Nakamuta and A.C. Girardi.** Univ. of São Paulo. (688.2)

#### 426. PHYSIOLOGY OF CALCIUM-ACTIVATED POTASSIUM CHANNELS

##### Symposium

(Sponsored by: The Physiological Society (UK))

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 23

CHAired: M. SHIPSTON AND P. RUTH

- 8:00 KCa channel function and regulation in T-cells. **E. Skolnik.** NYU Langone Med. Ctr.
- 8:30 Small molecule regulators of KCa channels. **H. Wulff.** Univ. of California, Davis.
- 9:00 KCa and the control of smooth muscle function. **P. Ruth.** Univ. of Tübingen.
- 9:30 Posttranslational regulation and the control of KCa channel physiology. **M. J. Shipston.** Univ. of Edinburgh Med. Sch.

#### 427. REGULATION OF WATER AND ION CHANNELS AND MODULATORY PROTEINS, LIPIDS, AND HORMONES

##### Featured Topic

(Sponsored by: APS Epithelial Transport Group)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 22

CHAired: R. T. WORRELL AND N. PASTOR-SOLER

##### Translational Physiology

##### Transporters and Ion Channels

- 8:00 Identification of ENaC intersubunit interfacing residues provides insight into conformational changes associated with channel gating. **D.M. Collier and P.M. Snyder.** Univ. of Iowa Carver Col. of Med. (1068.7)

- 8:15 Inhibition of  $\alpha$ ENaC expression and ENaC activity following blockade of the circadian clock-regulatory kinases CK1 $\delta/\epsilon$ . **J. Richards, M. Mitzelfelt, L. Jeffers, K-Y. Cheng, D.C. Eaton and M.L. Gumz.** Univ. of Florida and Emory Univ. (1068.6)
- 8:30 Prostaglandin receptor EP4 induces transient membrane targeting of aquaporin-2 through a novel intracellular signaling pathway. **E.T.B. Olesen and R.A. Fenton.** Aarhus Univ., Denmark. (885.15)
- 8:45 **Hans Ussing Award Lecture.** Ion homeostasis in endosomes and lysosomes: role in kidney, bone and brain disease. **T. J. Jentsch.** Leibniz Inst. for Molec. Pharmacol., Berlin.
- 9:30 Estradiol increases the density and open probability of epithelial sodium channels in alveolar cells. **M.M. Greenlee, B.J. Duke and D.C. Eaton.** Emory Univ. (1068.10)
- 9:45 Role of binding and nucleoside diphosphate kinase A in the regulation of CFTR by AMP-activated protein kinase. **J.D. King, Jr., J. Lee, C.E. Rieman, A. Mehta, R. Muimo and K.R. Hallows.** Univ. of Pittsburgh Sch. of Med., Sheffield Children's Hosp., U.K. and Univ. of Dundee. (885.2)

#### 428. THERMAL PHYSIOLOGY: FROM ACUTE RESPONSES TO PROTECTIVE ADAPTATION

##### Featured Topic

(Sponsored by: APS Environmental and Exercise Physiology Section)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 25B

CHAired: C. MINSON

- 8:00 Introduction: new insights into thermal adaptation. **C. T. Minson.** Univ. of Oregon.
- 8:05 Protective effects of heat: glucose regulation and insulin action in skeletal muscle. **P. C. Geiger.** Univ. of Kansas.
- 8:30 KCa channels and EETs: major contributors to cutaneous thermal hyperemia. **V.E. Brunt and C.T. Minson.** Univ. of Oregon. (1079.10)
- 8:45 eNOS and nNOS contribution to reflex cutaneous vasodilation during dynamic exercise in humans. **T.C. McNamara, J. Keen, G.H. Simmons, L.A. Holowatz and B.J. Wong.** Kansas State Univ., Nike Sports Res. Lab., Beaverton, OR and Penn State. (1079.11)
- 9:00 Cardiovascular, autonomic, and thermoregulatory effects of repeated exertional heat stress in rats. **H.M. Stauss, N. Choudhary, A. Nash, F.O. Liaboe and K.C. Kregel.** Univ. of Iowa. (1079.3)
- 9:15 Heat exposure causes a complex stress response in heat-intolerant mice. **A. Islam, P. Abraham, C. Hapner, B. Andrews-Shigaki, P. Deuster and Y. Chen.** Uniformed Svcs. Univ. of Hlth. Sci. (1079.2)
- 9:30 Heat acclimation mediated cytoprotective memory: does epigenetic mechanisms play a role? A lesson from the heart. **M. Horowitz.** The Hebrew Univ.

#### 429. TRANSIENT RECEPTOR POTENTIAL CHANNELS AND ENDOTHELIAL CALCIUM REGULATION IN NATIVE CELLS AND WHOLE VESSELS

##### Featured Topic

(Sponsored by: APS Cardiovascular Section)

TUE. 8:00 AM—SAN DIEGO CONVENTION CENTER, 27

CHAired: S. MARRIELLI AND S. EARLEY

##### Transporters and Ion Channels

- 8:00 Introductory remarks. **S. Earley**. Colorado State Univ.
- 8:15 Spatial and temporal TRPV channel activation in intact mesenteric artery. **M. T. Nelson**. Univ. of Vermont Col. of Med.
- 8:45 Opening of TRPV4 channels induce relaxation mediated by KCa3.1 channels and nitric oxide synthase in mouse pulmonary arteries. **T. Dalsgaard, V.B. Bajorunas, R. Köhler and U. Simonsen**. Aarhus Univ., Denmark and Aragon Inst. of Hlth. Sci. I+CS, Zaragoza, Spain. (1056.5)
- 9:00 CaR-mediated vasodilatation: role of endothelium TRPC channels. **A.P. Albert, J. Shi, J. McLough, H. Greenberg, C. Preet, I. Greenwood and V. Ho**. St. George's Univ. of London. (1056.1)
- 9:15 Unitary TRPA1-mediated Ca<sup>2+</sup> influx events in primary cerebral artery endothelial cells. **M.N. Sullivan, M. Francis, M.S. Taylor and S. Earley**. Colorado State Univ. and Univ. of South Alabama Col. of Med. (1056.7)
- 9:30 Lung endothelial Ca<sup>2+</sup> and permeability response to PAF is mediated by TRPC6. **R. Samapati, Y. Yang, J. Yin, C. Stoerger, C. Arenz, A. Dietrich, D. Adam, S. Wu, M. Freichel, V. Flockerzi, S. Uhlig and W. Kuebler**. Charite-Univ. Med. Berlin, RWTH Aachen Univ., German Heart Inst., Berlin, St. Michael's Hosp., Toronto, Univ. of Saarland, Humboldt Univ. of Berlin, Ludwig Maximilians Univ. Munich, Christian Albrechts Univ. Kiel, Germany and Univ. of South Alabama. (1056.6)
- 9:45 TRPV4 channels regulate tumor angiogenesis through the modulation of Rho-dependent tumor endothelial cell mechanosensitivity. **C.K. Thodeti, R.K. Adapala, K. Ghosh, R. Thoppil, A.C. Dudley, M. Klagsbrun, W. Chilian and D. Ingber**. Northeast Ohio Med. Univ., Harvard Med. Sch., Children's Hosp. Boston and 3Wyss Inst. for Biol. Inspired Engin., Boston. (1056.10)

#### 430. INTESTINAL SOLUTE TRANSPORT IN INFLAMMATION

##### Featured Topic

(Sponsored by: APS Gastrointestinal and Liver Physiology Section)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 25A

CHAired: L. ECKMANN

##### Inflammation and Immune Responses

##### Transporters and Ion Channels

- 10:30 Modulation of SLC26A3/A6 expression in intestinal inflammation. **P. K. Dudeja**. Univ. of Illinois at Chicago.

- 11:00 The effect of *Helicobacter typhlonius* infection on colonic ion transport in the IL10 knockout mice. **A. Lindstrom, S. Fan, M. Schultz and G. Butt**. Univ. of Otago, New Zealand. (1109.1)
- 11:15 Leptin receptor deficiency causes intestinal hyperplasia and altered membrane abundance of glucose transporters. **J.A. Dominguez and T. Rieg**. Univ. of Colorado Anschutz Med. Campus, UCSD and VA San Diego Healthcare Syst. (1109.2)
- 11:30 Macromolecular complex of CFTR, NHERF2 and iNOS at the plasma membrane contributes to diarrhea in IBD. **K. Arora, S. Yarlagadda, A. Ren, W. Zhang, C. Sinha and A.P. Naren**. Univ. of Tennessee Hlth. Sci. Ctr., Memphis. (1109.3)
- 11:45 Duoxa? a novel antimicrobial duodenal defense mechanism. **M. Higashiya, Y. Akiba, S. Rudenky, P.H. Guth, E. Engel and J.D. Kaunitz**. UCLA and West Los Angeles VA Med. Ctr. (1109.4)
- 12:00 Potassium channel function in inflammation. **C. Lytle**. Univ. of California, Riverside.

#### 431. JULIUS H. COMROE, JR. DISTINGUISHED LECTURESHIP OF THE APS RESPIRATION SECTION

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 24

##### Hypoxia and Oxidative Stress

Title: Sensing Hypoxia: Physiology, Genetics and Epigenetics

Speaker: **N. R. Prabhakar**. Univ. of Chicago.

#### 432. NEUROVASCULAR RESPONSES TO AGING AND DISEASE: ADAPTATIONS AND INTERVENTIONS

##### Featured Topic

(Sponsored by: APS Neural Control and Autonomic Regulation Section)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 27

CHAired: W. SCHRAGE

- 10:30 Sympathetic neural control of muscle blood flow in hypertension. **G. D. Thomas**. Cedars-Sinai Med. Ctr.
- 11:00 Fish oil and sympathetic nerve activity in normotensive and prehypertensive humans. **C.E. Schwartz, M.J. Joyner, H. Yang and J.R. Carter**. Michigan Technol. Univ., New York Med. Col. and Mayo Clin. (1092.2)
- 11:15 Acute phosphodiesterase inhibition improves functional muscle ischemia in patients with Becker muscular dystrophy. **E.A. Martin, A.E. Walker, B.L. Scott, T.C. Malott, N. Singh, S.V. Gurudevan, J. Johannes, R.M. Elashoff, G.D. Thomas and R.G. Victor**. Cedars-Sinai Med. Ctr. and UCLA. (1092.7)
- 11:30 Aging and the effect of autonomic blockade on central and peripheral pulse wave velocity. **R. Harvey, D.P. Casey, E.C. Hart, N. Charkoudian, T.B. Curry, M.J. Joyner and J.N. Barnes**. Mayo Clin. Col. of Med. and U.S. Army Res. Inst. of Envrn. Med., Natick, MA. (1092.1)

- 11:45 Augmented alpha-adrenergic vasoconstriction during exercise in human metabolic syndrome. **J.K. Limberg, E.J. McKenna, J.J. Sebranek, B.J. Walker, S.A. Hagen, B.J. Morgan and W.G. Schrage.** Sch. of Med. and Publ. Hlth., Univ. of Wisconsin-Madison. (1092.4)
- 12:00 Influence of aging on local and neural modulators of peripheral vascular tone in humans. **F. A. Dinunno.** Colorado State Univ.

### 433. NOVEL ROLES OF THE RENIN-ANGIOTENSIN SYSTEM IN AGING AND OTHER PATHOLOGIES

#### Symposium

(Sponsored by: APS Endocrinology and Metabolism Section)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 23

CHAired: M. C. CHAPPELL

#### Blood Pressure Regulation

- 10:30 The role of renin-angiotensin system in aging. **C. Carter.** Univ. of Florida.
- 11:00 Therapeutic benefit of angiotensin-(1-7) in cancer. **P. E. Gallagher.** Wake Forest Sch. of Med.
- 11:30 The renin angiotensin system and pancreatic beta cell function. **E. Lazartigues.** LSU Hlth. Sci. Ctr., New Orleans.
- 12:00 ACE2 and Ang-(1-7) in progressive liver injury. **M. C. Chappell.** Wake Forest Univ.

### 434. REGULATION OF TRANSPORTERS AND MODULATORY PROTEINS, LIPIDS, AND HORMONES

#### Featured Topic

(Sponsored by: APS Epithelial Transport Group)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 22

CHAired: P. WELLING AND M. LEVI

#### Translational Physiology

#### Transporters and Ion Channels

- 10:30 **Steve Hebert Award Lecture:** The ABC's of gout and cystic fibrosis. **W. Guggino.** Johns Hopkins Univ. Sch. of Med.
- 11:15 Alternatively spliced PY cassette exons in WNK1 enhance sensitivity to aldosterone via the E3 ubiquitin ligase Nedd4-2. **A. Roy, S. Khadem, B.F. Donnelly, F. Gong, N.M. Pastor-Soler, Y.P.C. Chang and A.R. Subramanya.** Univ. of Pittsburgh Sch. of Med., Univ. of Maryland Sch. of Med. and VA Pittsburgh Healthcare Syst. (1152.6)
- 11:30 Insulin activates intestinal NHE3 via IRBIT. **P. He, M. Yanda, M. Anitha, S. Srinivasan and C. Yun.** Emory Univ. (1152.21)

- 11:45 Molecular interaction of organic cation transporters with the tetraspanin CD63 modulates transporter trafficking and their trafficking-associated regulation. **B. Hirsch, S. Brast, A. Grabner, S. Holle, D. Guckel, E. Schlatter and G. Ciarimboli.** Univ. Clin. Münster, Germany. (1152.16)
- 12:00 Tracking of single microvilli to study regulation of the intestinal phosphate transporters. **L. Lanzano, Y. Caldas, H. Giral, M. Digman, M. Levi and E. Gratton.** Univ. of California, Irvine and Univ. of Colorado Denver, Aurora. (1068.15)
- 12:15 Real-time visualization of calcium oxalate crystals in *Drosophila*? a gut and renal model of kidney stones. **D.P. Bondeson, T. Hirata, P. Cabrero, E.L. Ritman, J.A.T. Dow and M.F. Romero.** Mayo Clin. and Univ Glasgow. (1152.25)

### 435. TARGETED PROTEOMIC ANALYSES OF HEART FAILURE

#### Featured Topic

(Sponsored by: APS Cardiovascular Section)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 28A

CHAired: P. L. PING AND M. L. LINDSEY

- 10:30 Dynamics of the nuclear proteome in heart failure. **T. Vondriska.** UCLA Sch. of Med.
- 11:00 Phosphorylation of cTnI as a biomarker for heart failure. **Y. Ge.** Univ. of Wisconsin-Madison Sch. of Med. and Publ. Hlth.
- 11:30 Mitochondrial protein synthesis rates measured by proteome dynamics. **K. Chandra Shekar, E.R. Dabkowski, L. Ling, R.F. Ribeiro, Jr., B. Willard, W.C. Stanley and T. Kasumov.** Univ. of Maryland Baltimore and Cleveland Clin. (1127.2)
- 11:45 Overexpression of phospholipid hydroperoxide glutathione peroxidase (MPHGPx) attenuates cardiac mitochondrial proteomic loss and reverses protein import detriments observed with type 1 diabetes mellitus. **W.A. Baseler, E.R. Dabkowski, R. Jagannathan, D. Thapa, C.E. Nichols, D.L. Shepherd, T.L. Croston, D.M. Schnell and J.M. Hollander.** West Virginia Univ. (1127.4)
- 12:00 Proteomic analyses on mitochondria in rats model of heart failure. **T. Liu, L. Chen, E. Kim and A. Knowlton.** Univ. of California, Davis, St. Mary's Hosp. of Daejeon Catholic Univ., South Korea. (1127.5)
- 12:15 Chemical proteomics-based analysis of off-target binding profiles for rosiglitazone and pioglitazone: clues for assessing potential of cardiotoxicity. **B.R. Hoffmann, M. El Mansy, D. Sem and A. Greene.** Med. Col. of Wisconsin, Marquette Univ. and Sch. of Pharm., Concordia Univ.. WI. (1127.10)



**436. THE LETHALITY OF TRAUMA: NEW INSIGHTS INTO THE PHYSIOLOGY OF HEMORRHAGE****Featured Topic**

(Sponsored by: APS Environmental and Exercise Physiology Section)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 25B

CHAired: V. CONVERTINO

**Blood Pressure Regulation****Translational Physiology**

- 10:30 Introduction. Demographics of death by hemorrhage in trauma. **V. A. Convertino**. U.S. Army Inst. of Surg. Res., Fort Sam Houston.
- 10:35 Effective triage of the hemorrhaging patient: insights from the lab. **K. L. Ryan**. U.S. Army Inst. of Surg. Res., Fort Sam Houston.
- 11:00 Reduced vascular smooth muscle sensitivity to contraction in ex vivo hemorrhaged rabbit epigastric artery. **P.H. Ratz, R.W. Barbee, A.S. Miner, P.S. Reynolds and D. Contaifer**. Virginia Commonwealth Univ. (1080.1)
- 11:15 Hypercapnia does not improve hyperthermic simulated hemorrhagic tolerance. **R.A.I. Lucas, J. Pearson, M.S. Ganio and C.G. Crandall**. Texas Hlth. Presbyterian Hosp., Dallas and Univ. of Texas Southwestern Med. Ctr. (1080.8)
- 11:30 Activation of 5HT<sub>1A</sub> receptors in the nucleus tractus solitarius contributes to blood pressure compensation with blood loss and peripheral chemoreflex responses in the presence of acidosis. **J.E. Vantrease, N. Dudek and K. Scroggin**. Loyola Univ. Chicago, Maywood. (1080.3)
- 11:45 Cardiac mitochondrial proteomic expression in inbred rat strains divergent in survival time after hemorrhage. **H.G. Klemcke, R.M. DeKroon, M. Mocanu, J.B. Robinette and O. Alzate**. U.S. Army Inst. of Surg. Res., Fort Sam Houston and Univ. of North Carolina. (1080.2)
- 12:00 Novel strategies for the treatment of shock. **H. Alam**. Massachusetts Gen. Hosp.

**437. UBIQUITYLATION AND DEUBIQUITYLATION OF ION CHANNELS AND TRANSPORTERS****Featured Topic**

(Sponsored by: APS Cell and Molecular Physiology Section)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 25C

CHAired: K. HAMILTON AND C. BALUT

**Transporters and Ion Channels**

- 10:30 Ubiquitylation and deubiquitylation of KCa3.1 regulates trafficking and degrading. **D. C. Devor**. Univ. of Pittsburgh.

- 11:00 Loss of renal Nedd4-2 in adult mice leads to PHAI1 compensated by ENaC downregulation and ROMK upregulation. **O. Staub, C. Ronzaud, D. Loffing, A. Debonneville, B. Yang, J. Stokes, R. Koesters, E. Hummler and J. Loffing**. Univ. of Lausanne, Univ. of Zurich, Univ. of Iowa and INSERM/Univ. Pierre et Marie Curie, Paris. (1067.2)
- 11:15 Long QT syndrome type 3 caused by a PY-motif mutation leading to altered ubiquitylation and increased expression of Nav1.5 in knockin mice. **J. Rougier, M. Albesa, C.A. Remme, J. Ogrodnik, S. Petitprez, J. Bankston, R.S. Kass, C.R. Bezzina, W. Chung and H. Abriel**. Univ. of Bern, Univ. of Amsterdam and Columbia Univ. (1067.3)
- 11:30 Prolactin-stimulated ubiquitination of the zinc transporter ZnT2 regulates zinc secretion. **Y.A. Seo and S.L. Kelleher**. Penn State and Penn State Col. of Med. (1067.4)
- 11:45 Forskolin stimulation promotes urea transporter UT-A1 ubiquitination, endocytosis and degradation in MDCK cells. **G. Chen, H. Su, C.B. Carter, O. Fröhlich and J.M. Sands**. Emory Univ. (1067.5)
- 12:00 Ubiquitination of vesicular acetylcholine transporter. **Y. Li, J.L. Freeling and A. Sample**. Univ. of South Dakota. (1067.6)
- 12:15 cGMP induces the degradation of internalized NKCC2 in thick ascending limbs: role of the proteasome. **G. Ares and P. Ortiz**. Henry Ford Hlth. Syst. (1067.7)

**438. UNDERSTANDING THE EVOLUTION OF PHYSIOLOGY: INSIGHTS FROM SELECTION EXPERIMENTS IN RODENT MODELS****Featured Topic**

(Sponsored by: APS Comparative and Evolutionary Physiology Section)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 28B

CHAired: T. GARLAND, JR. AND T. MEEK

- 10:30 Use of selection experiments with rodents to elucidate the evolution of physiological traits. **T. Garland, Jr.** Univ. of California, Riverside.
- 11:00 Correlated responses to selection for high maximal aerobic metabolism, predatory behavior, and herbivorous capability in a wild rodent, the bank vole: mimicking an adaptive radiation. **P. Koteja**. Jagiellonian Univ., Poland.
- 11:30 Selective breeding of mice for high voluntary exercise alters adaptive plasticity of metabolic phenotypes in skeletal muscle. **T.H. Meek, L.I. Smith, J.C. Eisenmann, J.Y.-J. Shyy and T. Garland, Jr.** Univ. of Washington, Univ. of California, Riverside and Helen DeVos Children's Hosp., Grand Rapids, MI. (886.1)
- 11:45 The quantitative genetics of a complex trait under continuous directional selection. **V. Careau, M. Wolak, P.A. Carter and T. Garland, Jr.** Univ. of California, Riverside and Washington State Univ. Sch. of Biol. Sci. (1073.1)

- 12:00 Using a selective breeding strategy to create 7th generation rats that voluntarily run low and high nightly distances. **M.D. Roberts, L. Gilpin, J. Knouse, A. Haynes, R. Toedebusch, L. Ebone, C. Moore, S. Naples and F.W. Booth.** Univ. of Missouri-Columbia and Sch. of Med. (1073.2)
- 12:15 Weight loss and the lean phenotype: energy expenditure and physical activity during calorie restriction. **S. Mukherjee, D. Lapp, E. Cosentino, S.L. Britton, L.G. Koch and C.M. Novak.** Kent State Univ. and Univ. of Michigan. (1073.3)

#### 439. VASOPRESSIN-MEDIATED PHOSPHORYLATION AND TRAFFICKING OF TRANSPORTERS INVOLVED IN URINE CONCENTRATION

##### Symposium

(Sponsored by: APS Renal Section)

TUE. 10:30 AM—SAN DIEGO CONVENTION CENTER, 26

CHAired: J. M. SANDS AND M. A. BLOUNT

##### Translational Physiology

##### Transporters and Ion Channels

- 10:30 Vasopressin-mediated phosphorylation controls the urine concentration mechanism. **J. D. Klein.** Emory Univ.
- 11:00 A systems biology perspective of vasopressin signaling. **J. D. Hoffert.** NHLBI, NIH.
- 11:30 Regulation of NKCC2 trafficking by vasopressin and cAMP-mediated signaling. **P. A. Ortiz.** Henry Ford Hosp.
- 12:00 Regulation of vasopressin V2 receptor trafficking and signaling. **D. Brown.** Harvard Med. Sch., Charlestown.

#### 440. NATIONAL INSTITUTES OF HEALTH: PROGRAMS AND POLICIES UPDATE FROM INSTITUTES

##### Symposium

TUE. 2:00 PM—SAN DIEGO CONVENTION CENTER, 1A

CHAired: J. CHATHAM AND S. BARMAN

##### Public Policy

##### Career Development

- 2:00 NHLBI: current programs and new initiatives. **S. Shurin.** NHLBI/NIH.
- 2:30 Common fund programs: what are they and are you eligible for funding? **E. Wilder.** OD/NIH.
- 3:00 NIGMS strategic plan for training: what does it mean for you? **J. Greenberg.** NIGMS/NIH.
- 3:30 NIH peer review: where are we and where are we going? **R. Nakamura.** CSR/NIH.

#### 441. ROBERT M. BERNE DISTINGUISHED LECTURESHIP OF THE APS CARDIOVASCULAR SECTION

TUE. 2:00 PM—SAN DIEGO CONVENTION CENTER, 24

##### Blood Pressure Regulation

##### Inflammation and Immune Responses

*Title:* Molecular Mechanisms of Hypertension: Redox Signaling, Lipid Rafts and TRPMS

*Speaker:* **R. M. Touyz.** Ottawa Hosp. Res. Inst., Univ. of Ottawa

#### 442. COMPUTATIONAL MODELING IN CENTRAL RESPIRATORY CONTROL AND CO<sub>2</sub> CHEMORECEPTION

##### Symposium

(Sponsored by: APS Respiration Section)

TUE. 3:30 PM—SAN DIEGO CONVENTION CENTER, 25A

CHAired: I. C. SOLOMON AND J. M. CORDOVEZ

##### Physiology of Development

- 3:30 Intracellular pH regulation in CO<sub>2</sub> chemosensitive and non-chemosensitive cells. **J. M. Cordovez.** Univ. de los Andes, Colombia.
- 4:00 What we can learn from mathematical models of chemosensitive neurons. **J. C. Leiter.** Dartmouth Med. Ctr.
- 4:30 Mathematical modeling of second messengers: pathways involved in respiratory rhythm generation. **N. Toporikova.** Georgia Tech.
- 5:00 Pontomedullary respiratory network models: predictions and experiments. **B. G. Lindsey.** Univ. of South Florida.

#### 443. HORACE W. DAVENPORT DISTINGUISHED LECTURESHIP OF THE APS GASTROINTESTINAL AND LIVER PHYSIOLOGY SECTION

TUE. 3:30 PM—SAN DIEGO CONVENTION CENTER, 24

##### Translational Physiology

*Title:* Mechanism and Regulation of Intestinal Absorption of Water-Soluble Vitamins: Cellular and Molecular Aspects

*Speaker:* **H. M. Said.** Univ. of California, Irvine and VA Long Beach Med. Ctr.

**444. HYDROGEN SULFIDE: ECOLOGY, PHYSIOLOGY, AND CLINICAL APPLICATIONS****Symposium**

(Sponsored by: APS Comparative and Evolutionary Physiology Section)

TUE. 3:30 PM—SAN DIEGO CONVENTION CENTER, 28B

CHAired: K. R. OLSON

**Hypoxia and Oxidative Stress****Translational Physiology**

- 3:30 H<sub>2</sub>S in the environment: friend or foe? **D. Julian.** Univ. of Florida.
- 3:50 Mitochondria and sulfide: an old story of poisoning, feeding and signaling. **F. Bouillaud.** INSERM U1016, Univ. Paris Descartes.
- 4:10 H<sub>2</sub>S signaling: from hypothesis to function in the nervous system. **H. Kimura.** Natl. Inst. of Neurosci., Tokyo.
- 4:30 H<sub>2</sub>S signaling in the cardiovascular system. **J-S. Bian.** Natl. Univ. of Singapore.
- 4:50 H<sub>2</sub>S as an oxygen sensor in the carotid body. **P. J. Kemp.** Cardiff Univ. Sch. of Biosci.
- 5:10 Therapeutic potential of new hydrogen sulfide-releasing hybrids. **K. Kashfi.** CUNY Med. Sch.

**445. KISSPEPTIN NEURONS: CENTRAL MEDIATOR OF REPRODUCTION AND METABOLISM****Symposium**

(Sponsored by: APS Endocrinology and Metabolism Section)

TUE. 3:30 PM—SAN DIEGO CONVENTION CENTER, 25C

CHAired: W. K. SAMSON AND M. J. KELLY

**Central Control of Homeostasis**

- 3:30 Kiss1 neurons as central processors for reproduction. **R. A. Steiner.** Univ. of Washington.
- 4:00 Estrogenic and leptin regulation of kisspeptin neurons. **O. K. Ronnekleiv.** Oregon Hlth. & Sci. Univ.
- 4:30 Neural pathways linking leptin and other signals to the reproductive neuroendocrine system. **M. N. Lehman.** Univ. of Michigan Sch. of Med.
- 5:00 Factors responsible for the inhibition of kisspeptin and GnRH during states of negative energy balance. **M. S. Smith.** Oregon Natl. Primate Res. Ctr., OHSU.

**446. KRUPPEL-LIKE FACTORS IN MUSCLE BIOLOGY****Symposium**

(Sponsored by: APS Muscle Biology Group)

TUE. 3:30 PM—SAN DIEGO CONVENTION CENTER, 27

CHAired: S. HALDAR AND M. JAIN

- 3:30 KLF15 and metabolic adaptation in skeletal muscle. **S. Haldar.** Case Western Reserve Sch. of Med., Harrington McLaughlin Heart and Vasc. Inst.
- 4:00 KLF4 and phenotypic plasticity in smooth muscle. **G. K. Owens.** Univ. of Virginia.

4:30 KLF transcription factors in cardiac development and function. **M. Nemer.** Univ. of Ottawa.

5:00 KLF5 in muscle biology. **R. Nagai.** Univ. of Tokyo Grad. Sch. of Med.

**447. NOVEL ADVANCES IN CYSTIC FIBROSIS RESEARCH AND DRUG DISCOVERY****Symposium**

(Sponsored by: APS Epithelial Transport Group)

TUE. 3:30 PM—SAN DIEGO CONVENTION CENTER, 22

CHAired: B. A. STANTON AND J. BOMBERGER

**Translational Physiology****Transporters and Ion Channels**

- 3:30 Structure function studies of CFTR. **C. Bear.** Hosp. for Sick Children and Univ. of Toronto.
- 4:00 Bacterial-viral interactions in the CF lung. **J. Bomberger.** Univ. of Pittsburgh.
- 4:30 Rescue of CF airway epithelia cell function: high throughput drug discovery to clinical trials. **F. Van Goor.** Vertex Pharmaceut. Inc.
- 5:00 New CF animal models: lessons from the CF pig and ferret. **J. Zabner.** Univ. of Iowa.

**448. NRF2 MODULATION IN EXERCISE, AGING AND CHRONIC DISEASE****Symposium**

(Sponsored by: APS Environmental and Exercise Physiology Section)

TUE. 3:30 PM—SAN DIEGO CONVENTION CENTER, 25B

CHAired: B. F. MILLER

**Hypoxia and Oxidative Stress****Translational Physiology**

- 3:30 The potential for Nrf2 modulation in the treatment of disease. **J. McCord.** Univ. of Colorado Denver.
- 4:00 Cellular stress resistance and aging: mutant mice and long-lived species. **R. A. Miller.** Univ. of Michigan.
- 4:30 Role of Nrf2 and exercise in aging muscle. **B. F. Miller.** Colorado State Univ.
- 5:00 Therapeutic potential of Nrf2 activator for cardiovascular disease. **K. L. Hamilton.** Colorado State Univ.

**449. PHYSIOLOGICAL REMODELING OF RESISTANCE ARTERIES****Symposium**

(Sponsored by: APS Cardiovascular Section)

TUE. 3:30 PM—SAN DIEGO CONVENTION CENTER, 26

CHAired: J. MULLER-DELP AND M. DELP

**Blood Pressure Regulation**

- 3:30 Acute adaptations of vascular smooth muscle cells in continuously constricted resistance arteries. **L. Martinez-Lemus.** Univ. of Missouri-Columbia.

- 4:00 Arteriolar remodeling induced by changes in flow and pressure in a model of skeletal muscle disuse. **M. Delp.** Univ. of Florida.
- 4:30 Age induces proliferation of smooth muscle and vascular remodeling in coronary arterioles: role of AMPK. **J. Muller-Delp.** Univ. of Florida Col. of Med.
- 5:00 Flow-induced remodeling of resistance arteries: role of angiotensin II. **D. Henrion.** INSERM 771, Angers.

#### 450. ROLE OF ADIPOSE TISSUE MACROPHAGES IN MEDIATING THE METABOLIC EFFECTS OF OBESITY

##### Symposium

(Sponsored by: American Federation for Medical Research)

TUE. 3:30 PM—SAN DIEGO CONVENTION CENTER, 28A

CHAired: M. HAWKINS

##### Translational Physiology

- 3:30 Nutritional regulation of adipose tissue macrophages in obesity. **M. Hawkins.** Albert Einstein Col. of Med.
- 4:00 Mechanisms of adipose tissue inflammation and fibrosis. **J. Pessin.** Albert Einstein Col. of Med.
- 4:30 Molecular mechanisms that regulate macrophage accumulation and function in adipose tissue. **A. Ferrante, Jr.** Columbia Univ.

- 5:00 Characterizing macrophage phenotype and extracellular matrix components in human adipose tissue. **P. Kern.** Univ. of Kentucky.

#### 451. ROLE OF ION CHANNELS IN CELL MIGRATION

##### Symposium

(Sponsored by: APS Cell and Molecular Physiology Section)

TUE. 3:30 PM—SAN DIEGO CONVENTION CENTER, 23

CHAired: S. O'GRADY AND E. BROCHIERO

##### Transporters and Ion Channels

- 3:30 Antagonistic regulation of cell motility by TRPC channels. **A. Greka.** Harvard Med. Sch.
- 4:00 Regulation of cell migration by integrin-mediated modulation of potassium efflux through Kir4.2. **D. Sheppard.** UCSF.
- 4:30  $\beta$ -Adrenergic receptor regulation of airway epithelial cell migration involves inhibition of CFTR activity. **S. O'Grady.** Univ. of Minnesota, St. Paul.
- 5:00 Collaborative work of  $K^+$  and CFTR channels with proteins of the migration machinery for the movement of lung epithelial cells. **E. Brochiero.** Univ. of Montreal.

#### 452. APS BUSINESS MEETING

TUE. 6:00 PM—SAN DIEGO CONVENTION CENTER, 20A

## Physiology InFocus

### Physiology in Medicine

#### 453. HYPERTENSION AND CHRONIC KIDNEY DISEASES

##### Symposium

TUE. 3:30 PM—SAN DIEGO CONVENTION CENTER, 20A

CHAired: P. JOSE AND J. SULLIVAN

##### Translational Physiology

- 3:30 Translational medicine: the antihypertensive effect of renal denervation. **G. DiBona.** Univ. of Iowa Healthcare.

- 4:00 Pathophysiology of hypertension during preeclampsia. **S. A. Karumanchi.** Beth Israel Deaconess Med. Ctr.
- 4:30 New advances in the pathophysiology and treatment of chronic glomerular diseases. **S. Quaggin.** Univ. of Toronto.
- 5:00 Renovascular hypertension: microvascular dysfunction and treatment. **A. Chade.** Univ. of Mississippi Med. Ctr.

## Wednesday, April 25, 2012

Attend the Poster Sessions in the Sails Pavilion at 10:00 AM for coffee and 2:00 PM for snacks and learn more about the cutting edge science from more than 1,000 presenters.

# WEDNESDAY, APRIL 25

## Anatomy

### 454. BIOENGINEERING PRINCIPLES DURING DEVELOPMENT

#### Hybrid Symposium

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 7A

CHAired: E. JONES

#### Developmental Biology

- 8:00 Chair's introduction.
- 8:05 **454.1** Designing in vitro tools to pattern gene expression using inducible gene expression. **A.P. McGuigan and S. Javaherian.** Univ. of Toronto.
- 8:30 **454.2** Ontogeny of mechanosensation during vascular development. **E.A.V. Jones and C. Henderson-Toth.** McGill Univ.
- 8:55 **454.3** Visualizing homologous recombination and illustrating DNA repair pathway interaction in vivo via a bioengineered fluorescent reporter system. **M.R. Sukup Jackson, O. Kiraly, E. Rowland, K. Schulte, L.J. Niedernhofer and B.P. Engelward.** MIT and Univ. of Pittsburgh.
- 9:10 **454.4** Exposure to simulated microgravity affects development of the skull in *Danio rerio*. **T.A. Franz-Odenaal and S. Edsall.** Mount Saint Vincent Univ. and Dalhousie Univ., Canada.
- 9:25 **454.5** Create an engineered conduction tissue by seeding cardiac progenitor cells on gelatin foam. **C. Zhang, X. Zhang and X. Yang.** The Second Military Med. Univ., China.
- 9:40 FGF signaling is involved in physiological adaptation to pressure overload in developing heart. **E. Krejci, Z. Pesevski, O. Nanka and D. Sedmera.** inst. of Physiol., Acad. of Sci. of Czech Republic, Prague and 1st Fac. of Med., Charles Univ. in Prague. **(15.1)**
- 9:55 Discussion.

### 455. FORM, FUNCTION AND EVOLUTION

#### Platform

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 7B

CHAired: K. MULDOON

- 8:00 **455.1** A morphometric study of phylogenetic and ecologic patterns in procyonid (Mammalia: Carnivora) endocasts. **H.E. Ahrens and V.B. DeLeon.** Johns Hopkins Univ. Sch. of Med.
- 8:15 **455.2** Molar surface area and mandibular mechanics: complex scaling relationships in primate masticatory systems. **M.A. Holmes, T. Peburn and V. DeLeon.** Johns Hopkins Sch. of Med. and Univ. of Missouri Sch. of Med., Columbia.
- 8:30 Comparative analysis of masticatory apparatus features in neonatal common marmosets (*Callithrix jacchus*) and cotton-top tamarins (*Saguinus oedipus*). **A.L. Mork, A.B. Taylor and C.J. Vinyard.** Northeast Ohio Med. Univ. and Duke Univ. Sch. of Med. **(722.24)**

- 8:45 **455.3** Endoscopic investigation of the palatopharyngeal muscular anatomy of the great apes: anatomic models for the study of obstructive sleep apnea etiology. **T. Adar, M. Papaxanthos, W. Lawson, A.S. Pagano and T. Petit.** SUNY Downstate Med. Ctr., Clin. Tourny, Bordeaux, Mount Sinai Sch. of Med. and Zoo La Palmyre, Bordeaux.
- 9:00 **455.4** Comparative functional morphology of the head suspension of quadrupedal cats and the shoulder suspension of bipedal humans. **M.L. Osborn and D.G. Homberger.** LSU.
- 9:15 **455.5** The trapezius complex in mammalia. **G.M. Voegelé.** Johns Hopkins Sch. of Med.
- 9:30 **455.6** Decoupling of sexual dimorphism in the human bony pelvis and its relationship to differential selective pressures. **K.M. Brown.** The George Washington Univ. Sch. of Med. and Hlth. Sci.
- 9:45 **455.7** Exceeding expectations: examining the systemic effects of high body mass in relation to mechanical loading. **N.M. Reeves.** Univ. of Tennessee, Knoxville.

### 456. TEACHING INNOVATIONS IN ANATOMY II

#### Platform

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 9

CHAired: T. HOAGLAND

#### Education & Teaching

- 8:00 **456.1** Radical hysterectomy teaching module with a three-dimensional digital model of the female pelvis. **S.K. Dunnigan, H.M. Nguyen and M. Johnson.** Univ. of Western Ontario.
- 8:15 Problem solving strategies and the relationship between visualization ability and spatial anatomy task performance. **N. Nguyen, A. Mulla, A.J. Nelson and T.D. Wilson.** Univ. of Western Ontario. **(12.2)**
- 8:30 Teaching students to teach: a medical student teaching assistant perspective on the effectiveness of learning through apprenticeship. **A.J. Erie, S. Starkman, W. Pawlina and N. Lachman.** Mayo Clin. **(531.20)**
- 8:45 **456.2** Integration of anatomy, literature research skills and clinical practice through a peer-teaching and peer-assessment exercise at pre-clinical level in an undergraduate medical course. **L. Filgueira and E. Eppler.** Univ. of Western Australia and Univ. of Zurich.
- 9:00 **456.3** Texas Tech System for student peer teaching in the anatomy laboratory: subjective and objective assessment. **V. Lee, B. Vidic, B. Schneider and A. Hewetson.** Texas Tech Univ. Hlth. Sci. Ctr.
- 9:15 **456.4** Curricular integration: not what we are bringing together, but who. **R. Hopkins.** Univ. of British Columbia.
- 9:30 **456.5** Increased episodes of anatomy comic strips. **M.S. Chung.** Ajou Univ. Sch. of Med., South Korea.
- 9:45 **456.6** Anatomy education through dissection and peer teaching: special dissections of the head and neck. **A.M. Koba, L. Johnson and K.P. Babin.** Col. of Sci. and Engin., San Francisco State Univ. and City Col. of San Francisco.

**457. MUSCLES AND BONES: EVOLUTION AND DEVELOPMENT****Platform**

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 7A

CHAired: R. SCHNEIDER

**Developmental Biology**

- 10:30 **457.1** When evolution hurts: height, arthritis risk, and the regulatory architecture of *GDF5* function. **T.D. Capellini, H. Chen and D. Kingsley.** Stanford Univ. Sch. of Med. and HHMI.
- 10:45 **457.2** Changes in micro-architectural characteristics of mandibular sutures using micro-CT images in American alligators during ontogeny. **U. Zapata, S. Liu, J. Sun, R.M. Eisey and Q. Wang.** Eafit Univ., Colombia, Mercer Univ. Sch. of Med., Indiana Univ., Indianapolis and Louisiana Dept. of Wildlife and Fisheries, Baton Rouge.
- 11:00 **457.3** Neural crest derivation of the bony skull of the Mexican axolotl. **N. Piekarski and J. Hanken.** Harvard Univ.
- 11:15 **457.4** Adaptations of the musculoskeletal system in California sea lions to the semi-aquatic lifestyle. **H.H. Bragulla and J.R. Schwartz.** Sch. of Vet. Med., LSU.
- 11:30 **457.5** Regulation of jaw size during development and evolution. **E.L. Ealba, J. Yu, A.H. Jheon, K.D. Butcher and R.A. Schneider.** UCSF.
- 11:45 **457.6** A 3-D geometric morphometric study of intraspecific variation in the ontogeny of the temporal bone in modern *Homo sapiens* **H.F. Smith, T. Ritzman and E. Otárola-Castillo.** Midwestern Univ., Arizona State Univ., Iowa State Univ. and Harvard Univ.
- 12:00 **457.7** A novel skeletal disorder defines an intracellular role for FGFR2 during development. **A.E. Merrill, A. Sarukhanov, P. Krejci, B. Idoni, R. Lachman, W. Wilcox and D. Krakow.** Univ. of Southern California, UCLA and Cedars-Sinai Med. Ctr.
- 12:15 Discussion.

**458. NOVEL VIEWS OF THE EYE****Symposium***(Cosponsored by: Association of Anatomy, Cell Biology & Neurobiology Chairpersons)*

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 7B

CHAired: J. CLARK

**Neurobiology****Cell Biology**

- 10:30 Chair's introduction.
- 10:35 **458.1** The function of ocular lens intermediate filaments in normal and pathogenic biology. **P. FitzGerald, J.F. Hess and K-h. Yoon.** Univ. of California and Fred Hutchinson Cancer Res. Ctr.
- 11:00 **458.2** The genetic basis for normal vision and vision disorders. **J. Neitz and M. Neitz.** Univ. of Washington.
- 11:25 **458.3** Gene therapy as a cure for color blindness. **M. Neitz, J. Neitz, K. Mancuso, J. Kuchenbecker and T.B. Connor.** Univ. of Washington and Med. Col. of Wisconsin.
- 11:50 **458.4** Protection against molecular aging and degeneration. **J.I. Clark.** Univ. of Washington.
- 12:15 Discussion.

**459. CARDIAC TISSUE ENGINEERING****Symposium**

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 9

CHAired: G. VUNJAK-NOVAKOVIC

**Cardiovascular**

- 10:30 Chair's introduction.
- 10:35 **459.1** Clinically relevant issues in cardiac stem cell therapy. **J.C. Wu.** Stanford Univ. Sch. of Med.
- 11:00 **459.2** In vitro models of heart disease and regeneration. **M. Radisic.** Univ. of Toronto.
- 11:25 **459.3** Functional imaging of signal propagation in native and engineered myocardium. **N. Sarvazyan, H. Asfour and M.W. Kay.** The George Washington Univ.
- 11:50 **459.4** Myocardial regeneration through tissue engineering. **G. Vunjak-Novakovic.** Columbia Univ.
- 12:15 Discussion.

**POSTER PRESENTERS:  
UPLOAD YOUR POSTER**

Where: E-Poster Counter, Hall D Lobby

Deadline: Wed., April 25, 3:30 PM

Uploaded posters will be available online to all registered attendees following the meeting at [www.experimentalbiology.org](http://www.experimentalbiology.org)

## Biochemistry and Molecular Biology

### 460. HERBERT A. SOBER LECTURESHIP

#### Award

WED. 9:00 AM—SAN DIEGO CONVENTION CENTER, 6B

- 9:00 Introductory remarks. **M. Stallcup.**  
 9:05 **460.1** Using genomic technologies to investigate transcriptional regulation in normal and cancer cells. **P.J. Farnham.** Univ. of Southern California.

### 461. RIBOSOMES: REGULATION OF ACCESS TO MRNA

#### Symposium

WED. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6F

CHAIRERD: M. ARES, JR.

- 9:55 Chair's introduction.  
 10:00 **461.1** A knotty problem: dissecting the molecular mechanics of mRNA recruitment to the eukaryotic ribosome. **J.R. Lorsch.** Johns Hopkins Univ. Sch. of Med.  
 10:25 Translation initiation of non-LTR retrotransposons by HDV-like self-cleaving ribozymes. **D.J. Ruminski and A. Luptak.** Univ. of California, Irvine. (942.1)  
 10:40 **461.2** Post-termination events in eukaryotic translation. **T. Pestova, M. Skabkin, O. Skabkina and C. Hellen.** SUNY Downstate Med. Ctr.  
 11:05 NMD-deficient Upf3b-null mice display behavioral and neuropathological defects. **L. Huang, E.Y. Shum, R. Karam, L.S. Nguyen, J. Gecz and M.F. Wilkinson.** UCSD and Women's and Children's Hosp., Adelaide. (747.5)  
 11:20 Allosteric inhibition of a stem cell RNA-binding protein by an intermediary metabolite. **S.P. Ryder, C.C. Clingman, L.M. Deveau and F. Massi.** Univ. of Massachusetts Med. Sch. (745.3)  
 11:35 **461.3** Mechanism of action of miRNA. **M.R. Fabian and N. Sonenberg.** McGill Univ.  
 12:00 Conclusion.

### 462. TELOMERES AND TELOMERASE

#### Symposium

WED. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6E

CHAIRERD: J. DIFFLEY

- 9:55 Chair's introduction.  
 10:00 **462.1** Control of centrosomes and kinetochores by telomeres in meiosis. **J.P. Cooper, C. Bez, A. Fennell, M. Klutstein and K. Tomita.** Cancer Res. UK and University Col. London.  
 10:25 Blocking ubiquitin deposition at telomeres: the molecular mechanism of TRF2-mediated end protection. **K. Okamoto and E. Lazzerini Denchi.** The Scripps Res. Inst. (935.1)  
 10:40 **462.2** BRCA1 and CtIP are required for processing uncapped telomeres. **M. Tarsounas.** Univ. of Oxford.

- 11:05 TRF2 regulates differential DNA damage response signaling from intermediate-state and uncapped-state telomeres. **A.J. Cesare, M.T. Hayashi and J. Karlseder.** Salk Inst. for Biol. Studies. (933.2)  
 11:20 Subtelomere recombination is frequent in tumors lacking telomerase. **T. Morrish, V. Behera, S. Dria, S.J. Wheelan and C.W. Greider.** Johns Hopkins Univ. (933.4)  
 11:35 **462.3** Telomerase biogenesis and regulation. **P. Baumann, W. Tang and R. Kannan.** HHMI and Stowers Inst. for Med. Res. and Univ. of Kansas Med. Ctr.  
 12:00 Conclusion.

### 463. ENDOMEMBRANE SYSTEM DYNAMICS

#### Symposium

WED. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6D

CHAIRERD: B. GLICK

- 9:55 Chair's introduction.  
 10:00 **463.1** Mechanisms of ESCRT-mediated cargo sorting and degradation. **A. Audhya, A. Schuh, J. Mayers, I. Fyfe and M. Edwardson.** Univ. of Wisconsin-Madison and Univ. of Cambridge.  
 10:25 ALIX interacts with a YPX3L motif of protease-activated receptor 1 and mediates MVB/lysosomal sorting through an ESCRT-III-dependent pathway independent of ubiquitination. **M.R. Does, B. Chen, H. Lin, U.J.K. Soh, M.M. Paing, W.A. Montagne, T. Meerloo and J. Trejo.** UCSD and Washington Univ. (780.2)  
 10:40 **463.2** Modulation of secretion in drosophila by amino-acid starvation. **C. Rabouille.** Hubrecht Inst., Utrecht, Netherlands.  
 11:05 The actions of SNAREs and Munc18 in neuronal vesicle fusion. **J. Shen.** Univ. of Colorado Boulder. (988.2)  
 11:20 Regulation of I-kappa-B kinase pathway by CARMA 1•Bcl-10•MALT-1 complex promotes SNARE complex formation and secretion in platelets. **M. Banerjee, Z. Karim, J. Zhang and S.W. Whiteheart.** Univ. of Kentucky. (986.1)  
 11:35 **463.3** Molecular insights into tether function at the late endosome and vacuole. **C. Ungermann.** Univ. of Osnabrueck, Germany.  
 12:00 Conclusion.

### 464. NEW METHODOLOGIES FOR TARGET DISCOVERY AND TARGET VALIDATION

#### Symposium

WED. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6C

CHAIRERD: P. JACKSON

- 9:55 Chair's introduction.  
 10:00 **464.1** Functional genomics to decipher cancer dependencies and mechanisms. **W.C. Hahn.** Dana-Farber Cancer Inst.  
 10:25 Largescale analysis of synaptic phosphorylation and O-GlcNAcylation reveals complex interplay between these post-translational modifications. **J.C. Trinidad, D.T. Barkan, B. Gullledge, A. Thalhammer, A. Sali, R. Schoepfer and A.L. Burlingame.** UCSF and University Col. London. (978.2)

- 10:40 **464.2** Phenotypic screening in complex cellular extracts to identify novel antimetabolic targets and compounds. **R. King, X. Zeng, F. Sigoiilot, S. Gaur, S. Choi and G. Cuny.** Harvard Med. Sch. and Brigham and Women's Hosp.
- 11:05 Scalable fluorescence microscopic assays of organelle transport and mitochondrial swelling. **A.A. Gerencser, D.G. Nicholls and M.D. Brand.** Buck Inst. for Res. on Aging, Novato, CA. **(775.2)**
- 11:20 High-throughput, single-step purification of affinity-tagged protein complexes. **J. LaCava, Z. Hakhverdyan, D. Fenyo, M. Domanski, A. Oroskar, A. Oroskar, L. Hough, T.H. Jensen, B.T. Chait and M.P. Rout.** Rockefeller Univ., NYU Langone Med. Ctr., Aarhus Univ., Denmark and Orochem Technol. Inc., Lombard, IL. **(776.2)**
- 11:35 **464.3** High throughput tandem-affinity proteomics builds protein interactomes to explain human disease. **P.K. Jackson.** Genentech Inc.
- 12:00 Conclusion.

#### 465. LIPID REGULATION OF PROTEIN FUNCTION

##### Symposium

WED. 9:55 AM—SAN DIEGO CONVENTION CENTER, 6A

CHAired: T. OSBORNE

- 9:55 Chair's introduction.
- 10:00 **465.1** Structural organization of HNF4alpha: a master transcription factor of hepatic and pancreatic genes. **F. Rastinejad, V. Chandra, P. Huang, N. Potluri and Y. Kim.** Sanford-Burnham Med. Res. Inst., Orlando and Argonne Natl. Lab.
- 10:25 The characterization and identification of ceramide-1-phosphate binding proteins. **K.E. Ward and R.V. Stahelin.** Univ. of Notre Dame and Indiana Univ. Sch. of Med. South Bend. **(991.3)**
- 10:40 **465.2** Mapping endocannabinoid signaling networks in the mammalian brain. **B.F. Cravatt.** The Scripps Res. Inst.
- 11:05 Chemical approaches to the investigation of protein-membrane binding interactions using synthetic lipid probes. **M.D. Best.** Univ. of Tennessee, Knoxville. **(595.1)**
- 11:20 Sterol regulation of HMG CoA reductase in the liver. **N. Calhoun and R. Deobse-Boyd.** Univ. of Texas Southwestern Med. Ctr. **(787.10)**
- 11:35 **465.3** Inflammation and insulin resistance. **J.M. Olefsky.** UCSD.
- 12:00 Conclusion.

#### 466. RELATIONSHIP OF HOST AND PATHOGEN

##### Symposium

WED. 9:55 AM—SAN DIEGO CONVENTION CENTER, 1B

CHAired: M. JACKSON

- 9:55 Chair's introduction.
- 10:00 **466.1** Asymmetry and aging of mycobacterial cells: a novel mechanism of diversification. **S.M. Fortune.** Harvard Sch. of Publ. Hlth.
- 10:25 Thrombospondin-1 binding protein on the surface of *Trypanosoma cruzi* enhances cellular infection. **C.A. Johnson, T.C. Cardenas, S. Pratap, M.A. Duquette, M.F. Lima, J. Lawler, F. Villalta and P.N. Nde.** Meharry Med. Col. and Beth Israel Deaconess Med. Ctr. **(801.5)**

- 10:40 **466.2** Protein export via the accessory SecA2 system of *Mycobacterium tuberculosis*. **M. Braunstein, J.T. Sullivan, M. Felcher and L. Ligon.** Univ. of North Carolina at Chapel Hill.
- 11:05 Tuberculosis and epigenetics: functional noncoding RNA in the host-pathogen interaction. **J.H. Wissler.** ARCONS Inst. for Applied Res. & Didactics, Bad Nauheim. **(800.7)**
- 11:20 The association of *Leishmania* RNA viruses with metastatic or mucocutaneous leishmaniasis in South America. **S.M. Beverley, L-F. Lye, K. Owens, S.M. Hickerson, F.M. Kuhlmann, E. Acino, D. Dobson, N. Akopyants, F. Pratlong, P. Bastien and N. Fasel.** Washington Univ. Sch. of Med., Univ. of Montpellier and Univ. of Lausanne. **(801.4)**
- 11:35 **466.3** Compensatory evolution and fixation of Rfamycin resistance in MDR and XDR tuberculosis. **C.E. Barry III.** NIAID/NIH.
- 12:00 Conclusion.

#### 467. INTERPLAY BETWEEN CHROMATIN STRUCTURE AND THE TRANSCRIPTION MACHINERY

##### Symposium

WED. 1:45 PM—SAN DIEGO CONVENTION CENTER, 6F

CHAired: R. SHIEKHETTAR

- 1:45 Chair's introduction.
- 1:50 **467.1** Molecular dynamics of epigenetic transitions. **G.L. Hager.** NCI/NIH.
- 2:15 Identification of a nucleosomal region required for the proper distribution of the transcription elongation factor Spt16 across transcribed genes in *Saccharomyces cerevisiae*. **A.A. Duina, T.H. Nguyen, W. Wharton II and J.A. Harper.** Hendrix Col., AR. **(923.2)**
- 2:30 **467.2** Lysine methylation and regulation of gene expression programs. **O. Gozani.** Stanford Univ.
- 2:55 Replication-dependent expression of herpes simplex virus late genes is controlled by P-TEFb/CDK9 and DSIF/SPT5. **P. Elias and K-W. Tang.** Univ. of Gothenburg, Sweden. **(931.16)**
- 3:10 Transcription factor access to their sites in chromatin. **M. Floer and A. Gjidoda.** Michigan State Univ. **(925.1)**
- 3:25 **467.3** Probing the dynamics of promoter proximally paused Pol II. **K.L. Adelman.** NIEHS/NIH, Research Triangle Park.
- 3:50 Conclusion.

#### 468. NETWORKS AND NOISE

##### Symposium

WED. 1:45 PM—SAN DIEGO CONVENTION CENTER, 6E

CHAired: A. HOFFMANN

- 1:45 Chair's introduction.
- 2:00 Talk TBA. **C. Voight,** MIT.
- 2:25 **468.1** Sensing array of radically coupled genetic biopixels. **J. Hasty.** UCSD.
- 2:55 Topocell – an image analysis tool to study intracellular topography. **V.R.C.P.F. Fachada, N. Fachada, T. Turpeinen, P. Rahkila, A. Rosa and H. Kainulainen.** Univ. of Jyväskylä, Finland and Tech Univ. of Lisbon. **(578.2)**



- 3:10 Identification of the differentiation status of individual hematopoietic cells from mouse bone marrow using secondary ion mass spectrometry. **M.L. Kraft, J.F. Frisz, J.S. Choi, R.L. Wilson and B.A. Harley.** Univ. of Illinois at Urbana-Champaign. (579.5)
- 3:25 **468.2** Denial, acceptance, and loss of cell polarization for a stochastic model of positive feedback. **S. Altschuler, S. Angenent, S. Jilkine and L. Wu.** Univ. of Texas Southwestern Med. Ctr., Univ. of Wisconsin-Madison and Univ. of Arizona.
- 3:50 Conclusion.

#### 469. PROTEIN QUALITY CONTROL AND DISEASE

##### Symposium

WED. 1:45 PM—SAN DIEGO CONVENTION CENTER, 6D

CHAired: J. BRODSKY

- 1:45 Chair's introduction.
- 1:50 **469.1** Apoprotein B: quality control early and late in the secretory pathway for this atherogenic protein. **E.A. Fisher, H.N. Ginsberg, D. Ron, K.J. Williams and J.L. Brodsky.** NYU Sch. of Med., Columbia Univ., Univ. of Cambridge, Temple Univ. Sch. of Med. and Univ. of Pittsburgh.
- 2:15 Ubiquitin chain trimming recycles the substrate binding sites of the 26 S proteasome and promotes degradation of lysine 48-linked polyubiquitin conjugates. **C-W. Liu, N-Y. Zhang, A.D. Jacobson and A. MacFadden.** Univ. of Colorado Sch. of Med. and Med. Col. of Wisconsin. (957.1)
- 2:30 **469.2** TorsinA – unlocking the mysteries of an AAA+ ATPase in the endoplasmic reticulum and nuclear envelope. **P.I. Hanson, A. Vander Heyden and T.V. Naismith.** Washington Univ. Sch. of Med.
- 2:55 The role of protein oxidation in the onset of the transthyretin amyloidoses. **L. Zhao, N. Reixach and J. Buxbaum.** The Scripps Res. Inst. (752.10)
- 3:10 Characterization of npl3-95 as a prion-like protein involved in translation termination in *Saccharomyces cerevisiae*. **D.P. Bracho, M.E. Correa, C. Lasalde, J.A. González, L.A. Estrella and C.I. González.** Univ. of Puerto Rico Med. Sci. Campus. (958.4)
- 3:25 **469.3** Strategies for targeting protein-protein interactions in the heat shock protein 70 complex. **J.E. Gestwicki.** Univ. of Michigan.
- 3:50 Conclusion.

#### 470. FRONTIERS IN MECHANISTIC ENZYMOLOGY

##### Symposium

WED. 1:45 PM—SAN DIEGO CONVENTION CENTER, 6C

CHAired: J. SELLO

- 1:45 Chair's introduction.
- 1:50 **470.1** Exploring the bacterial terpenome. **D.E. Cane.** Brown Univ.
- 2:15 High-pressure adaptation in piezotolerant enzymes studied with cytochromes P450 from deep-sea bacteria. **D.R. Davydov and E.V. Sineva.** UCSD Skaggs Sch. of Pharm. and Pharmaceut. Sci. (959.4)
- 2:30 **470.2** Oxidative nucleic acid modification and demodification. **C. He.** Univ. of Chicago.

- 2:55 Identification and function of leash forming residues in the FoF1 ATP synthase molecular motor using single molecule measurements. **W.D. Frasch, J.L. Martin and J. Hudson.** Arizona State Univ. Sch. of Life Sci. (959.5)
- 3:10 Unique biogenesis of carbon-nitrogen-cleaving enzyme harnessing a new mechanism. **M. Kobayashi, Z. Zhou and Y. Hashimoto.** Grad. Sch. of Life and Envrn. Sci., Univ. of Tsukuba, Japan and Jiangnan Univ. Sch. of Biotech., China. (959.3)
- 3:25 **470.3** The unusual enzyme chemistry in diphthamide biosynthesis. **H. Lin.** Cornell Univ.
- 3:50 Conclusion.

#### 471. AGING METABOLISM

##### Symposium

WED. 1:45 PM—SAN DIEGO CONVENTION CENTER, 6A

CHAired: B. TU

- 1:45 Chair's introduction.
- 1:50 **471.1** Unbiased identification of novel AMPK substrates by chemical genetics. **A. Brunet.** Stanford Univ.
- 2:15 Using *Drosophila* as a model system to study cold tolerance. **D. Luor, K. Parikh, D. Shain and N. Yakoby.** Rutgers, The State Univ. of New Jersey, Camden. (969.5)
- 2:30 **471.2** A novel role of a lysosomal acid lipase in the regulation of longevity. **M. Wang.** Baylor Col. of Med.
- 2:55 A novel anti-aging compound extends longevity by remodeling neutral lipid metabolism. **V. Titorenko, A. Beach, V. Richard and M. Burstein.** Concordia Univ., Canada. (965.1)
- 3:10 Strong antioxidant activity of the novel selenium-containing imidazole compound, selenoneine. **M. Yamashita, S. Imamura, M.A. Hossain, K. Touhata, T. Yabu and Y. Yamashita.** Natl. Res. Inst. of Fisheries Sci., Yokohama. (969.13)
- 3:25 Talk TBA **M. Van Gilst,** Fred Hutchinson Cancer Res. Ctr.
- 3:50 Conclusion.

#### 472. ROLES OF GLYCOCONJUGATES IN METABOLISM AND DISEASE

##### Symposium

WED. 1:45 PM—SAN DIEGO CONVENTION CENTER, 1B

CHAired: K. COLLEY

- 1:45 Chair's introduction.
- 1:50 **472.1** O-GlcNAc cycling and epigenetics. **J.A. Hanover, P. Wang, S. Ghosh, C. Keembiyehetty, M. Comly, M. Bond, M. Krause and D. Love.** NIDDK/NIH.
- 2:15 Biochemical characterization of pmm2-depleted zebrafish suggests an unexpected mechanism for glycosylation deficiency in cdg-ia. **M.A. Lehrman, N. Gao, A. Cline, H. Flanagan-Steet, H.H. Freeze, K.C. Sadler and R. Steet.** Univ. of Texas Southwestern Med. Ctr., Univ. of Georgia, Sanford-Burnham Med. Res. Inst. and Mount Sinai Sch. of Med. (794.3)
- 2:30 **472.2** The mammalian O-mannosylation pathway: protein substrates and functional glycans. **L. Wells.** Univ. of Georgia.

- 2:55 Human lysyl oxidase-like 2 in breast cancer metastasis. **M. Mure, L. Xu and K. Rebecchi.** Univ. of Kansas. (794.6)
- 3:10 Alteration of heparan sulfate 2-O-sulfation in endothelial cells enhances neutrophil infiltration in mice. **D. Xu, J. Axelsson, B.N. Kang, P. Sriramarao, T.M. Handel, K. Ley and J.D. Esko.** UCSD, Univ. of Minnesota, St. Paul and La Jolla Inst. for Allergy and Immunol. (609.1)

- 3:25 **472.3** Diagnosis and monitoring of mucopolysaccharidoses using disease-specific non-reducing end carbohydrate biomarkers. **J.D. Esko, R. Lawrence, W.C. Lamanna, K. AL-Mafraji, G-J. Boons, T. Dierks, J.R. Brown and B.E. Crawford.** UCSD, Univ. of Georgia, Univ. Bielefeld, Germany and Zacharon Pharmaceut., San Diego.
- 3:50 Conclusion.

## Nutrition

### 473. NUTRITIONAL PREVENTION OF COGNITIVE DECLINE

#### Symposium

(Supported by an educational grant from the NIH Office of Dietary Supplements)

(Sponsored by: Nutritional Epidemiology RIS)

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 20D

CHAired: L. ARAB

COCHAired: R. BAILEY

- 8:00 The role of B vitamins in preventing and treating cognitive impairment. **M. Morris.** Tufts Univ.
- 8:30 Coffee, tea, caffeine and flavonoids and cognitive decline. **L. Arab.** David Geffen Sch. of Med., UCLA.
- 9:00 Omega 3 fatty acids and decline. **T. Cederholm.** Uppsala Univ., Sweden.
- 9:30 Vitamin D. **J. W. Miller.** Univ. of California, Davis Med. Ctr.

### 474. NUTRITIONAL REGULATION OF EPIGENETIC CHANGES

#### Symposium

(Supported by educational grants from New England BioLabs and ThermoFisher Scientific)

(Sponsored by: Medical Nutrition Council (MNC) and the Nutritional Sciences Council (NSC))

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 31A/B/C

CHAired: D.F. ROMAGNOLO

COCHAired: T. R. ZIEGLER

- 8:00 MicroRNAs, diet and cancer. **R. Dashwood.** Oregon State Univ.
- 8:30 Diet-nuclear receptor interactions and epigenetic diseases. **D. F. Romagnolo.** Univ. of Arizona.
- 9:00 Linking one-carbon metabolism to epigenetic regulation. **P. J. Stover.** Cornell Univ.
- 9:30 Epigenetic mechanisms in obesity. **R. Waterland.** Baylor Col. of Med.

### 475. MACRONUTRIENTS AS TOOLS TO COUNTER AGE-RELATED CHANGES IN SKELETAL MUSCLE

#### Symposium

(Supported by an educational grant from the Dairy Research Institute)

(Sponsored by: Energy and Macronutrient Metabolism RIS and Aging and Chronic Disease RIS)

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 20D

CHAired: W.W. CAMPBELL

- 10:30 Dietary protein: quantities, qualities, and patterns of intake to promote muscle synthetic responses and body composition change in young and old adults. **S. Phillips.** McMaster Univ., Canada.
- 11:00 Dietary carbohydrate: relationships among dietary carbohydrate, exercise, skeletal muscle, and insulin action. **J. Haus.** Univ. of Illinois, Chicago.
- 11:30 Dietary lipids: omega-3 fatty acids counter sarcopenia. **B. Mittendorfer.** Washington Univ. Sch. of Med.
- 12:00 Energy balance and macronutrient distributions: must obese older adults compromise skeletal muscle while losing weight to improve health? **W. W. Campbell.** Purdue Univ.

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## POSTER PRESENTERS: UPLOAD YOUR POSTER

Where: E-Poster Counter, Hall D Lobby  
Deadline: Wed., April 25, 3:30 PM

Uploaded posters will be available online to all registered attendees following the meeting at [www.experimentalbiology.org](http://www.experimentalbiology.org)

# Pathology

## 476. INNATE IMMUNITY IN THE BRAIN

### Symposium

(Sponsored by: ASIP Neuropathology Scientific Interest Group)

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, 16B

CHAired: C.A. WILEY AND J. KOFLER

### Neuropathology

- 8:30 Introduction. **C. A. Wiley**. Univ. of Pittsburgh Med. Sch.  
 8:40 Innate immunity in the CNS. **S-Y. Zhang**. Rockefeller Univ.  
 9:20 Microglia in vivo. **A. Nimmerjahn**. Salk Inst.  
 10:00 Microglia in vitro. **J. Kofler**. Univ. of Pittsburgh Med. Ctr.  
 10:40 microRNA modulation of microglia. **E. Ponomarev**. Brigham and Women's Hosp.

## 477. RECENT ADVANCES IN THE PATHOBIOLOGY OF DIABETIC COMPLICATIONS

### Symposium

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, 16A

CHAired: I. JIALAL AND S. DEVARAJ

- 8:30 The role of inflammation in diabetic vascular complications. **I. Jialal**. Univ. of California, Davis Med. Ctr.  
 9:15 Oxidative stress in diabetic complications. **S. Devaraj**. Univ. of California, Davis Med. Ctr.  
 10:00 AGE-RAGE axis in diabetic complications. **A. M. Schmidt**. NYU Sch. of Med.  
 10:45 Epigenetics, microRNAs and diabetic complications. **R. Natarajan**. City of Hope Natl. Med. Ctr.

## 478. ANIMAL MODELS

### Minisymposium

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, 17B

CHAired: M.J. McARTHUR

COCHAired: E. WHITLEY

- 8:30 **478.1** Systemic polyhydroxylated fullerene toxicity in fathead minnows (*Pimephales promelas* Rafinesque, 1820). **E.M. Whitley, B. Jovanovic and D. Palic**. Iowa State Univ.  
 8:45 **478.2** Liver morphologic changes induced by semicarbazide. **M.M. Da Costa, A.R. Duarte, F. Capela-Silva, R. Farinha and A.S. Cabrita**. Fac. of Med., Univ. of Coimbra, Univ. Sch. Vasco da Gama and Univ. of Évora, Portugal.  
 9:00 **478.3** Regulation of the calpain and ubiquitin proteasome system in a canine model of muscular dystrophy with myostatin inhibition. **S.W. Cotten, K.M. Wadosky, D. Bogan, J.N. Kornegay and M.S. Willis**. Univ. of North Carolina at Chapel Hill.  
 9:15 **478.4** The preventive effect of melatonin and/or exercise on cartilage destruction in collagenase-induced osteoarthritis rats. **H. Kim, Y. Hong and Y. Hong**. Inje Univ., South Korea.

- 9:30 **478.5** Strictly regulated blood glucose oscillations linked to rat mortality after severe burn injury. **X. Zhang, X. Cai, J. Li, W. Yan and F. Gao**. Fourth Military Med. Univ., China.  
 9:45 **478.6** Innate immune signaling plays a crucial role in the pathogenesis of avascular osteonecrosis of the femoral head. **S. Okazaki, S. Nagoya, K. Tateda, R. Katada, K. Mizuo, S. Watanabe and T. Yamashita**. Sapporo Med. Univ.  
 10:00 **478.7** In vivo modulation of murine polycystic kidney pathology by a single mutated *inv* gene. **V.H. Gattone, A.J. Carr and R.L. Bacallao**. Indiana Univ Sch. of Med.

## 479. MODELING CANCER: BIOLOGICAL AND THERAPEUTIC IMPLICATIONS

### Minisymposium

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, 17A

CHAired: P. DASGUPTA

COCHAired: V. CASTRONOVO

### Neoplasia

- 8:30 **479.1** Tobacco components activate the acetylcholine signaling pathway in bronchioalveolar carcinoma. **J.K. Lau, K.C. Brown, C.M. Crabtree, A.M. Dom, A.W. Buckley, J.C. Harman and P. Dasgupta**. Joan C. Edwards Sch. of Med., Marshall Univ.  
 8:45 **479.2** Nicotine induces the upregulation of alpha-7-nicotinic receptors ( $\alpha 7$ -nAChRs) in human squamous carcinoma of the lung via transcriptional mechanisms. **P. Dasgupta, J.K. Lau, K.C. Brown, H. Luo and Y.C. Chen**. Joan C. Edwards Sch. of Med., Marshall Univ. and Alderson-Broadus Col., WV.  
 9:00 **479.3** Loss of  $\beta$ -catenin in hepatocytes leads to paradoxical increase in DEN/PB induced HCC. **P. Awuah**. Univ. of Pittsburgh Sch. of Med.  
 9:15 **479.4** Development of a new chick chorioallantoic membrane model for human pancreas adenocarcinoma. **V. Castronovo, A. Gonzalez, P. Delvenne and O. Peulen**. Univ. of Liege, Belgium.  
 9:30 **479.5** Linking tumor associated macrophages, inflammation, and intestinal tumorigenesis: role of MCP-1. **E.A. Murphy, J.M. Davis, J. McClellan, J.L. Steiner, D. Jung, M.D. Carmichael, J.A. Carson, M.M. Pena and F.G. Berger**. Univ. of South Carolina.  
 9:45 **479.6** The RNA-binding protein Imp2 regulates oxidative phosphorylation that is key to glioblastoma cancer stem cell maintenance. **M. Janiszewska, M-L. Suva, R.H. Houtkooper, V. Clement-Schatlo and I. Stamenkovic**. Univ. of Lausanne, Massachusetts Gen. Hosp., Boston, EPFL, Lausanne and Univ. of Geneva.  
 10:00 **479.7** Novel regulation of PDGFR $\alpha$  activation in glioblastoma. **J.J. Phillips, E. Huillard, A. Robinson, S.D. Rosen, D.H. Rowitch and Z. Werb**. UCSF.  
 10:15 **479.8** EWS/Fli1-regulated microRNAs in Ewing sarcoma pathogenesis. **P. Jedlicka, J. Parrish, E. McKinsey, L. Dylla, B. Niemeyer and C. Moore**. Univ. of Colorado Denver, Aurora.

## Pharmacology and Experimental Therapeutics

### 480. RAY FULLER LECTURE IN THE NEUROSCIENCES

#### Lecture

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, 2

The Ray Fuller Lecture in the Neurosciences was established to honor the achievements of Ray Fuller in applying an improved understanding of the central nervous system to discover better treatments for the mentally ill. Dr. Fuller was one of the triad that discovered fluoxetine (Prozac), leading to an entire new approach to the therapy of depression.

- 8:30 Introduction. **L. Wecker**. Univ. of South Florida Col. of Med.  
 8:35 Fulfilling the promise of molecular medicine in autism spectrum disorders. **M. F. Bear**. MIT.

### 481. RAY FULLER SYMPOSIUM: PROGRESS TOWARD AUTISM DRUG DISCOVERY

#### Symposium

WED. 9:30 AM—SAN DIEGO CONVENTION CENTER, 2

CHAired: M. BEAR

- 9:30 TBD.  
 10:05 Drug discovery and development for autism and related disorders. **F. Gasparini**. Novartis Inst. for Biomed. Res., Basel.  
 10:40 Allosteric modulators of GPCRs as a novel approach for treatment of CNS disorders. **P. J. Conn**. Vanderbilt Ctr. for Neurosci. Drug Discovery.  
 11:15 Targeted therapeutics for individuals with autism spectrum disorders. **R. L. Carpenter**. Seaside Therapeutics.  
 11:50 Discussion.

### 482. PROTEIN-PROTEIN INTERACTION INTERFACES AS THERAPEUTIC TARGETS: PROMISES AND CHALLENGES

#### Symposium

(Sponsored by: The Divisions for Molecular Pharmacology and Drug Discovery, Development & Regulatory Affairs)

WED. 9:30 AM—SAN DIEGO CONVENTION CENTER, 3

CHAired: H. FU

- 9:30 Chair's introduction.  
 9:40 Targeting PPIs to interrogate survival signaling network in cancer. **H. Fu**. Emory Univ.  
 10:15 Targeting PPI interfaces in drug discovery: key attributes of successful compounds. **D. C. Fry**. Hoffmann-La Roche Inc.  
 10:50 Fragment-based drug discovery approach for challenging targets: PPI. **M. Arkin**. UCSF.  
 11:25 Computational scaffold design approach for the discovery of PPI inhibitors. **S. Wang**. Univ. of Michigan.

### 483. NADPH-CYTOCHROME P450 OXIDOREDUCTASE: ROLES IN PHYSIOLOGY, PHARMACOLOGY, AND TOXICOLOGY

#### Symposium

(Sponsored by: The Divisions for Drug Metabolism; Toxicology; and Drug Discovery, Development & Regulatory Affairs)

WED. 9:30 AM—SAN DIEGO CONVENTION CENTER, 4

CHAired: D. RIDDICK

COCHAired: T. PORTER

- 9:30 Introduction. **D. S. Riddick**. Univ. of Toronto.  
 9:40 Engineered mouse models harboring null or hypomorphic alleles for NADPH-cytochrome P450 oxidoreductase. **X. Ding**. New York State Dept. of Hlth. Discussion.  
 10:10 Discussion.  
 10:15 Mouse models for deciphering the roles of NADPH-cytochrome P450 oxidoreductase and cytochrome b<sub>5</sub> in physiology, drug metabolism and cancer. **C. R. Wolf**. Univ. of Dundee, Ninewells Hosp. and Med. Sch. Discussion.  
 10:45 Discussion.  
 10:50 Replication of the hepatic lipidosis seen in hepatic POR-null mice in a hepatoma cell culture model: a role for FXR? **T. D. Porter**. Univ. of Kentucky Col. of Pharm. Discussion.  
 11:20 Discussion.  
 11:25 Clinical, structural and functional implications of mutations and polymorphisms in human NADPH-cytochrome P450 oxidoreductase. **A. V. Pandey**. Univ. of Bern.  
 11:55 Discussion.

### 484. OPIOID-INDUCED BOWEL DYSFUNCTION

#### Symposium

(Sponsored by: The Divisions for Integrative Systems, Translational & Clinical Pharmacology; Toxicology; and Neuropharmacology)

WED. 9:30 AM—SAN DIEGO CONVENTION CENTER, 5A

CHAired: H. AKBARALI

- 9:30 Opiate receptor function in enteric neurons. **C. Sternini**. UCLA Sch. of Med.  
 10:00 Peripheral opiate antagonists—current usage in treating OBD. **F. M. Mangano**. Adolor Corp.  
 10:30 Opioid tolerance and bowel dysfunction. **H. I. Akbarali**. Virginia Commonwealth Univ.  
 11:00 Mu opioid receptor biased ligands: delivering powerful analgesia and minimizing side effects. **S. DeWire**. Trevana Inc.  
 11:30 Narcotic bowel syndrome. **D. A. Drossman**. Univ. of North Carolina at Chapel Hill Sch. of Med.

**485. DISCOVERY OF PROTEIN KINASE INHIBITORS FOR CNS DISORDERS: OPENING NEW AVENUES FOR UNMET NEEDS****Symposium**

(Sponsored by: The Divisions for Neuropharmacology; Behavioral Pharmacology; and Molecular Pharmacology)

WED. 3:00 PM—SAN DIEGO CONVENTION CENTER, 3

CHAired: M. GNEGY AND D. WATTERSON

- 3:00 Guiding medicinal chemistry with pharmacology in novel small molecule kinase inhibitor discovery: a case study. **D. M. Watterson**. Northwestern Univ. Feinberg Sch. of Med.
- 3:35 Protein kinase inhibitors as therapeutics for neurodegenerative diseases: cdk5 as a case study. **M. Glicksman**. Harvard Med. Sch.
- 4:10 Application of fragment-based lead discovery to identify specific targeted protein kinase inhibitors for CNS disorders. **V. Nienaber**. Zenobia Therapeut., Inc.
- 4:45 PKC $\beta$  inhibitors as potential treatment for drug abuse. **R. Chen**. Univ. of Michigan Med. Sch.
- 5:20 Discussion.

**486. STEROID SIGNALING VIA G PROTEIN-COUPLED RECEPTORS****Symposium**

(Sponsored by: The Divisions for Molecular Pharmacology; Integrative Systems, Translational & Clinical Pharmacology; Neuropharmacology; Toxicology; and Cardiovascular Pharmacology)

WED. 3:00 PM—SAN DIEGO CONVENTION CENTER, 4

CHAired: E. PROSSNITZ

- 3:00 What have selective ligands told us about GPER function? **E. Prossnitz**. Univ. of New Mexico.
- 3:30 G protein-coupled estrogen receptor-1, GPER-1: its mechanism of desensitization and role in cancer. **E. Filardo**. Brown Univ. Sch. of Med.
- 4:00 Actions of GPER on the vasculature. **M. Barton**. Univ. of Zurich.
- 4:30 GPER: a GPCR mediator of estrogen actions in the brain. **D. Lebesgue**. Albert Einstein Col. of Med.
- 5:00 G protein estrogen receptor regulates Kv11.1 ion channel activity in ERneg breast cancer cells. **S. Gentile**. Loyola Univ., IL. (1048.8)
- 5:15 Discussion.

**487. CLINICAL PIPELINE OF MARINE PHARMACEUTICALS: THE ODYSSEY CONTINUES****Symposium**

(Sponsored by: The Division for Drug Discovery, Development & Regulatory Affairs)

WED. 3:00 PM—SAN DIEGO CONVENTION CENTER, 5A

CHAired: K. GLASER AND A.M.S. MAYER

- 3:00 Overview of the current marine clinical pharmaceutical pipeline. **K. B. Glaser**. Abbott Labs.
- 3:15 Discovery of Eribulin mesylate (Halaven®): From marine natural product to FDA approved drug. **M. Yu**. EISAI Inc.
- 3:50 Discovery and development of ADCETRIS: an approved antibody drug conjugate for cancer therapy. **P. D. Senter**. Seattle Genetics.
- 4:25 Discovery and development from marine microbiology of the anticancer compounds plinabulin (NPI-2358) and marizomib (NPI-0052). **G. K. Lloyd**. Nereus Pharmaceut. Inc.
- 5:00 Overview of the current preclinical marine pharmacology pipeline. **A.M.S. Mayer**. Midwestern Univ., IL.
- 5:20 Discussion.

**488. APPLICATIONS OF BIOMATERIALS AND DRUG DELIVERY SYSTEMS FOR ENHANCING TISSUE ENGINEERING AND REGENERATION****Symposium**

(Sponsored by: The Division for Integrative Systems, Translational & Clinical Pharmacology)

WED. 3:00 PM—SAN DIEGO CONVENTION CENTER, 5B

CHAired: K.E. ANDERSON AND G. CHRIST

- 3:00 Biomaterials and biofunctional nanoparticles for tissue engineering and other biomedical applications. **J. Hubbell**. Swiss Fed. Inst. of Technol. Sch. of Life Sci., Lausanne.
- 3:30 Injectable hydrogels for delivery of therapeutic agents for treatment of peripheral and central nervous system injury. **M. Shoichet**. Univ. of Toronto.
- 4:00 Polymeric materials and conjugates for systemic drug and gene delivery. **P. Stayton**. Univ. of Washington.
- 4:30 Hydrogel drug delivery systems for musculoskeletal repair. **J. Temenoff**. Georgia Tech.
- 5:00 Delivery of nucleic acids to regulate the local environment in tissue engineering applications. **J. M. Saul**. Wake Forest Univ. Hlth. Sci.

**489. ASPET CLOSING RECEPTION****Special Event**

WED. 6:00 PM—SAN DIEGO MARRIOTT MARQUIS & MARINA, POOLSIDE TERRACE

# Physiology

## 490. ANABOLIC RESISTANCE TO EXERCISE WITH AGING OR DISEASE

### Featured Topic

(Sponsored by: APS Environmental and Exercise Physiology Section)

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 25B

CHAired: J. FLUCKEY

### Metabolic Diseases

- 8:00 Introduction.
- 8:05 Anabolic resistance to load-induced hypertrophy with metabolic syndrome in the mouse. **S. C. Bodine**. Univ. of California, Davis.
- 8:35 Endurance, resistance, and combined training increase mixed muscle protein synthesis independently of age. **B.A. Irving, I.R. Lanza, G.C. Henderson, A. Weymiller, Y. Sun and K.S. Nair**. Mayo Clin. (1149.1)
- 8:50 The effect of treadmill exercise on the regulation of protein synthesis during IL-6 induced cancer cachexia. **M. Puppa, J. White, S. Sato and J. Carson**. Univ. of South Carolina. (1149.2)
- 9:05 The effects of aging and muscle contraction on AMPK activity. **S.E. Hardman, D.E. Hall, A.J. Mitchell, K.M. Black, R.A. Compton and D.M. Thomson**. Brigham Young Univ. (1149.3)
- 9:20 Translational control and anabolic resistance in human skeletal muscle. **B. B. Rasmussen**. Univ. of Texas Med. Branch.
- 9:50 Wrap-up. **J. D. Fluckey**. Texas A&M Univ.

## 491. BONE-MUSCLE CROSSTALK

### Featured Topic

(Sponsored by: APS Muscle Biology Group)

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 28B

CHAired: M. BROTTTO AND M. JOHNSON

- 8:00 The state of a new field: The Bone-Muscle Crosstalk **T. Clemens**, Johns Hopkins Sch. of Med.
- 8:30 Aging and exercise models that define and reveal new aspects of the muscle-bone communication. **M. Hamrick**, Georgia Health Sciences University-Medical College of Georgia
- 9:00 Multiple-staged regulation of myogenic differentiation by prostaglandin E2. **C. Mo, S. Romero-Suarez, O. Igwe and M. Brotto**. Univ. of Missouri-Kansas City. (1143.1)
- 9:15 Wnt3a a potent modulator of myogenic differentiation and muscle cell function. **S. Romero-Suarez and M. Brotto**. Sch. of Nursing, Univ. of Missouri-Kansas City. (1143.2)
- 9:30 Bad to bone: homocysteine. **N. Tyagi, N. Narayanan, S. Givvimani and S.C. Tyagi**. Univ. of Louisville. (1143.5)

## 492. CONFLICT RESOLUTION: HOW TO KEEP EVERYONE HAPPY!

### Symposium

(Sponsored by: APS Women in Physiology Committee)

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 25C

CHAired: A. GRIPPO AND R. L. SUTLIFF

### Career Development

- 8:00 Squashing squabbles. **P. O. Smith**. Univ. of Mississippi Med. Ctr.
- 8:30 Disagree and advance your career: nonviolent approaches for dealing with your superior. **B. Horwitz**. Univ. of California, Davis.
- 9:00 Overcoming laboratory disagreements from a trainee perspective. **J. Sasser**. Univ. of Mississippi Med. Ctr.
- 9:30 Panel discussion with questions from the audience.

## 493. CONTEMPORARY APPROACHES TO THE PATHOPHYSIOLOGY OF THE CARDIOVASCULAR SYSTEM

### Symposium

(Sponsored by: Latin American Association of Physiological Societies (ALACF))

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 23

CHAired: R. ITURRIAGA AND B. H. MACHADO

- 8:00 The novel axis of the renin-angiotensin system-ACE2/angiotensin-(1-7)/Mas: role in cardiovascular control and hypertension. **R. A.S. Santos**. Fed. Univ. of Minas Gerais, Brazil.
- 8:30 ACE and AT1 receptor function as angiotensin II-independent mechanotransducers. **J. E. Krieger**. Heart Inst., Univ. of Sao Paulo.
- 9:00 Pathophysiological role of the sodium/bicarbonate cotransporter in the heart. **A. Aiello**. Univ. of La Plata.
- 9:30 Endothelial mechanisms of inactivation of increased microvascular permeability in inflammation. **W. N. Durán**. UMDNJ-New Jersey Med. Sch.

## 494. GASTROINTESTINAL PHYSIOLOGY AND THE MICROBIOME

### Featured Topic

(Sponsored by: APS Gastrointestinal and Liver Physiology Section)

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 25A

CHAired: R. T. WORRELL AND H. V. CAREY

### Translational Physiology

- 8:00 Hibernation alters the gut microbial community in ground squirrels. **H.V. Carey, W.A. Walters and R. Knight**. Univ. of Wisconsin-Madison, Univ. of Colorado Boulder and HHMI. (1155.6)

- 8:15 Dynamics of the cecal microbial community of an extreme hibernator, the arctic ground squirrel. **T. Stevenson, L. Buck, B. Quinlan and K. Duddleston.** Univ. of Alaska Anchorage. (1155.7)
- 8:30 Feeding of probiotic formulation protects from obesity and diabetes. **H. Yadav and S.G. Rane.** NIDDK/NIH. (1155.4)
- 8:45 Organ function shapes the microbiome... and vice versa. **M. G. D. Bello.** Univ. of Puerto Rico at Rio Piedras.
- 9:15 Diverse gut microbes facilitate ingestion of dietary toxins in herbivores. **M.D. Dearing, K. Kohl, C. Dale and R. Weiss.** Univ. of Utah. (1155.8)
- 9:30 Community dynamics in the mouse gut microbiota: role of NHE3. **M.A. Engevik, G.E. Shull and R.T. Worrell.** Univ. of Cincinnati. (1155.5)
- 9:45 Dietary fat-induced taurocholic acid production promotes pathobiont and colitis in IL-10<sup>-/-</sup> mice. **S. Devkota, Y. Wang, V.A. Leone, M. Musch, A. Nadimpalli, D. Antonopoulos, B. Jabri and E. Chang.** Univ. of Chicago and Argonne Natl. Lab. (1155.2)

#### 495. MITOCHONDRIAL DYNAMICS IN CARDIAC PHYSIOLOGY

##### Symposium

(Sponsored by: APS Cardiovascular Section)

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 26

CHAired: W. C. STANLEY AND J. H. RENNISON

##### Metabolic Diseases

##### Translational Physiology

- 8:00 Overview of formation and maintenance of mammalian mitochondria. **J. Nunnari.** Univ. of California, Davis.
- 8:30 Mitofusins in cardiomyocyte physiology. **K. Walsh.** Boston Univ. Sch. of Med.
- 9:00 Mitochondrial turnover and ischemia/reperfusion injury. **A. B. Gustafsson.** UCSD.
- 9:30 Sirtuins, protein acetylation and selective mitophagy. **M. N. Sack.** NHLBI/NIH.

#### 496. NEUROVASCULAR MECHANISMS AND TARGETS IN STROKE: FROM CELLS TO HUMANS

##### Symposium

(Sponsored by: American Federation for Medical Research)

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 27

CHAired: M. NING AND E. H. LO

##### Translational Physiology

- 8:00 Introduction. **M. Ning.** Massachusetts Gen. Hosp., Harvard Med. Sch.
- 8:05 Mechanisms of neurovascular injury in stroke. **E. H. Lo.** Massachusetts Gen. Hosp., Harvard Med. Sch.
- 8:30 Physiology and pathophysiology of the blood-brain barrier. **T. Davis.** Univ. of Arizona.
- 9:00 Imaging neurovascular mechanisms and targets in stroke. **P. Lyden.** Cedars-Sinai Hosp.

- 9:30 Neurovascular proteomics and biomarkers. **M. Lopez.** Thermo-Fisher Scientific.

#### 497. NOVEL REGULATORS OF CARDIAC FIBROBLAST FUNCTION AND FATE

##### Featured Topic

(Sponsored by: APS Cardiovascular Section)

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 22

CHAired: M. CZUBRYT

##### Inflammation and Immune Responses

- 8:00 Regulation of cardiac fibroblast transdifferentiation by microenvironment manipulation. **B. Hinz.** Univ. of Toronto.
- 8:30 miRNA regulation of cardiac fibroblast function. **E. Creemers.** Univ. of Amsterdam.
- 9:00 Mechanosensitive TRPV4 channels mediate cardiac fibroblast differentiation to myofibroblasts. **C.K. Thodeti, R.K. Adapala, D.J. Luther, R. Thoppil, W.M. Chilian and J.G. Meszaros.** Northeast Ohio Med. Univ. (1059.1)
- 9:15 Scleraxis works synergistically with Smads to regulate collagen gene expression. **R. Bagchi and M. Czubryt.** Univ. of Manitoba. (1059.2)
- 9:30 MMP-9-generated collagen I C-propeptides alter cardiac fibroblast function. **L.E. de Castro Bras, Q. Dai, R. Zamilpa, G.B. Fields, S.T. Weintraub and M.L. Lindsey.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio. (1059.3)
- 9:45 Identifying novel mechanisms of cardiac myofibroblast phenotype modulation. **I.M.C. Dixon, R.H. Cunningham, J.M. Douville, K.L. Bathe, S.G. Rattan, D.H. Freed and J.T. Wigle.** Univ. of Manitoba. (1059.4)

#### 498. RECENT ADVANCES IN PHYSIOLOGY AND DISEASE: THE ROLE OF THE CIRCADIAN CLOCK IN NEURAL, CARDIOVASCULAR AND METABOLIC FUNCTION

##### Symposium

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 24

CHAired: M. L. GUMZ AND R. D. RUDIC

- 8:00 Mechanism and regulation of the circadian clock. **D. R. Weaver.** Univ. of Massachusetts Med. Sch.
- 8:30 Vascular implications of the circadian clock. **R. D. Rudic.** Georgia Hlth. Sci. Univ.
- 9:00 The role of the circadian clock protein Per 1 in the regulation of renal sodium handling. **M. L. Gumz.** Univ. of Florida.
- 9:30 Chemical biology approach to circadian rhythms and metabolism: rev-erb. **T. P. Burris.** The Scripps Res. Inst., Jupiter, FL.

#### 499. RESPIRATORY PATTERN VARIABILITY: INSIGHTS INTO RESPIRATORY CONTROL MECHANISMS IN HEALTH AND DISEASE

##### Featured Topic

(Sponsored by: APS Respiration Section)

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, 28A

CHAired: T. DICK

- 8:00 Central mechanisms of variable respiratory patterns. **N. Mellen.** Univ. of Louisville Sch. of Med.
- 8:30 Is respiratory variability diagnostic? **F. J. Jacono.** Univ. Hosps. Case Med. Ctr.
- 9:00 A stochastic and integrative model of breathing with temporal scaling characteristics. **B.F. BuSha and S. Frone.** The Col. of New Jersey. (1148.11)
- 9:15 Influence of different classes of anesthetics on burst-to-burst variability of basal phrenic nerve discharge in adult in vivo rat. **T. Rahim, A. Kiridly, I.M. Reid and I.C. Solomon.** Stony Brook Univ. (1148.9)
- 9:30 Neonatal gender contributes to respiratory pattern variability re-establishing stable rhythmogenesis following hypoxia. **A.J. Garcia, T. Malashchenko, N. Rotem-Kohavi and J-M. Ramirez.** Seattle Children's Res. Inst. and Univ. of Washington. (1148.2)
- 9:45 Cardio-pulmonary coupling I: ejection fraction effects on initiator signals of next breathing. **X. Sun.** Natl. Ctr. of Cardiovasc. Dis., Beijing and LA BioMed at Harbor-UCLA Med. Ctr. (1148.12)

#### 500. AMERICAN PHYSIOLOGICAL SOCIETY: 125 YEARS OF PROGRESS

##### Symposium

(Sponsored by: APS History of Physiology Group)

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 23

CHAired: C. M. TIPTON AND K. RYAN

- 10:30 Reacquaintment with APS heritage. **K. Ryan.** U.S. Army Inst. of Surg. Res., Fort Sam Houston.
- 10:50 APS and progress of physiology as a scientific discipline and profession. **R. G. Carroll.** East Carolina Univ. Sch. of Med.
- 11:10 APS and progress in advocating and implementing scientific policies and practices at the national and international levels. **M. Frank.** APS.
- 11:30 Eminent physiological studies by APS members during the past 125 years. **C. M. Tipton.** Univ. of Arizona.
- 11:50 Discussion by the membership.

#### 501. BIOENGINEERING AND REGENERATIVE MEDICINE

##### Symposium

(Sponsored by: Biomedical Engineering Society)

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 22

CHAired: N. BURSAC AND C. NELSON

- 10:30 Mesenchymal stem cell therapeutics for protection and repair of injured tissues and vital organs. **M. Yarmush.** Rutgers Univ., Massachusetts Gen. Hosp., and Harvard Med. Sch.
- 10:55 In situ regeneration of blood vessels by recruiting endogenous stem cells. **S. Li.** Univ. of California, Berkeley.
- 11:20 Engineering airways and ducts. **C. Nelson.** Princeton Univ.
- 11:45 Tissue engineering of functional skeletal muscle. **N. Bursac.** Duke Univ.
- 12:10 Vascularization of engineered tissues. **J. West.** Rice Univ.

#### 502. CENTRAL CONTROL OF FOOD INGESTION AND METABOLISM

##### Symposium

(Sponsored by: Sociedad Mexicana de Ciencias Fisiologicas)

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 24

CHAired: R. BUIJS

- 10:30 Chemosensory processing in the taste: reward pathway. **R. Gutierrez.** CINVESTAV del IPN.
- 11:00 POMC—NPY neuronal interaction essential for metabolic control. **T. L. Horvath.** Yale Univ. Sch. of Med.
- 11:30 The arcuate nucleus as integrator of metabolism: human postmortem and animal studies. **R. Buijs.** Natl. Autonomous Univ. of Mexico.
- 12:00 Circadian desynchronization: a pathway to obesity. **C. Escobar.** Natl. Autonomous Univ. of Mexico.

#### 503. E-MEDIA TOOLS FOR THE PROFESSIONAL SCIENTIST

##### Symposium

(Sponsored by: APS Trainee Advisory Committee)

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 25C

CHAired: J. BOMBERGER AND E. DALE-NAGLE

##### Career Development

- 10:30 Using e-media to find funding opportunities. **C. Dant.** Dartmouth Norris Cotton Cancer Ctr.
- 11:00 E-media tools for teaching. **A. Bunker.** Morningside Col., IA.
- 11:30 Social media in the life sciences. **K. Meyer.** Sigma-Aldrich.
- 12:00 Ethical implications of social media. **N. Brown.** Happy Place Marketing, Tulsa.



**504. ESSENTIAL INSIGHTS INTO PROTEIN INTERACTIONS IN EPITHELIA****Symposium**

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 27

CHAired: R. A. FENTON

- 10:30 Use of mass spec and related techniques to measure post-translations modifications. **F. White.** David H. Koch Inst. for Integrative Cancer Res., MIT.
- 11:00 The interactome of a human cell. **P. Braun.** Dana-Farber Cancer Inst.
- 11:30 Signal complexes organized by A-kinase anchoring proteins and regulation of protein functions in distinct cellular compartments. **K. Taskén.** Univ. of Oslo.
- 12:00 Novel imaging approaches to study protein-protein interactions in living animals. **R. Paulmurugan.** Stanford Univ.

**505. INSULIN RESISTANCE: A DEFENSE MECHANISM FOR THE STRESSED HEART?****Symposium**

(Sponsored by: APS Cardiovascular Section)

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 26

CHAired: H. TAEGTMEYER AND M. CHANDLER

**Metabolic Diseases**

- 10:30 Etiology of insulin resistance. **V. T. Samuel.** Yale Univ. Sch. of Med.
- 10:55 Role of nutrient stress in the pathogenesis of diabetic heart failure. **J. Kim.** Univ. of Massachusetts Med. Sch.
- 11:20 Mechanisms for glucotoxicity in diabetic cardiomyopathy. **A. Wende.** Univ. of Utah.
- 11:45 Cardioprotection attributed to high fat diet-induced insulin resistance. **M. Chandler.** Case Western Reserve Univ.
- 12:10 Insulin resistance as a cellular defense mechanism. **K. L. Hoehn.** Univ. of Virginia.

**506. MECHANICAL MUSCLE DAMAGE****Featured Topic**

(Sponsored by: APS Muscle Biology Group)

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 28B

CHAired: K. MYBURGH

- 10:30 Divergent and fiber-specific responses to eccentric contraction in vivo. **K. H. Myburgh.** Stellenbosch Univ.
- 11:00 Biochemical diversity of human skeletal muscle. **T.F. Tirrell, M. Cook, J.A. Carr, A.J. Choi, E. Lin, M.C. Esparza, S.R. Ward and R.L. Lieber.** UCSD and Univ. of Minnesota, Minneapolis. (1141.2)
- 11:15 Titin is not the weak link in the Z-disk streaming induced by plyometric exercise. **F. Macaluso, A.W. Isaacs and K.H. Myburgh.** Stellenbosch Univ., South Africa. (1141.1)
- 11:30 Mechanical modeling of Z-disc behavior in response to stretch. **K. S. Campbell.** Univ. of Kentucky.

**507. OXYGEN TRANSPORT AND FATIGUE IN HUMANS: UNRAVELING THE MECHANISMS****Symposium**

(Sponsored by: APS Environmental and Exercise Physiology Section)

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 25B

CHAired: J. A. LOPEZ CALBET AND J. DEMPSEY

- 10:30 Brain oxygenation and fatigue: is it all about low PaO<sub>2</sub>? **J. A. Lopez Calbet.** Univ. of Las Palmas de Gran Canaria.
- 11:00 Performance enhancing effects of increased oxygenation. **C. Lundby.** Univ. of Zurich.
- 11:30 Mitochondrial respiration as limiting factor for exercise in humans. **R. Boushel.** Univ. of Copenhagen.
- 12:00 Role of muscle afferents in convective O<sub>2</sub> transport and fatigue. **M. Amann.** Univ. of Utah.

**508. REGULATION OF INTESTINAL STEM CELLS DURING DEVELOPMENT, HOMEOSTASIS, ADAPTATION AND PATHOPHYSIOLOGY****Symposium**

(Sponsored by: APS Gastrointestinal and Liver Physiology Section)

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 25A

CHAired: Y. ZAVROS AND N. N. NANTHAKUMAR

**Translational Physiology****Physiology of Development**

- 10:30 Notch-Atoh1 pathway control of intestinal stem cell fate and neoplastic transformation. **N. Shroyer.** Cincinnati Children's Hosp. Med. Ctr.
- 11:00 CD166, the cancer stem cell marker, functions to regulate the intestinal stem cell niche. **M. Wong.** Oregon Hlth. & Sci. Univ.
- 11:30 Intestinal stem cell: isolation and characterization during intestinal adaptation and during recovery from injury. **C. M. Dekaney.** Univ. of North Carolina at Chapel Hill.
- 12:00 Intestinal stem cell: regulation of the stem cell, stem cell niche during aging in the *Drosophila*. **D. L. Jones.** Salk Inst. for Biol. Studies.

**509. S-GLUTATHIONYLATION AS A MECHANISM OF OXIDATIVE SIGNALING****Symposium**

(Sponsored by: APS Respiration Section)

WED. 10:30 AM—SAN DIEGO CONVENTION CENTER, 28A

CHAired: J. SNOW AND V. ANATHY

**Hypoxia and Oxidative Stress**

- 10:30 S-glutathionylation uncouples eNOS and regulates its cellular and vascular function: relevance to pulmonary vasoreactivity. **J. L. Zweier.** The Ohio State Univ.

- 11:00 Intermittent hypoxia increases S-glutathionylation of mitochondrial complex I. **J. Nanduri**. Univ. of Chicago.
- 11:30 S-glutathionylation activates STIM1 and alters mitochondrial homeostasis. **M. Madesh**. Temple Univ.
- 12:00 Redox regulation of apoptosis by S-glutathionylation of death receptor Fas. **V. Anathy**. Univ. of Vermont Col. of Med.

## 510. DIABETIC CARDIOVASCULAR DYSFUNCTION: ROS-DEPENDENT AND -INDEPENDENT CAUSES AND COMPLICATIONS

### Featured Topic

(Sponsored by: APS Cardiovascular Section)

WED. 3:30 PM—SAN DIEGO CONVENTION CENTER, 28A

CHAired: L. E. WOLD AND J. G. MESZAROS

### Hypoxia and Oxidative Stress

#### Metabolic Diseases

- 3:30 Coronary arterial remodeling in type 2 diabetes. **P. A. Lucchesi**. Res. Inst. at Nationwide Children's Hosp., The Ohio State Univ.
- 4:00 Diabetic cardiomyopathy and nephropathy: Roles of glucose metabolism and oxidative stress. **P. N. Epstein**. Univ. of Louisville.
- 4:30 Dysfunctional mitochondrial topoisomerases mediate diabetic-induced myocardial mitochondrial DNA damage. **J.G. Edwards, S. Hicks, B. Piteo, D. Laurent, J. Mathew and N. Labinsky**. New York Med. Col. (1057.1)
- 4:45 Carbonylation induces ryanodine receptor dysregulation during diabetes. **K.R. Bidasee, C-H. Shao, C. Tian, C.J. Moore, J. Singh and G. Rozanski**. Univ. of Nebraska Med. Ctr. and Univ. of Central Lancashire, U.K. (1057.2)
- 5:00 Chromium downregulates a potent proatherogenic protein, thrombospondin-1, in vascular smooth muscle cells via reduced O-glycosylation and oxidative stress. **P. Raman, R. Ganguly, R.M. Haney and R.J. Chavez**. Northeast Ohio Med. Univ. (1057.3)
- 5:15 Role of BMP4 in eNOS uncoupling in type 2 diabetes. **J.Y. Youn and H.L. Cai**. UCLA. (1057.4)

## 511. HOST RESPONSES TO GASTROINTESTINAL INFECTIONS

### Featured Topic

(Sponsored by: APS Gastrointestinal and Liver Physiology Section)

WED. 3:30 PM—SAN DIEGO CONVENTION CENTER, 25C

CHAired: L. ECKMANN

- 3:30 Role of focal adhesion kinase in the innate immune response to salmonella infection. **J. Casanova**. Univ. of Virginia.
- 4:00 N-methyl-D-aspartate channels regulate apoptosis in *Helicobacter pylori* infection by ammonia-induced calcium permeation mechanisms. **J.H. Seo, J.G. Fox, R.M. Peek and S.J. Hagen**. Beth Israel Deaconess Med. Ctr., MIT and Vanderbilt Univ. Med. Ctr. (1156.1)

- 4:15 Changes in innate immune pathway and proteins of *Caenorhabditis elegans* during *Cronobacter sakazakii* infection. **K. Balamurugan and B.S. Sivamaruthi**. Alagappa Univ., India. (1156.2)
- 4:30 Co-culture supernatants of toxigenic *Clostridium difficile* 43285 with specific *Lactobacillus* and *Bifidobacterium* species significantly attenuated IL8 and MIP3 $\alpha$  induction and restored epithelial viability. **D. VijayaKumar and N. Nanthakumar**. Harvard Med. Sch. and Mucosal Immunol. Lab. and Massachusetts Gen. Hosp. for Children. (1156.3)
- 4:45 Inflammation causes important changes in stomach tight junction structure and function. **S.J. Hagen, S. Zhang, J.H. Seo and J.G. Fox**. Beth Israel Deaconess Med. Ctr. and MIT. (1156.4)
- 5:00 Chitin-binding protein GbpA of *Vibrio cholerae* induces interleukin-8 gene expression in intestinal cells through a TLR2/TLR1/CD14 complex. **N.S. Chatterjee, A. Ghosh, S. Sabui, S. Acharya and K.K. Banerjee**. Natl. Inst. of Cholera & Enteric Dis., Kolkata. (1156.5)
- 5:15 A molecular mechanism for suppression of colonic inflammation by gut bacteria. **A. Gurav, N. Singh and V. Ganapathy**. Georgia Hlth. Sci. Univ. (1156.6)

## 512. LEPTIN: METABOLIC, CARDIOVASCULAR AND IMMUNE CONTROL. DOES IT ALL COME FROM THE BRAIN?

### Featured Topic

(Sponsored by: APS Cardiovascular Section)

WED. 3:30 PM—SAN DIEGO CONVENTION CENTER, 22

CHAired: E. BELIN DE CHANTEMELE AND H. LOB

### Inflammation and Immune Responses

- 3:30 Expanding metabolic roles for central leptin signaling and regulation by PTP1B. **K. Bence**. Univ. of Pennsylvania.
- 4:00 Circumventricular organs: new targets for leptin actions in central regulation of energy balance and cardiovascular regulation. **A. V. Ferguson**. Queen's Univ., Canada.
- 4:30 Leptin activates rat carotid body type I cells and brainstem astroglial cells. **N. Marina, V. Kasymov, V. Mohamed-Ali, S. Kasparov and A.V. Gourine**. Univ. Col. London and Univ. of Bristol. (1128.4)
- 4:45 Activation of leptin receptors in the NTS contributes to the elevated blood pressure in obesity via inhibiting NTS melanocortin signaling. **S-i. Sekizawa and C. Chen**. Univ. of California, Davis. (1128.5)
- 5:00 Increasing leptin sensitivity increases blood pressure in mice on a TH2 responsive background only. **E.J. Belin de Chantemele**. Georgia Hlth. Sci. Univ. (1128.6)
- 5:15 Ganglionic blockade does not impair the chronic CNS-mediated antidiabetic action of leptin in streptozotocin-induced diabetic rats. **A.A. da Silva, J.M. do Carmo, J.H. Dubinion and J.E. Hall**. Univ. of Mississippi Med. Ctr. (1128.3)

### 513. MAMMALIAN TARGET OF RAPAMYCIN AS A CENTRAL PLAYER IN ENERGY BALANCE REGULATION

#### Symposium

(Sponsored by: APS Translational Physiology Group)

WED. 3:30 PM—SAN DIEGO CONVENTION CENTER, 28B

CHAired: I. TORRE-VILLALVAZO AND A. R. HARGENS

#### Translational Physiology

- 3:30 Allosteric and active site inhibitors of mTOR in the clinic. **L. Murphy**. Novartis Insts. for Biomed. Res. Inc.
- 4:00 Amino acid signaling to mTOR mediated by inositol polyphosphate multikinase. **S. Kim**. Korea Advanced Inst. of Sci. and Technol.
- 4:30 Hypothalamic mTOR signaling in energy balance and obesity. **D. Cota**. INSERM, Univ. Bordeaux.
- 5:00 AMPK-mTOR cross talk regulates brown adipocyte differentiation. **S. Fernandez-Veledo**. Hosp. Univ. de Tarragona Joan XXIII, Spain.

### 514. NUCLEAR RECEPTORS IN LIVER DISEASE

#### Symposium

(Sponsored by: APS Gastrointestinal and Liver Physiology Section)

WED. 3:30 PM—SAN DIEGO CONVENTION CENTER, 25A

CHAired: L. WANG AND J. CHIANG

#### Inflammation and Immune Responses

- 3:30 LXRs and lipid signaling in hepatic stellate cells. **S. W. Beaven**. UCLA.
- 4:00 SHP regulation of fatty liver and liver cancer. **L. Wang**. Univ. of Utah Sch. of Med.
- 4:30 Bile acid receptor signaling in liver diseases. **J. Chiang**. Northeast Ohio Med. Univ.
- 5:00 A novel role of FXR in hepatocarcinogenesis. **W. Huang**. Beckman Res. Inst. of City of Hope.

### 515. REACTIVE OXYGEN SPECIES, EXERCISE AND SARCOPENIA

#### Symposium

(Sponsored by: APS Environmental and Exercise Physiology Section)

WED. 3:30 PM—SAN DIEGO CONVENTION CENTER, 27

CHAired: A. McARDLE AND S. BROOKS

- 3:30 The effect of aging and oxidative stress on motor unit remodeling. **L. Larkin**. Univ. of Michigan.
- 4:00 Role of oxidative stress on NMJ degeneration in aging. **H. Van Remmen**. Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- 4:30 ROS signaling and maintenance of muscle mass and function. **M. J. Jackson**. Univ. of Liverpool.
- 5:00 Mitochondrial involvement in aging muscle atrophy: cause or effect(or). **R. T. Hepple**. McGill Univ.

### 516. REGULATION OF MUSCLE BLOOD FLOW BY ATP DURING EXERCISE

#### Symposium

(Sponsored by: APS Environmental and Exercise Physiology Section)

WED. 3:30 PM—SAN DIEGO CONVENTION CENTER, 25B

CHAired: G. H. SIMMONS AND S. B. BENDER

#### Blood Pressure Regulation

- 3:30 Intra-arterial, intra-venous, and interstitial levels of ATP during contractions: insights into purinergic regulation of muscle blood flow during exercise. **S. P. Mortensen**. Copenhagen Muscle Res. Ctr.
- 4:00 The red blood cell as a source of dilatory ATP during exercise: mechanisms and implications. **R. S. Sprague**. St. Louis Univ. Sch. of Med.
- 4:30 The regulation of coronary blood flow by ATP during exercise. **E. O. Feigl**. Univ. of Washington.
- 5:00 The relative maintenance of skeletal muscle vasoconstriction during exercise in the aged: is ATP involved? **A. R. Crecelius**. Colorado State Univ.

## Physiology InFocus

### Physiology in Medicine

### 517. NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE LECTURE

WED. 3:30 PM—SAN DIEGO CONVENTION CENTER, 20A

#### Translational Physiology

Title: On Being a Bench Scientist for 50 Years

Speaker: **O. Smithies**. Univ. of North Carolina at Chapel Hill.

# SUNDAY, APRIL 22

## Across Societies – Experimental Biology

### 518. TEACHING, LEARNING AND TESTING IN THE BIOLOGICAL AND BIOMEDICAL SCIENCES I

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

#### Education

*Presentation time:* 12:30 PM-2:30 PM

Recognizing that techniques and issues related to teaching and the use of computers in research and teaching crosses all biomedical disciplines, EB 2012 has combined education posters from all participating societies. Please note: Posters are on display Sunday through Tuesday. Presentation time is for **Sunday** only.

- T1 **518.1** Collaborative group testing: perceptions of students in a biotechnology course for non-majors. **T.M. Roberts, M.A. Siegel and S.K. Freyermuth.** Univ. of Missouri-Columbia.
- T2 **518.2** Determining the effectiveness of the hybrid teaching method in a biology course at a small liberal arts college. **K.K. Resendes and K. Mroz.** Westminster Col., PA.
- T3 **518.3** Assessment of online course design for a lecture-only pathophysiology course. **K.L.W. Walton.** Missouri Western State Univ.
- T4 **518.4** Are your students ready for A & P? Developing an effective tool to identify students at risk for failure in introductory science courses. **A.D. Gultice, R. Kallmeyer and A. Witham.** Univ. of Cincinnati Blue Ash Col. and The Christ Col., Cincinnati.
- T5 **518.5** A biomedical instrumentation lab to accompany an advanced physiology course. **N.S. Latman.** West Texas A&M Univ.
- T6 **518.6** Developing simple virtual microscopic slides in developing countries: impact and attitudes of medical students. **U.B. Anyaehie and E. Anyanwu.** Univ. of Nigeria.
- T7 **518.7** Replacing laboratory animals by alternative material for teaching diabetes in practical classes. **M.J.A. Rocha, L.F. Tazinafo, P.J. Basso and M.F. Silva.** Univ. of São Paulo, Ribeirão Preto.
- T8 **518.8** CO<sub>2</sub> rebreathing: an undergraduate lab to study the chemical control of breathing. **N.J. Domnik, S.E. Turcotte, N.Y. Yuen, S. Iscoe and J.T. Fisher.** Queen's Univ., Canada.
- T9 **518.9** Applying new technologies to old problems: undergraduate research projects for isolating and characterizing local *Daphnia* sp. and *Chlamydomonas* sp. **M.A.F. Daggett.** Missouri Western State Univ.
- T10 **518.10** Integration of student centered physiology learning into related high school science courses. **S. Anjur.** IMSA, Aurora, IL.
- T11 **518.11** Base Pair: high school teacher professional development creates generational science education impact. **R.W. Rockhold, D. Sullivan and O. McDaniel.** Univ. of Mississippi Med. Ctr.
- T12 **518.12** Hands on physiology activity improves learning of special senses. **H. Carvalho and K.M. Collins.** Virginia Tech Carilion Sch. of Med. and VPI and State Univ.

T13 **518.13** Bringing “PhUn” into the community in Burlington, North Carolina. **J.K. Uno.** Elon Univ.

T14 **518.14** Integrating statistical analysis and experimental design into life science curricula with secondary teachers. **K.L. Clase, O. Adedokun, A. Charles, L. Fatum, S. Ha, K. Janowiak, L. Parker, N. Pelaez and E. Solis.** Purdue Univ., Gary Community Sch. Corp., Indianapolis Publ. Sch. Corp. and Delphi Community Sch. Corp., IN.

### 519. TEACHING, LEARNING AND TESTING IN THE BIOLOGICAL AND BIOMEDICAL SCIENCES II

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

#### Education

*Presentation time:* 1:30 PM-3:30 PM

Recognizing that techniques and issues related to teaching and the use of computers in research and teaching crosses all biomedical disciplines, EB 2012 has combined education posters from all participating societies. Please note: Posters are on display Sunday through Tuesday. Presentation time is for **Sunday** only.

- T15 **519.1** Integrating emerging technologies into formal education for assessment. **K.L. Clase, K. Halverson, J. Rickus and R. Heyden.** Purdue Univ., Univ. of Southern Mississippi and Educ. Consultant, Boston.
- T16 **519.2** The use of novel Camtasia videos to improve performance of at-risk students. **C.J. Miller.** Univ. of Louisville.
- T17 **519.3** Teaching student to use social media to do scientific research. **J. Krontiris-Litowitz.** Youngstown State Univ.
- T18 **519.4** Integration of technology and science education: a collaborative workshop for instructors. **B.C. Hurtt, B.H. Kipp and K. Dutta.** McGraw-Hill Higher Educ., IA, Grand Valley State Univ., MI and Univ. of New England, ME.
- T19 **519.5** Predicting strategies to improve student perceptions about connections between biology knowledge areas using innovative network analysis software. **A. Dasgupta and N. Pelaez.** Purdue Univ.
- T20 **519.6** Physiology with the singing greeting card beeper. **G. Belušič and G. Zupančič.** Univ. of Ljubljana, Slovenia.
- T21 **519.7** Computer-driven mechanical model enables investigation of complex cardiovascular concepts. **T.E. Sweeney.** Univ. of Scranton.
- T22 **519.8** Using open source technology to enhance nursing students' understanding of physiology. **J.E. Lafuze and D.D. Runshe.** Indiana Univ. East and Indiana Univ., Indianapolis.
- T23 **519.9** Frontiers in biomedical education: integrative teaching/learning of pathophysiology and concept of etiopathogenetic clusters. **Z. Kovac.** Univ. of Zagreb Med. Sch., Croatia.

- T24 **519.10** Simulation activities increase medical student question performance compared to paper clinical case conferences. **D.M. Harris, R. Laudadio, D. Campos and K. Ryan.** Univ. of Central Florida and Drexel Univ. Col. of Med.
- T25 **519.11** Using "clicker cases" online: an effective strategy for engaging undergraduate students in physiology case studies. **M.T. Knabb.** West Chester Univ., PA.
- T26 **519.12** Acceptance and usefulness of an audience response system in teaching an undergraduate pharmacology class. **M.C. Sekar.** Col. of Pharm., Univ. of Findlay, OH.
- T27 **519.13** Use of high fidelity human patient simulation in second year medical pharmacology instruction. **E.J.N. Ishac, S.E. Robinson and S.P. Welch.** Virginia Commonwealth Univ.

**520. DISEASE PREVENTION THROUGH EDUCATION****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

**Education**

*Presentation time:* 1:30 PM-3:30 PM

Recognizing that techniques and issues related to teaching and the use of computers in research and teaching crosses all biomedical disciplines, EB 2012 has combined education posters from all participating societies. Please note: Posters are on display Sunday through Tuesday. Presentation time is for **Sunday** only.

- T28 **520.1** Moral and sexual education as a factor in the prevention of sexually transmitted infections and HIV infection among inmates of SOS Astana's Village. **E. Dalenov, A. Kalashnikova and O. Ilderbayev.** Med. Univ. of Astana, Kazakhstan.

**Anatomy****521. CELL BIOLOGY: SIGNALING AND MOLECULAR BIOLOGY****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B233 **521.1** Using the Click-It assay to identify the proliferative myofibroblast. **M.B. Vaughan, T.D. Odejimi and J.E. Thomas.** Univ. of Central Oklahoma.
- B234 **521.2** Role of cAMP-PKA/CREB pathway in regulation of AQP 5 production in rat nasal epithelium. **M. Zheng and W. Wang.** Fujian Med. Univ., China.
- B235 **521.3** Migration of Jurkat cells in response to CypA. **R.A. Jurjus, T. Pushkarsky and M. Bukrinsky.** The George Washington Univ.
- B236 **521.4** Identification of genes essential for *Francisella* invasion of non-phagocytic cells. **K.Y. Lo, F.E. Nano and J.A. Guttman.** Simon Fraser Univ. and Univ. of Victoria, Canada.
- B237 **521.5** Receptor-mediated signaling regulates subcellular gravin-PKA distribution through calcium and PKC. **M. Schott and B. Grove.** Univ. of North Dakota Sch. of Med. and Hlth. Sci.
- B238 **521.6** Hsp60 secretion and migration from cancer cells: a proposal for a multistage pathway. **C. Campanella, F. Cappello, F. Bucchieri, A. Merendino, A. Fucarino, S. David, A. Pitruzzella, F. Farina, G. Burgio, D. Corona, E. Conway de Macario, G. Zummo and A.J.L. Macario.** State Univ. of Palermo, Univ. of Maryland Sch. of Med. and IMET, Baltimore.
- B239 **521.7** Localization of connexin 43 in mitochondria of ovarian cancer cells. **V. Lee, J. Sun and C. Linch.** Texas Tech Univ. Hlth. Sci. Ctr.
- B240 **521.8** Novel in vitro model for cochlear electrode induced mechanical trauma studies. **E. Bas, C. Gupta, C. Bollig, J. Dinh, L. Vu, I. Bueno, C. Dinh, F.F. Telischi and T.R. Van De Water.** Univ. of Miami.

- B241 **521.9** Comparative neuronutritive protection of *Citrus sinensis* and vitamin C on differential gene expression in brain tissues of female Sprague Dawley rats. **O.O. Ogunleye, A.B. James, O.A. Ebuehi, B. Iwalokun, G.M. Saibu, S.O. Odesanmi, O. Magbagbeola and S.A. Omilabu.** Col. of Med., Univ. of Lagos, Nigeria, Nigerian Inst. of Med. Res., Yaba and Western Cape Univ., South Africa.
- B242 **521.10** mTOR inhibitors reduce cerebral vasospasm in a subarachnoid double-hemorrhage canine model. **W. Zhang, C. Chen, H. Meng, H. Han, J. Han, S. Liu and C. Zhou.** Peking Univ. Hlth. Sci. Ctr., Med. Col. of Shandong Univ., Peking Univ. Third Hosp. and Tasly Microcirc. Res. Ctr., Beijing.
- B243 **521.11** BNIP3 and OGD-induced oligodendrocyte death: role in white matter injury in cerebral ischemia. **T. Guan, C. Li and J. Kong.** Fac. of Med., Univ. of Manitoba.
- B244 **521.12** The relationship between oxidative SOD1 and Abeta production and aggregation. **C. Li, X. Chen, X-m. Li and J. Kong.** Fac. of Med., Univ. of Manibota and Manitoba Inst. of Ment. Hlth., Winnipeg.
- B245 **521.13** Effects of heroin dependence on the expression of L-ENK and SS in the VTA and Nac regions of rat brain. **Y-X. Li and W-M. Liang.** Guiyang Med. Univ., China.
- B246 **521.14** Effects of heroin dependence on the expression of SP and NPY in the VTA and NAc regions of rat brain. **W-m. Liang and Y-x. Li.** Guiyang Med. Univ., China.

**522. CELL BIOLOGY: MEMBRANES AND CYTOSKELETON****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B247 **522.1** The spectrin cytoskeleton is required for efficient intestinal bacterial infections. **J.A. Guttman and T.J. Ruetz.** Simon Fraser Univ., Canada.

- B248 **522.2** *Edwardsiella tarda* alter their protein expression profiles at permissive human temperatures and control the host cytoskeleton for their benefit. **B.J. Tenkink, R. Noort, B.A. Siame, J.A. Guttman and K.Y. Leung.** Simon Fraser Univ. and Trinity Western Univ., Canada.
- B249 **522.3** Nexilin is a dynamic protein at *Listeria monocytogenes* comet tails and enteropathogenic *E. coli* pedestals. **H.T. Law, M. Bonazzi, J. Jackson, P. Cossart and J.A. Guttman.** Simon Fraser Univ., Canada and Inst. Pasteur and INSERM, Paris.
- B250 **522.4** *Francisella* enters host cells by clathrin-mediated endocytosis at a cholesterol rich domain. **A.E. Lin, Y. Kim, H.T. Law, F.E. Nano and J.A. Guttman.** Simon Fraser Univ. and Univ. of Victoria, Canada.
- B251 **522.5** Cellular trafficking of helical rosette nanotubes in dendritic cells. **N. House, H. Fenniri and B. Singh.** Univ. of Saskatchewan, Univ. of Alberta and Natl. Inst. for Nanotechnol., Edmonton.
- B252 **522.6** Alpha II-spectrin interacting partners in the inner ear serve as pointers to the protein composition of the striated organelle. **R.L. Chidavaenzi and A. Lysakowski.** Univ. of Illinois at Chicago.
- B253 **522.7** Immune synapse malformation: role for CAV1 and PAK1. **C.E. Gilling, A.K. Mittal and S.S. Joshi.** Univ. of Nebraska Med. Ctr.
- B254 **522.8** Tubulobulbar complexes formed in Sertoli cells in primary cultures associate with intercellular junction elements. **M. Du, C. Roskelley, P. Nicholls, P. Stanton, W. Deng, B. Finlay and W. Vogl.** Univ. of British Columbia and Prince Henry's Inst., Clayton, Australia.
- B255 **522.9** Morphological changes in the radial spokes of two *Chlamydomonas* mutants expressing various truncated RSP3. **B. Meek, P. Sivadas and P. Yang.** Oklahoma State Univ. Ctr. for Hlth. Sci. and Marquette Univ.

## 523. IMAGING

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:00 PM

- B256 **523.1** Anatomical correlation of musculoskeletal diagnostic images. **B. Russell and B. Garner.** Eastern Washington Univ.
- B257 **523.2** Novel imaging of the implantation of left-sided pacing leads within reanimated swine hearts. **J.H. Eggum and P. Iaizzo.** Univ. of Minnesota, Minneapolis.
- B258 **523.3** Magnetic resonance elastography detects medullary renal fibrosis. **M.J. Korsmo, B. Ebrahimi, J.R. Woollard, J.A. Crane, A. Eirin, J.D. Krier, R.L. Ehman and L.O. Lerman.** Mayo Clin.
- B259 **523.4** 3-Dimensional imaging and quantification of cell adherence on curved surfaces of medical grade devices using confocal laser-scanning microscopy. **K.E. Prater, R.D. Prater and J.P. Biggerstaff.** Univ. of Tennessee, Knoxville.
- B260 **523.5** 3-D arthroscopy: a new frontier in surgical visualization. **V.A. Roach, M.R. Mistry, M-E. LeBel and T.D. Wilson.** Univ. of Western Ontario.

## 524. CARDIOVASCULAR BIOLOGY: ANATOMY AND MORPHOLOGY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:00 PM

- B261 **524.1** Glutamatergic neurons of the rat epicardial ganglia. **T. Wang and K.E. Miller.** Oklahoma State Univ.
- B262 **524.2** Assessments of chamber volumes within perfusion-fixed human hearts: direct measurements versus 3D volume reconstructions. **S.A. Howard, R.P. Goff and P.A. Iaizzo.** Univ. of Minnesota, Minneapolis.

## 525. CARDIOVASCULAR BIOLOGY: HEART DEVELOPMENT AND GROWTH

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:00 PM

- B263 **525.1** The role of CD44<sup>+</sup> cells in human heart valve development. **M. Votteler, D.A. Carvajal Berrio, M. Bonin, A. Horke, K. Brockbank and K. Schenke-Layland.** Inter-Univ. Ctr. for Med. Technol. Stuttgart-Tübingen, Fraunhofer IGB, Stuttgart, Eberhard Karls Univ., Tübingen, Sana Cardiac Surg., Stuttgart and Cell & Tissue Sys. Inc., Charleston, SC.
- B264 **525.2** Is BMP-2 a component of the particulate matrix that is responsible for epithelial/mesenchymal transformation during heart development. **T.H. Abd-Elhamid, M.L. Conway and A.R. Sinning.** Univ. of Mississippi Med. Ctr.
- B265 **525.3** The type I TGF $\beta$  receptor ALK-1 functions in TGF $\beta$ -mediated signaling in angiogenesis. **I. Duffy, J. Watters and J. Hawker.** Saint Leo Univ., FL, South Florida Community Col. and Texas A&M Univ.
- B266 **525.4** Shear stress-activated angiopoietin-2 modulates endothelial cell repairs and vasculogenesis via Wnt/ $\beta$ -catenin signaling pathway. **F. Yu, W. Takabe, M. Harrison, R. Li, J. Gu, N. Chi, C-L. Lien and T. Hsiai.** Univ. of Southern California, Emory Univ., Children's Hosp. Los Angeles and UCSD.
- B267 **525.5** Deposition of collagen perivascular by angiotensin II action in the aorta independent of hemodynamic effects. **K.A. Viegas, T.C. Souza-Oliveira, N.B. Rabechi, A. Paiva, I. Alves, R.C. Campos Machado, C.J. Piva, A.B. Martins-Junior and S. Lacchini.** Univ. of São Paulo.
- B268 **525.6** FOXO transcription factors are critical regulators of neonatal cardiomyocyte proliferation. **A. Sengupta and K.E. Yutzey.** Cincinnati Children's Med. Hosp. Ctr.

**526. CARDIOVASCULAR BIOLOGY: DYSFUNCTION; DISEASE; GENETIC DISORDERS****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B269 **526.1** Fibrin promotes survival and differentiation of endothelial progenitor cells after transplantation. **H-J. Wang, Z. Quan, Q-L. Wang and Y-Z. Tan.** Shanghai Med. Sch. of Fudan Univ.
- B270 **526.2** Inducible reexpression of HEXIM1 activates physiological rather than pathological responses in the adult heart. **M. Watanabe, Y.Q. Doughman, C. Desjardins, Y. Hu, C. Wang, B. Hoit, M. Chandler, X. Yu and M. Montano.** Case Western Reserve Univ.
- B271 **526.3** Phenanthrene affects cardiovascular function in the developing African clawed frog (*Xenopus laevis*). **K.N. Hausken, K.A. Layman and S.L. Whittemore.** Keene State Col., NH.
- B272 **526.4** Bacterial LPS influences receptor activator NF kappa B and fractalkine receptors expression in arterial smooth muscle cells derived from limbs amputated for peripheral arterial disease. **R. Zamin, P. Norman and L. Filgueira.** Univ. of Western Australia.
- B273 **526.5** Liver-specific deletion of protein tyrosine phosphatase 1B improves endothelial dysfunction and cardiovascular alterations associated with obesity in mice. **A. Agouni, S. Tual-Chalot, L. Duluc, C.M. Martinez, N. Mody, R. Andriantsitohaina and M. Delibegovic.** Univ. of Surrey, Univ. of Aberdeen and INSERM U694, Angers.
- B274 **526.6** Association between TaqI vitamin D receptor gene polymorphism and LDL-C in Cuban Americans. **L. Shaban, G.G. Zarini, J.C. Exebio, D-H. Shin and F.G. Huffman.** Florida Intl. Univ.
- B275 **526.7** Overexpression of MnSOD and CoQ10 treatment attenuate NRTi-induced endothelial dysfunction. **M. Glover, V.Y. Hebert, S. Xue, J.H. Zavec and T.R. Dugas.** LSU Hlth. Sci. Ctr., Shreveport.
- B276 **526.8** Right aberrant subclavian artery in a 12-year-old with dysphagia and thoracic outlet syndrome. **J.D. Collins, E.H. Saxton, H. Gelabert, S.S. Ahn and A. Carnes.** David Geffen Sch. of Med. at UCLA.

**527. CARDIOVASCULAR BIOLOGY: SEX AND GENDER-RELATED DIFFERENCES****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B277 **527.1** Structural composition of myocardial infarction scar does not differ between male and female middle-aged rats. **Y. Bogatyryov, M. Kelly, L.P. Christensen, R.J. Tomanek and E.I. Dedkov.** New York Col. of Osteo. Med., NYIT and Univ. of Iowa Carver Col. of Med.

**528. ANATOMY EDUCATION: UNDERGRADUATE****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B278 **528.1** Correlation between undergraduate anatomy and physiology and graduate anatomy outcomes: defining predictors of academic success of PA students. **M. Hankin, A. Gardner, R. Lane, C. Bennett-Clarke and P. Hogue.** Univ. of Toledo Col. of Med.
- B279 **528.2** How do undergraduate students study for anatomy, and does it matter? **J.B. Barger.** Indiana Univ.
- B280 **528.3** Helping students help themselves: evaluating the effectiveness of undergraduate study techniques in human anatomy. **C. Eleazer and R.K. Scopa Kelso.** Univ. of Tennessee, Knoxville.
- B281 **528.4** Collaborative learning utilizing case-based problems. **N.T. Hilvano and K.M. Mathis.** Univ. of Cincinnati—Clermont Col.
- B282 **528.5** Do lectures matter? Lecture attendance in online and face-to-face histology courses. **M.L. Barbeau and K.A. Rogers.** Univ. of Western Ontario.
- B283 **528.6** Designing a laboratory-based microscopic anatomy class for undergraduates. **S.K. Sommers Smith.** Wellesley Col.
- B284 **528.7** Undergraduate dissection techniques: unique views of internal structures. **L.N. Coniglio and Z.M. Saenz.** San Francisco State Univ.

**529. ANATOMY EDUCATION: TEACHING METHODS AND INNOVATIONS****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B285 **529.1** Watching development: an easy ex ovo culturing method to directly observe late-staged chicken embryos. **T.A. Franz-Odenaal and K. Duench.** Mount Saint Vincent Univ., Canada.
- B286 **529.2** Decreasing morbidity and improving workflow with point-of-care ultrasound in the emergency department. **B.M. Halm.** Kapi'olani Med. Ctr. for Women and Children and John A Burns Sch. of Med., Univ. of Hawaii.
- B287 **529.3** The use of medical images in teaching human anatomy. **G. Rae, M. Skelton and E. Bevers.** Stetson Univ., FL.
- B288 **529.4** Faculty and student perceptions of tablet-based content in gross anatomy laboratory teaching. **B.J. Smoot, C. Andler, J. Clay, C. Mayfield, P. Ohara and K.S. Topp.** UCSF.
- B289 **529.5** The role of color in knowledge retention: a body-painting study. **G.M. Finn and P.M. White.** Sch. of Med. and Hlth., Durham Univ., U.K.
- B290 **529.6** A practical way to understand anatomical planes and directions in animals using vegetables. **L.J. Tamayo-Arango.** Univ. of Antioquia, Colombia.

- B291 **529.7** Getting crafty in the classroom: reinforcing students' knowledge of muscular attachments and positions with fabric muscles. **M.T. Bee, J.M. Montante, G. Grabowski and W.C. Forbes.** Oakland Univ. William Beaumont Sch. of Med. and Univ. of Detroit Mercy.
- B292 **529.8** The novel 'syncretion' approach to learning gross anatomy with clay models: is it a plausible alternative for learning the muscles in the anterior forearm? **H. Kim, M. Johnson and T.D. Wilson.** Univ. of Western Ontario.
- B293 **529.9** Broadening the education of anatomy with art. **K.P. Babin and A.M. Koba.** City Col. of San Francisco and San Francisco State Univ.
- B294 **529.10** Dissection of a female perineum: a colored anatomical model in plaster (Sciences e Pedagogie, Paris) of the middle of the 20th century. **P.P. Le Floch-Prigent.** Med. Sch., Univ. of Versailles-Saint Quentin, Paris.
- B295 **529.11** Head and neck dissection: a non-colored anatomical model in plaster of the Nicolas-Augier-Roux collection. **P.P. Le Floch-Prigent.** Univ. of Versailles Med. Sch. and CIMOP, Saint Cloud, France.
- B296 **529.12** Plastinated prosections in a systems-integrated gross anatomy curriculum. **J. Anstrom, I. Danelisen and R. Wyeth.** Edward Via Col. of Osteo. Med., Virginia Tech.
- B297 **529.13** A successful method for engaging students in active learning using prosected cadavers. **S. Khirallah and J.J. Walker.** Purdue Univ.
- B298 **529.14** Enhancing science literacy in tertiary education: a real-world exercise in literature research, scientific writing, and self and peer assessment. **L. Filgueira, B. Pauk and J. Meyer.** Univ. of Western Australia.
- B299 **529.15** The Downstate video Atlas of Anatomy, a project powered by dyad pedagogy. **A. Blumenberg and S. Marquez.** SUNY Downstate Col. of Med.
- B300 **529.16** Developing a photographic atlas of early fetal anatomy. **J. Hartpence and C. Hubbard.** Northern Illinois Univ.
- B301 **529.17** The atlas of human cardiac anatomy: a free-access educational website. **P.A. Iazzo, M.G. Bateman, J.L. Quill, C.D. Rolfes, S.A. Howard, J.H. Eggum, R.P. Goff, M.D. Eggen, G.W. Williams and A.J. Hill.** Univ. of Minnesota, Minneapolis and Medtronic Inc., Mountain View, MN.
- B302 **529.18** Analysis of study logs in an anatomy learning skills course. **A. Schutte.** Indiana Univ.
- B303 **529.19** Creation, implementation, and evaluation of a neuroscience curriculum for grades 4-6. **K. Rider, K. Dao and B. Puder.** Samuel Merritt Univ., CA.
- B304 **529.20** Creating effective university-K12 outreach partnerships. **D.K. Mills.** Louisiana Tech Univ.
- B307 **530.3** A digital atlas for ultrasound guided nerve blocks of the upper limb. **R.J. Rawski, J. Brookes, M. Johnson and S. Ganapathy.** Univ. of Western Ontario.
- B308 **530.4** User experience and the influence on the evaluation of information presentation in an online brachial plexus module. **J.G. Turgeon, K. Armstrong and T.D. Wilson.** Univ. of Western Ontario.
- B309 **530.5** The educational value of virtual 3D skeletal model rendered from CAT scan in anatomy education. **V.M. Balzano and L.M.J. Lee.** The Ohio State Univ. Col. of Med.
- B310 **530.6** 3D atlas of the developing human. **B.S. de Bakker, K.H. de Jong, J. Hagoort, R-J. Oostra and A.F.M. Moorman.** Acad. Med. Ctr., Amsterdam.
- B311 **530.7** Use of video lab guides to supplement an undergraduate cadaver lab. **H.J. Billings.** West Virginia Univ. Hlth. Sci. Ctr.
- B312 **530.8** The use of 3D stereoscopic and 2D videos as pre-lab tool for anatomy dissection. **S.M. Alkhalili, K. Hannon and G.L. Coppoc.** Purdue Univ.
- B313 **530.9** Cadaver dissection videos as an effective lab instruction tool for medical and other graduate level health professional students. **M.T. Bee, J.M. Montante and B. McAuley.** Oakland Univ. William Beaumont Sch. of Med. and Univ. of Detroit Mercy.
- B314 **530.10** Computer-assisted instruction increased students' ability to interpret 3D relationships and retain essential course material in undergraduate human anatomy and A&P courses. **R.B. Tallitsch, K. Abdel-Malek, J. Krippel, A. Beck, P. Croll, S. Fenwick, K. Kelley and B. Peters.** Augustana Col., IL, Cyber-Anat., Iowa City, Midwestern Univ. Sch. of Med., IL and St. Ambrose Univ., IA.
- B315 **530.11** Online versus on-ground learning for anatomy undergraduates. **J. McClure and A. Cook.** Marian Univ. and Orbis Educ., Indianapolis.
- B316 **530.12** Integrating online lessons for learning in the anatomy laboratory. **E. Petrik and A.F. Doubleday.** Univ. of Illinois at Chicago Col. of Dent.
- B317 **530.13** A comparison of commercial anatomy educational software. **S.M. Attardi and K.A. Rogers.** Univ. of Western Ontario.

### 530. ANATOMY EDUCATION: COMPUTER-ASSISTED LEARNING

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B305 **530.1** More than meets the eye: an interactive 3D model of the eye for enhanced learning of the oculomotor system. **L.K. Allen, S. Bhattacharyya and T.D. Wilson.** Schulich Sch. of Med. and Dent., Univ. of Western Ontario.
- B306 **530.2** An interactive 3D model of the cranial nerve and brainstem nuclei for enhanced learning of neuroanatomy. **K.L. Pedersen, S. deRibaupierre and T.D. Wilson.** Univ. of Western Ontario.

### 531. ANATOMY EDUCATION

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B318 **531.1** The John Martin Rare Book Room as a learning resource. **P.M. Heidger, Jr. and D.L. Hirst.** Univ. of Iowa Carver Col. of Med.
- B319 **531.2** What motivates medical students to learn anatomy? **K. Selby, S. Singh, S. Ratner and M. Johnson.** Univ. of Western Ontario.
- B320 **531.3** Innovation in education: histology and physiology integration. **P. Shaw and B. Hanss.** Mount Sinai Sch. of Med.
- B321 **531.4** Undergraduate study approaches to anatomy, using surface or deep approaches. **S. Dunham and A.J. Notebaert.** Indiana Univ.



- B322 **531.5** Integrating basic science and clinical subject material into a clinically relevant skin-musculoskeletal course for first-year medical students. **A.R. Severson, L.A. Repesh, R.E. Westra, A.M. Johns and R.G. Hoffman.** Univ. of Minnesota Med. Sch. Duluth.
- B323 **531.6** The anatomy training program by distance learning co-sponsored by AAA and the anatomical societies: experiences of first cohort of AAA trainees and mentor. **C. Vasan, B. Smoot and N. Vasan.** New Jersey Med. Sch. and UCSF.
- B324 **531.7** Passing the torch: medical student near-peer teachers enhance learning in histology. **H.C. Ko, E. Bassan, P.A. Shaw and K.M. Mak.** Mount Sinai Sch. of Med.
- B325 **531.8** Near-peer teaching in an anatomy course. **R.E. Elizondo Omaña, S. Guzmán López, E. Navarro Bahena and C. Pámanes Durán.** Med. Sch., Autonomous Univ. of Nuevo León, Mexico.
- B326 **531.9** Three opportunities in gross anatomy for meeting the diverse needs of fourth year medical students based on their chosen specialty areas. **M.H. Snow and M.A. Winfield.** Keck Sch. of Med., Univ. of Southern California.
- B327 **531.10** To implement and determine the effectiveness of a multi-modal teaching strategy in a Caribbean medical school. **K. Singh, P. Richardson, H. Hennis and J.M. Branday.** Fac. of Med. Sci., Univ. of West Indies, Barbados.
- B328 **531.11** Clinical cases and TBL in developmental and gross anatomy course. **V. Mavrych, O. Bolgova and R. Seetharama.** St. Matthews Univ., Cayman Islands.
- B329 **531.12** Clinical utility of PA anatomy education. **R. Lane, A. Gardner, C. Bennett-Clarke, P. Hogue and M. Hankin.** Univ. of Toledo Col. of Med.
- B330 **531.13** Frida Kahlo and infertility: a retrospective diagnosis of Asherman's syndrome. **F. Antelo.** Harbor-UCLA Med. Ctr.
- B331 **531.14** Restoration and preservation of pathological surgical specimens. **M. Zekhtser, M. Tugbenyoh and G. Nusse.** San Francisco State Univ.
- B332 **531.15** Foundations for a lifetime: a qualitative inquiry into the salient aspects of cadaver dissection over time and their impact on medical professionals. **M.D. Skinner, S. Morrow and D.A. Morton.** Univ. of Utah.
- B333 **531.16** Cadavers, death anxiety, and the early development of the medical double-consciousness. **A. Martiny and L.M. Witmer.** Ohio Univ. Heritage Col. of Osteo. Med.
- B334 **531.17** Beneficial aspect of cadaver dissection – medical students perspective. **B. Kraszpulska.** Wright State Univ.
- B335 **531.18** Accurate accountability of anatomical donors and material permits quality control for the medical school and maintains public trust. **M.P. McGillicuddy, N. Caceres and S. Marquez.** SUNY Downstate.
- B336 **531.19** A survey of memorial ceremonies in United States anatomy programs. **T.W. Jones, M. Nwojo, W. Pawlina and N. Lachman.** Mayo Med. Sch., Mayo Clin.
- B337 **531.20** Teaching students to teach: a medical student teaching assistant perspective on the effectiveness of learning through apprenticeship. **A.J. Erie, S. Starkman, W. Pawlina and N. Lachman.** Mayo Clin.

## 532. ANATOMY EDUCATION: ASSESSMENT, CURRICULUM AND MENTORING

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B338 **532.1** Medical students in the microscopic anatomy course: active learning as an evolving response to the adult learner's needs. **R.A. Jurjus, J. Krum and E. Goldman.** The George Washington Univ.
- B339 **532.2** How do block scheduling and integrated testing affect medical student performance? **A.R. Thompson, M.W. Braun and V.D. O'Loughlin.** Indiana Univ.
- B340 **532.3** A qualitative exploration of how students self-assess anatomy performance. **G.M. Finn and M.A. Sawdon.** Sch. of Med. & Hlth., Durham Univ., U.K.
- B341 **532.4** Special K: regular diet of quizzes for knowledge in histology. **R. Ettarh and D. Jerrett.** Tulane Univ. Sch. of Med.
- B342 **532.5** Creating integrated histology flash cards with clinical correlations in teaching histology. **D. Cui, W.P. Daley and G. Yang.** Univ. of Mississippi Med. Ctr.
- B343 **532.6** Increased stress during gross anatomy course negatively affects students' performance. **A. Ramos and K. Bringe.** Mayo Clin.

# VISIT THE EXHIBITS

APRIL 22 – APRIL 24

## EXHIBIT HOURS

SUNDAY – TUESDAY

9:00 AM – 4:00 PM

## Biochemistry and Molecular Biology

### 533. HISTONE MODIFICATIONS AND THEIR RECOGNITION

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A1 **533.1** Structural insights into the role of PHD fingers in the MOZ/MORF and HBO1 HATs. **K.C. Glass, N. Saksouk, M. Ullah, X-J. Yang, J. Côté and T.G. Kutateladze.** Albany Col. of Pharm., VT, Laval Univ. Cancer Res. Ctr., Canada, McGill Univ. and Univ. of Colorado Denver, Aurora.
- A2 **533.2** Identification and characterization of small molecules that inhibit binding of the third plant homeodomain finger of JARID1A to histone H3. **E.K. Wagner, R. Flemming, N. Nath and J. Denu.** Univ. of Wisconsin-Madison, Promega Corp. and Wisconsin Insts. for Discovery, Madison.
- A3 **533.3** Human skeletal muscle histone modifications in response to six weeks of endurance training. **M. Ydfors, M. Lindholm and C.J. Sundberg.** Karolinska Inst.

### 534. MECHANISMS OF INHERITANCE OF HISTONE MODIFICATIONS

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A4 **534.1** SV40 virions encode transgenerational epigenetic information from cellular viral chromatin. **B.I. Milavetz, L. Kallestad, A. Gefroh, N. Adams, E. Wood and L. Balakrishnan.** Univ. of North Dakota and Univ. of Rochester Med. Ctr.

### 535. TRANSCRIPTIONAL REGULATION AND EPIGENETICS

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A5 **535.1** Epigenetic regulation of dual-specificity phosphatase 5 as a functional tumor suppressor and biomarker for gastric cancer. **S-H. Shin and G.H. Kang.** Seoul Natl. Univ. and Seoul Natl. Univ. Col. of Med.
- A6 **535.2** Integrin  $\alpha 6\beta 4$  regulates promoter demethylation of EGFR ligands. **B.L. Carpenter, M. Chen and K. O'Connor.** Univ. of Kentucky.
- A7 **535.3** Hypermethylation-mediated silencing of p14ARF in fibroblasts from idiopathic pulmonary fibrosis. **M. Selman, J. Cisneros, J. Hagoood, M. Checa, B. Ortiz-Quintero, M. Negreiros, I. Herrera, C. Ramos and A. Pardo.** Natl. Inst. of Resp. Illnesses, Mexico City, UCSD and Natl. Autonomous Univ. of Mexico, Mexico City.
- A8 **535.4** Epigenetic regulation of natriuretic peptide receptor-A gene by cooperative interaction of retinoic acid and sodium butyrate via histone modifications in vascular smooth muscle cells. **P. Kumar, V. Nguyen and K.N. Pandey.** Tulane Univ. Hlth. Sci. Ctr. Sch. of Med.
- A9 **535.5** Effect of chronic hypoxia on pregnancy-mediated transcriptional regulation of ER $\alpha$  in ovine uterine arteries. **C. Dasgupta, H. Zhang, M. Chen and L. Zhang.** Loma Linda Univ. Sch. of Med.
- A10 **535.6** Hu antigen R and tristetrarolin: regulates claudin 1 mRNA stability in colon cancer. **A. Sharma and P. Dhawan.** Vanderbilt Univ.
- A11 **535.7** Dcm-mediated cytosine DNA methylation is conserved in *Escherichia coli* and influences the expression of ribosomal protein genes. **K.T. Militello, R.D. Simon, M. Qureshi, R. Maines, M.L. VanHorne, S.M. Hennick, S.K. Jayakar and S. Pounder.** SUNY Geneseo.
- A12 **535.8** 5-Azacytidine influences ATP synthase gene expression and ATP levels in *Escherichia coli*. **S.J. Cantatore and K.T. Militello.** SUNY at Geneseo.
- A13 **535.9** Downregulation of BRCA1-mediated transcription by HP1 $\gamma$  via modulation of promoter occupancy. **J.D. Choi and J-S. Lee.** Seoul Natl. Univ. and Ajou Univ., South Korea.
- A14 **535.10** Characterization of the delta12-prostaglandin J2-coenzyme A interaction and its role in epigenetic modulation of gene expression. **S.L.N. Farwell, V. Narayan, R. Kodihalli and K.S. Prabhu.** Penn State and MIT.
- A15 **535.11** Epigenetic regulation of the class II transactivator by the polycomb repressive complex 2. **N. Boyd and S.F. Greer.** Georgia State Univ.
- A16 **535.12** Transcriptomic and epigenomic characterization of mouse models simulating features of post-traumatic stress disorder. **S. Muhie, R. Hammamieh, S-A. Miller, N. Chakraborty and M. Jett.** U.S. Army Ctr. for Envrn. Hlth. Res., Fort Detrick, MD.
- A17 **535.13** Identification of potential enhancers in intron 5 of the RUNX1 gene. **S.E. Gutierrez, R. Alarcon, B. Rebollo, V. Fernandez and A. Javed.** Univ. of Concepcion, Chile and Univ. of Alabama at Birmingham.
- A18 **535.14** Sumoylation regulates multiple transcription factors to control lens differentiation. **D. Li, L. Gong, W. Ji, M. Deng, X-H. Hu, W-f. Hu, P. Chen and S. Hu.** Univ. of Nebraska Med. Ctr. and Hunan Normal Univ., China.
- A19 **535.15** An inhibitor of histone demethylases specifically blocks cancer growth in vitro and in vivo. **E.D. Martinez, L. Wang, A. Best, D. Varghese and J. Chang.** Univ. of Texas Southwestern Med. Ctr.
- A20 **535.16** Hypoxia sensing by Fe<sup>2+</sup>/ $\alpha$ -KG dependent dioxygenases regulate hmU synthesis in trypanosome DNA, chromatin structure and Pol II transcription. **R. Sabatini, L. Cliffe, D. Ekanayake and G. Hirsch.** Univ. of Georgia.

### 536. MECHANISM AND REGULATION OF DNA REPAIR

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A21 **536.1** Enhancing directed double strand breaks with the Ref and RecA protein. **S.J. Won and M.M. Cox.** Univ. of Wisconsin-Madison.
- A22 **536.2** Lysine rich C-terminal domain of Ku protein from *Mycobacterium smegmatis* regulates its mode of DNA interaction. **A.K. Kushwaha and A. Grove.** LSU.
- A23 **536.3** The molecular mechanism of bacteriophage T4 Rad50/Mre11 DNA repair complex. **T. Herdendorf and S. Nelson.** Iowa State Univ.
- A24 **536.4** p300-Dependent acetylation of histone H3 at lysine 56 is required for cardioprotection and DNA damage response. **S. Jain, J. Wei and N.H. Bishopric.** Miller Sch. of Med., Univ. of Miami.
- A25 **536.5** Regulation of MSH2 activity by acetylation and ubiquitylation. **D. Tong, M. Zhang, S. Xiang, L. Gu, X. Zhang, G-m. Li and J. Huang.** Col. of Life Sci., Wuhan Univ., China, Col. of Med., Univ. of Kentucky and Col. of Med., Univ. of South Florida.
- A26 **536.6** The functional role of the Mre11 dimeric interface. **D. Albrecht, T. Herdendorf and S. Nelson.** Iowa State Univ.
- A27 **536.7** Mechanism and regulation of the helicase-driven path of DNA end resection in *Saccharomyces cerevisiae*. **H. Niu, X. Chen, Y. Kwon, W-H. Chung, Z. Zhu, G. Ira and P. Sung.** Yale Univ. and Baylor Col. of Med.
- A28 **536.8** Structural insights into the function of FANCM-mediated complexes. **D. Saro, A. Sachpatzidis, X-F. Zheng, T.R. Singh, R.A. Meetei, Y. Xiong and P. Sung.** Yale Univ., Cincinnati Children's Hosp. and Univ. of Cincinnati Col. of Med.

### 537. DNA DAMAGE RESPONSE

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A29 **537.1** NPM1 and APE1: nucleolar teamwork in controlling base excision DNA repair. **L. Lirussi, G. Antoniali, C. Vascotto, C. D'Ambrosio, M. Poletto, M. Romanello, D. Marasco, B. Demple, K. Bhakat, E. Colombo, A. Scaloni and G. Tell.** Univ. of Udine, ISPAAM, Naples, Univ. of Naples "Federico II", Stony Brook Med. Sch., Univ. of Texas Med. Branch and European Inst. of Oncol., Milan.
- A30 **537.2** Enhanced apoptosis and altered DNA repair underlie improved outcomes in HPV-positive head and neck cancer. **R.J. Kimple, A.D. Torres, G.C. Blitzer, M.A. Smith, E.A. Armstrong, P.F. Lambert and P.M. Harari.** Univ. of Wisconsin-Madison.
- A31 **537.3** Regulator of G protein signaling 6, a novel modulator of doxorubicin-induced cardiotoxicity and apoptosis. **B. Maity, J. Yang, J. Huang and R.A. Fisher.** Univ. of Iowa Carver Col. of Med.

- A32 **537.4** The anti-oxidant cysteamine confers a protective effect against oxidative damage in *Saccharomyces cerevisiae* in the absence of endogenous repair machinery. **A.M. Steele, E. Chikwana and S. Mordan-McCombs.** Franklin Col., IN.
- A33 **537.5** Activation of the DNA damage response pathway and the role of NBS1 in response to Hedgehog signaling inhibition. **A. Agyeman, J. DeVecchio, T. Mazumder, T. Shi and J. Houghton.** Cleveland Clin. Fndn.

### 538. DNA DAMAGE SIGNALING PATHWAYS

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A34 **538.1** DNA damage-induced NF- $\kappa$ B activation promotes breast cancer metastasis via upregulation of microRNA-21. **J. Niu, G. Tan, C.H. Yang, M. Fan, L.M. Pfeffer and Z-H. Wu.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- A35 **538.2** Cigarette smoke induces DNA damage and inhibits cell cycle checkpoint and DNA repair pathways. **P. Thai, D. Chen and R. Wu.** Univ. of California, Davis.

### 539. DNA REPAIR MECHANISMS

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A36 **539.1** Human DNA2/BLM and EXO1 participate in parallel long-range resection pathways for repair of DSB due to replication stress. **K. Karanja, S. Cox and J. Campbell.** Caltech.
- A37 **539.2** Physical and functional interaction between Fanconi anemia group J helicase and MRE11 nuclease. **R.M. Brosh, J. Sommers, P. Muniandy, Y. Coulombe, J-Y. Masson, M. Seidman and A. Suhasini.** NIA/NIH, Baltimore and Laval Univ. Cancer Res. Ctr., Canada.
- A38 **539.3** A novel role for the MRN-CtIP complex in *Schizosaccharomyces pombe* non-homologous end-joining. **Y. Li and K. Runge.** Case Western Reserve Univ. and Cleveland Clin.
- A39 **539.4** Physiological interaction of BRCA2 and PARP in the protozoan pathogen *Trypanosoma brucei*. **R.M. Cooper, S. Misra, M. Chaudhuri and G. Chaudhuri.** Meharry Med. Col.
- A40 **539.5** Scc1 sumoylation by Mms21 promotes sister chromatid recombination through counteracting Wapl. **N. Wu, X. Kong, Z. Ji, K. Yokomori, P.R. Potts and H. Yu.** Univ. of Texas Southwestern Med. Ctr. and Univ. of California, Irvine.
- A41 **539.6** The *Escherichia coli* SOS-induced *umuD* gene products interact with single-stranded DNA binding protein. **M.C. Silva, M. Chan and P.J. Beuning.** Northeastern Univ.
- A42 **539.7** Multiple forms of the *E. coli* SOS response protein UmuD. **J.N. Ollivierre, Q. Huang and P.J. Beuning.** Northeastern Univ.
- A43 **539.8** Molecular dynamics studies of polymerase X/ DNA complexes in the presence of OxoG on the templating strand. **B.A. Sampoli Benitez, K. Arora, J. Bogdanovic, Z. Barbati and T. Schlick.** Marymount Manhattan Col., Univ. of Michigan and NYU.

- A44 **539.9** Effect of quadruplex DNA formation on repair of endogenous DNA damage. **J. Beckett, C. Broxson, L. Bloom and S. Tornaletti.** Univ. of Florida.
- A45 **539.10** Structural basis for excision of deaminated and oxidized 5-methylcytosine by thymine DNA glycosylase. **A. Maiti, E. Pozharski and A.C. Drohat.** Sch. of med. and Sch. of Pharm., Univ. of Maryland Baltimore.
- A46 **539.11** Termination of exonuclease 1-catalyzed mismatch excision requires physical interaction between exonuclease 1 and MutL $\alpha$ . **S. Lee, Z. Fan, Y. Zhang, L. Tian, F. Yuan, L. Gu and G-M. Li.** Univ. of Kentucky and Univ. of Miami.
- A47 **539.12** In vitro characterization of ionizing radiation resistance protein YejH. **E.T. Molzberger, R.T. Byrne and M.M. Cox.** Univ. of Wisconsin-Madison.
- A48 **539.13** The functional role of the Rad50 zinc-hook motif. **T.C. Fisher, T. Herdendorf, D. Albrecht and S. Nelson.** Iowa State Univ.
- A49 **539.14** Point mutations in *Escherichia coli* DNA pol V that confer resistance to non-cognate DNA damage. **L.A. Hawver, M. Tehrani, D. Kania, S. Muser and P.J. Beuning.** Northeastern Univ.
- A50 **539.15** FANCA has intrinsic affinity to nucleic acids with preference for single-stranded forms. **F. Yuan, L. Qian, X. Zhao, J.Y. Liu, L. Song, G. D'Urso, C. Jain and Y. Zhang.** Univ. of Miami Miller Sch. of Med.

#### 540. HOMOLOGOUS RECOMBINATION

##### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A51 **540.1** The relative efficiency of homology-directed repair has distinct effects on proper anaphase chromosome separation. **C. Laulier, A. Cheng and J.M. Stark.** City of Hope.
- A52 **540.2** The function of *Deinococcus radiodurans* SSB protein in RecA-mediated DNA strand exchange. **S. Koo, K. Ngo and M.M. Cox.** Univ. of Wisconsin-Madison.
- A53 **540.3** Double-stranded breaks in *S. cerevisiae*: recruitment of TFIIH and stability of DNA ends. **P.W. Wolstencroft and M.C. Negritto.** Pomona Col.

#### 541. MUTAGENESIS

##### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A54 **541.1** Polyamine effects on  $\beta$ -lactam antibiotics in *Pseudomonas aeruginosa*. **M. Lewis and D. Kwon.** Long Island Univ.-Brooklyn Campus.
- A55 **541.2** Either intravenous or inhaled anesthetic for elective otorhinological surgery does not induce oxidative stress. **M.G. Braz, L.G. Braz, D. Fecchio, A.L.A. Ferreira, J.R.C. Braz, G. Tang, K-J. Yeum and D.M.F. Salvadori.** UNESP Botucatu Med. Sch., Brazil and USDA at Tufts Univ.

#### 542. THE RIBOSOME AND EARLY FOLDING DECISIONS

##### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A56 **542.1** The role of chaperones in the initial steps of bacterial oxidoreductase maturation. **T.G.H. Leach and R. Turner.** Univ. of Calgary, Canada.
- A57 **542.2** Interplay between signal sequence recognition and N-terminal protein modification at the ribosome exit site. **M. Pool, Y. Nyathi, G. Forte and C. Stirling.** Univ. of Manchester, U.K. and Curtin Univ., Australia.

#### 543. AUTOPHAGY PATHWAY

##### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A58 **543.1** The role of autophagy in erlotinib-resistant lung cancer and the synergistic induction of cell death with combination cisplatin and erlotinib treatment by Atg3 modulation. **J.G. Lee and R. Wu.** Univ. of California, Davis.
- A59 **543.2** Anthocyanins of black soybean (cv. Cheongja 3) induce autophagy via AMPK activation in U2OS cells. **Y-J. Choe, T.J. Ha, K-W. Ko, S-Y. Lee and H-S. Kim.** Col. of Med., The Catholic Univ. of Korea and Natl. Inst. of Crop Sci., RDA, Miryang, South Korea.
- A60 **543.3** The role of *atg18* in signal transduction pathways during *Drosophila* development. **E.L. Boetefuer, D.L. Raden and E.M. Selva.** Univ. of Delaware.
- A61 **543.4** Autophagy stimulation manipulates *Burkholderia cenocepacia* infection in a cystic fibrosis mouse model. **B.A. Abdulrahman, A. Abu Khweek, K. Caution, A. Akhter, M. Tazi, B. Kopp and A. Amer.** The Ohio State Univ. and Nationwide Children's Hosp.
- A62 **543.5** A naturally-occurring flavonoid quercetin inhibits autophagy in human rhabdomyosarcoma cell line. **K. Dokladny and P. Moseley.** Univ. of New Mexico.
- A63 **543.6** Hydrogen sulfide reduces GFP-tagged autophagosomes in vitro. **M.J. Duarte, D. Julian, D. Akin, W.A. Dunn, Jr. and S.E. Wohlgenuth.** Univ. of Florida.

#### 544. MECHANISMS OF PROTEIN SYNTHESIS

##### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A64 **544.1** Different substrate-dependent transition states in the active site of the ribosome. **M.V. Rodnina, S. Kuhlentötter, I. Wohlgenuth and W. Wintermeyer.** Max Planck Inst. for Biophys. Chem., Goettingen.
- A65 **544.2** Cloning and characterization of EF-Tu and EF-Ts from *Pseudomonas aeruginosa*. **S. Palmer, E. Rangle, A. Montalvo, D. Mugica and J. Bullard.** Univ. of Texas-Pan American.

## 545. PROTEIN FOLDING AND MISFOLDING

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A66 **545.1** Soluble expression of chicken follistatin proteins in *Escherichia coli*. **R. Choi and Y.S. Kim**. Univ. of Hawaii.
- A67 **545.2** Molecular dissection of hemolysin A template-assisted activity. **T.M. Weaver and J.J. McDermott**. Univ. Wisconsin-La Crosse.
- A68 **545.3** Structure function differentiation of truncated hemolysin A using multi-angle light scattering. **J.J. McDermott and T.M. Weaver**. Univ. Wisconsin-La Crosse.
- A69 **545.4** Structural and functional studies of disulfide bonded hemolysin A. **M.A. Apolinario and T.M. Weaver**. Univ. Wisconsin-La Crosse.
- A70 **545.5** Stability contributions of hydrogen bonds in the third circuit of hemolysin a from *Proteus mirabilis*. **M.A. Mauseth and T.M. Weaver**. Univ. of Wisconsin-La Crosse.

## 546. PROTEIN SYNTHESIS IN ORGANELLES

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A71 **546.1** A newly identified protein regulates translation in mammalian mitochondria. **H. Cimen, H. Koc and E.C. Koc**. Penn State, University Park and Altoona and Marshall Univ.

## 547. PROTEIN TURNOVER AND QUALITY CONTROL

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A72 **547.1** Role of p97 AAA ATPase in the autophagic-lysosomal degradation of hepatic CYP2B1. **P. Acharya and M.A. Correia**. UCSF.
- A73 **547.2** Defining the role of acylation in the cytoplasmic quality control of an engineered substrate. **C.J. Guerriero, K.F. Weiberth, K. Nakatsukasa and J.L. Brodsky**. Univ. of Pittsburgh and Nagoya Univ., Japan.
- A74 **547.3** A Cdc48p-associated factor modulates endoplasmic reticulum-associated degradation, cell stress, and ubiquitinated protein homeostasis. **J.R. Tran and J.L. Brodsky**. Univ. of Pittsburgh and Univ. of Pittsburgh Sch. of Med.
- A75 **547.4** Functional roles for the proteasome in retrotranslocation of polytopic membrane proteins for ERAD. **N.J. Smith, D. Adle and J. Lee**. Univ. of Nebraska-Lincoln and Yale Univ.
- A76 **547.5** Defying the proteasome, autophagy and convention: *S. cerevisiae* dodges the isoaspartyl aging bullet. **A. Patananan and S. Clarke**. UCLA.

## 548. PROTEIN TURNOVER IN CELL REGULATION

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A77 **548.1** Role of ADP-ribosylation factor domain protein 1 (ARD1/TRIM23) on lysosome biogenesis and function. **G.S. Kang, K. Cates, G. Pacheco-Rodriguez, V. Meza-Carmen, M. Daniels, P. Connelly, J. Moss and M. Vaughan**. NHLBI/NIH.
- A78 **548.2** Tripartite motif protein 23 regulates degradation of epidermal growth factor receptor. **K. Le, G. Pacheco-Rodriguez, J. Moss and M. Vaughan**. NHLBI/NIH.
- A79 **548.3** Hyperglycemia-induced O-GlcNAcylation of 4E-BP1 enhances its expression through a reduced rate of degradation. **M.D. Dennis, S.R. Kimball and L.S. Jefferson**. Penn State Col. of Med.

## 549. PROTEOLYTIC ENZYMES AND INHIBITORS (PROTEIN SYNTHESIS)

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A80 **549.1** Recombinant expression of human enteropeptidase light chain in *Pichia pastoris*. **E.T. Smith, M. McGhee and D.A. Johnson**. James H. Quillen Col. of Med., East Tennessee State Univ.
- A81 **549.2** Separation of proinsulin conversion intermediates. **R.B. Mackin**. Creighton Univ.
- A82 **549.3** Selection of improved peptide ligases by yeast surface display. **H. Tran, D. Gray, J. Marks, W. DeGrado and J. Wells**. UCSF.

## 550. RIBOSOME AND TRANSLATION

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A83 **550.1** Crystallization of *Escherichia coli* 70S ribosome in complex with tRNAs. **B. Young**. Univ. of Maryland Baltimore County and Yale Univ.
- A84 **550.2** Coordinated movement of eukaryotic translation initiation factors 1, 1A, and 5 within the 43S ribosomal preinitiation complex mediates the response to start codon recognition. **J.S. Nanda, A. Munoz, A.K. Saini and A.G. Hinnebusch**. Johns Hopkins Univ. Sch. of Med., Shoolini Univ. of Biotechnol., India and NICHD/NIH.
- A85 **550.3** The shortest nascent peptide that can direct ribosome stalling. **S. Sothiselvam, H. Ramu, N. Vazquez-Laslop and A. Mankin**. Univ. of Illinois at Chicago.
- A86 **550.4** The role of chromodomain in eukaryotic elongation factor 3-ribosome interaction. **A.N. Sasikumar and T.G. Kinzy**. UMDNJ-Robert Wood Johnson Med. Sch.
- A87 **550.5** Investigating the control of the actin cytoskeleton by EF1 $\alpha$ . **S. Colmer, C. Karas, D. Scerbo, M. Gomez and S. Dunaway**. Drew Univ., NJ.

A88 **550.6** A non-radioactive high-throughput assay for the detection of cellular protein synthesis. **S.A. Abdelazim, C. Bachran, A. David and S.H. Leppla.** NIAID/NIH.

## 551. METABOLOMICS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A89 **551.1** Cyclical C7-CoA esters derived from calcium levulinate, a pro-drug of abuse. **S.R. Harris, G-F. Zhang, S. Sadhukhan, M.A. Puchowicz, V.E. Anderson, G.P. Tochtrop and H. Brunengraber.** Case Western Reserve Univ.

A90 **551.2** Measurement of acetyl-CoA turnover ( $\approx$ citric acid cycle flux) in perfused rat hearts by isotope dilution. **Q. Li, R.A. Ibarra, H. Brunengraber and G-f. Zhang.** Case Western Reserve Univ.

A91 **551.3** Integrated pathway-level analysis of transcriptome and metabolome data for mouse model of social stress. **A. Gautam, S. Muhie, N. Chakraborty, A.V. Hoke, R. Hammamieh and M. Jett.** U.S. Army Ctr. for Environ. Hlth. Res., Fort Detrick, MD.

A92 **551.4** Kruppel-like transcription factor KLF8 regulates of early adipocyte differentiation. **H.J. Kim, H. Choi, Y.J. Lee, H-m. Lee, J.H. Yu and J-w. Kim.** Yonsei Univ. Col. of Med., Brain Korea 21 Proj. for Med. Sci. and Biomed. Sci. Grad. Sch., South Korea.

A93 **551.5** Metabolic changes in sialic acid synthesis pathway in GNE-myopathy model mice with long-term sialic acid treatment. **S. Noguchi, M.C. Malicdan, F. Funato and I. Nishino.** Natl. Inst. of Neurosci., NCNP, Tokyo and NHGRI/NIH.

A94 **551.6** Targeting metabolism in liposarcomas. **D. Braas, H. Wu and H. Christofk.** UCLA.

## 552. BIOSYNTHESIS OF COMPLEX MOLECULES

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A95 **552.1** Characterizing the plantazolicins: structure and discriminating activity of a novel class of natural products. **K.J. Molohon, J.O. Melby, J. Lee, B.S. Evans, K.L. Dunbar, S.B. Bumpus, N.L. Kelleher and D.A. Mitchell.** Univ. of Illinois at Urbana-Champaign and Northwestern Univ.

A96 **552.2** Biophysical characterization of acyl carrier protein domains from a polyunsaturated fatty acid synthase. **U. Trujillo Rodriguez, D.J. Oyola-Robles, S. Aroid, F. Alves De Melo, J.E. Ladbury, E. Vazquez, I.E. Vega and A. Baerga-Ortiz.** Univ. of Puerto Rico, Med. Sci. Campus, Univ. of Texas MD Anderson Cancer Ctr., Univ. of Puerto Rico, Rio Piedras Campus.

## 553. CHEMICAL BIOLOGY OF CELL DEATH

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A97 **553.1** Nuclear translocation of phosphorylated Akt is critical in ellipticine-induced apoptosis in human lung epithelial cancer cells A549. **K. Fang, J-P. Wang, H-C. Liang, Y-C. Yu and K-H. Lin.** Natl. Taiwan Normal Univ.

## 554. MULTIENZYME COMPLEXES

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A98 **554.1** When homotrimeric enzymes display a different function for each chain in each turnover: evidence from the E2 components of the 2-oxoacid dehydrogenase complexes. **F. Jordan, N.S. Nemeria, Y-H. Park, J. Song, J. Wang and S. Kumaran.** Rutgers Univ., Newark.

## 555. PHOTOCHEMICAL SENSORS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A99 **555.1** Development of photosensitizers for photodynamic therapy : R&D trend and patent analysis research. **E-S. Sohn, B-S. Sohn, B-H. Kim and E-H. Sohn.** Korea Inst. of Sci. and Technol. Info., Seoul and Kangwon Natl. Univ., South Korea.

## 556. PROTEIN INTERACTIONS IN CATALYSIS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A100 **556.1** The effect of peroxiredoxin 6 mutation at its active site on its interaction with piGST. **S. Zhou, Y-C. Lien, T. Shuvaeva, K. DeBolt, S.I. Feinstein and A.B. Fisher.** Univ. of Pennsylvania.

A101 **556.2** Occupation of the electrophilic substrate-binding site of glutathione S-transferase M1-1 enhances its function as an activator of 1-cysteine peroxiredoxin. **L.A. Ralattousset, S.I. Feinstein and A.B. Fisher.** Univ. of Pennsylvania.

## 557. PROTEOLYTIC ENZYMES AND INHIBITORS (CHEMICAL BIOLOGY)

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A102 **557.1** *Candida albicans* exhibits a pepstatin A-insensitive secreted aspartic protease as a virulence factor. **W. Aoki, N. Kitahara, N. Miura, H. Morisaka, Y. Yamamoto, K. Kuroda and M. Ueda.** Grad. Sch. of Agr., Kyoto Univ., JSPS, Kyoto and Kyoto Municipal Indust. Res. Inst.
- A103 **557.2** Inhibition of PC1/3 and PC2 by 2,5-dideoxystreptamine derivatives. **M. Vivoli, T.R. Caulfield, K. Martinez-Mayorga, A.T. Johnson, G-S. Jiao and I. Lindberg.** Univ. of Maryland Sch. of Med., Mayo Clin., Jacksonville, FL, Torrey Pines Inst. for Molec. Studies, Port St. Lucie, FL and Panthera Biopharma LLC, Aiea, HI.
- A104 **557.3** Ceruloplasmin binds and inactivates matrix metalloproteinase-2. **M.W. Thompson.** Jefferson Tech and Community Col., Louisville.

## 558. REGULATION AND ALLOSTERISM

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A105 **558.1** Structural insights into regulation of vertebrate homolog N-acetylglutamate synthase/kinase from *Maricaulis maris*. **D. Shi, Y. Li, J. Cabrera-Luque, Z. Jin, X. Yu, G. Zhao, N.M. Allewell and M. Tuchman.** Children's Natl. Med. Ctr., Gannan Normal Univ., China, Argonne Natl. Lab. and Univ. of Maryland College Park.
- A106 **558.2** Allosteric regulation of protein kinase PKC $\zeta$  by the N-terminal C1 domain and small compounds to the PIF-pocket. **R.M. Biondi, J.O. Schulze, W. Fröhner, H. Zhang, N. Weber, J. Navratil, S. Amon, V. Hindie, S. Zeuzem, T.J.D. Jørgensen, P.M. Alzari, S. Neimanis, M. Engel and L.A. Lopez-Garcia.** Univ. Clin. Frankfurt, Univ. of Saarland, Univ. of Southern Denmark and Pasteur Inst., Paris.
- A107 **558.3** The effects of citrate on glyoxasomal malate dehydrogenase. **J. Mays, J. Marion and E. Bell.** Univ. of Richmond and Virginia Commonwealth Univ.
- A108 **558.4** Mutational evidence for a substrate activation site in phosphoenolpyruvate carboxylase. **S. Halaby and S.D. Grover.** California State Univ., Los Angeles.
- A109 **558.5** Probing the role of proline-288 in the regulation of *Agrobacterium tumefaciens* ADPglucose pyrophosphorylase. **G. Bains, D. Guzman, J. Sanders, H. Karzai, S. Bor, A. Orry and C.R. Meyer.** California State Univ., Fullerton and MolSoft LLC, San Diego.
- A110 **558.6** Expression, purification, and initial characterization of the diverse ADPglucose pyrophosphorylase from *Thermodesulfobivrio yellowstonii*. **M. Berriman, T. Kieu, T. Cheever, A. Orry and C.R. Meyer.** California State Univ., Fullerton and MolSoft LLC, San Diego.

- A111 **558.7** Evidence for specific roles of arginines 26 and 38 in the allosteric regulation of ADP glucose pyrophosphorylase from *Thermophilus thermophilus*. **J. Sanders, D. Doshi, F. Botero, T. Truc, A. Orry and C.R. Meyer.** California State Univ., Fullerton and MolSoft LLC, San Diego.
- A112 **558.8** The effects of leucine on regulation of glutamate dehydrogenase by purine nucleotides. **R. McMullan and E. Bell.** Univ. of Richmond.
- A113 **558.9** The role of methionine residues in activity and subunit communication in malate dehydrogenase. **F. Billue and E. Bell.** Univ. of Richmond.
- A114 **558.10** Understanding glycosaminoglycan-protein specificity through computational approaches. **U.R. Desai and P.D. Mosier.** Virginia Commonwealth Univ.
- A115 **558.11** Effect of an added spacer on the 'double lockdown' inhibition of kinesin-1 by tail domains. **D.D. Hackney and Y.W. Yeo.** Carnegie Mellon Univ.

## 559. SMALL MOLECULE TOOLS FOR BIOLOGY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A116 **559.1** Bovine serum albumin interactions with metallic nanoparticles. **M.C. Demirdji, M.R. Shah, R.H. Ramon, L.K. Rowland, T.S. Sabir, M.A. Payne, C.C. Perry and D.S. Boskovic.** La Sierra Univ., Azusa Pacific Univ. and Loma Linda Univ.

## 560. STRUCTURAL ENZYMOLOGY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A117 **560.1** Allosteric reversion of *Haemophilus influenzae*  $\beta$ -carbonic anhydrase by a proline shift variant. **R.S. Rowlett, K.M. Hoffmann, H.R. Million-Perez, R. Merkhofer and H.E. Nicholson.** Colgate Univ. and Gonzaga Univ., WA.
- A118 **560.2** Molecular analysis of site-directed mutants of phosphoethanolamine methyltransferase from the malaria parasite *Plasmodium falciparum*. **T. Alpert, S.G. Lee and J. Jez.** Washington Univ. in St. Louis.
- A119 **560.3** The structure of a ternary complex of porcine sarcosine dehydrogenase with glycine and folic acid. **J-J. Kim, W. Yong, I. Misra and Z. Fu.** Med. Col. of Wisconsin.

## 561. STRUCTURAL ENZYMOLOGY OF MEMBRANE PROTEINS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A120 **561.1** Examining the role of lipoprotein-associated phospholipase A2 in atherosclerosis. **T.E. Gilpatrick, J. Tomczak and B.J. Bahnson.** Univ. of Delaware.

## 562. ORGANISMAL METABOLISM

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A121 **562.1** Thioesterase superfamily member 2 (Them2) promotes the hepatic oxidation of plasma-free fatty acids. **H.W. Kang, S. Han and D.E. Cohen.** Brigham and Women's Hosp.
- A122 **562.2** Citric acid cycle and nitrogen assimilation enzyme activities in glutamate dehydrogenase mutants of *S. cerevisiae*. **A. Sieg and P.J. Trotter.** Augustana Col., IL.
- A123 **562.3** Evidence of a dual role for adiponectin in liver regeneration following partial hepatectomy. **J. Correnti and J.B. Hoek.** Thomas Jefferson Univ.

## 563. GENETIC AND METABOLIC APPROACHES TO OBESITY

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A124 **563.1** Role of unique miRNAs in development of obesity and type 2 diabetes. **H. Yadav and S.G. Rane.** NIDDK/NIH.

## 564. METABOLIC REGULATION

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A125 **564.1** Gender specific expression of *myo*-inositol-3-phosphate synthase in *Drosophila melanogaster*. **G.D. Batugedara, E.D. Eldon and L.S. Klig.** California State Univ., Long Beach.
- A126 **564.2** Development of leptin mutants with enhanced bioefficacy and stability. **H. Park and J. Kim.** Yonsei Univ. Col. of Med., South Korea.
- A127 **564.3** When the close relationship between function and substrate metabolism in ex vivo working mouse hearts goes beyond differences in genetic background. **F. Vaillant, B. Lauzier, I. Poirier, R. Gélinas, I. Robillard Frayne, E. Thorin and C. Des Rosiers.** Univ. of Montreal.
- A128 **564.4** Spatial buffering of ATP by arginine kinase may be critical for *Myxococcus xanthus* development. **T.E. Bohl and D. Fraga.** Col. of Wooster, OH.
- A129 **564.5** Curcumin analogue as a novel 11 $\beta$ HSD1 modulator to treat glucocorticoid excess diseases. **J. Xiao, H. Zhang, Z. Wang, H. Shi, F. Wu, B. Lin and X. Li.** molecular pharmacology center, enzhou Med. Col., China, Sch. of pharmacy, wenzhou Med. Col., China.
- A130 **564.6** Study on mechanism of cholesterol metabolism in Leydig's cells of rats with lower serum testosterone due to intermittent anaerobic swimming training. **Y. Yan and M. Xie.** Beijing Sport Univ.

- A131 **564.7** Role of SIRT1 in regulation of hepatic gene expression by thyroid hormone. **S. Thakran, P. Sharma, R.R. Attia, R. Hori, M.B. Elam, G.A. Cook and E.A. Park.** Univ. of Tennessee and Hlth. Sci. Ctr., Memphis.
- A132 **564.8** The underlying mechanisms by which estrogen regulates energy metabolism and body composition. **Z. Ezzat-Zadeh, B.G. Dodge, M. Elam, R. Feresin, J. Browne, J-S. Kim and B.H. Arjmandi.** Florida State Univ.
- A133 **564.9** Visualization of ferritin in *Anopheles gambiae* 4a3b cells. **Z.R. Conley, D.L. Geiser and J.J. Winzerling.** Univ. of Arizona.

## 565. MITOCHONDRIA IN HEALTH AND DISEASE

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A134 **565.1** Effect of the protein restriction on mitochondrial heart. **C.J. Lagranha, L. Nascimento, C. Freitas, A. Silva, R. Silva-Filho and M.P. Fernandes.** Ctr. Acad. de Vitoria-UFPE, Brazil.
- A135 **565.2** ACAD expression and role of mitochondrial fatty acid  $\beta$ -oxidation in retinal pigment epithelium. **P. Polinati and T. Tyni.** Univ. of Helsinki and Helsinki Univ. Central Hosp.
- A136 **565.3** Dysregulation of mitochondrial sphingolipid metabolism after traumatic brain injury. **S.A. Novgorodov, C. Riley, G. Fedarovich, J. Yu, L.M. Obeid, M.S. Kindy and T.I. Gudz.** Med. Univ. of South Carolina and VA Med. Ctr.
- A137 **565.4** Histone H4 acetylation at K16 residue and mitochondrial activity in neuronal cells. **R.I. Dmitriev, A.V. Zhdanov and D.B. Papkovsky.** University Col. Cork.
- A138 **565.5** The role of Parkin in the maintenance of normal mitochondrial and cellular function in skeletal muscle. **R. Godin, J. Piquereau, G. Gouspillou, M. Picard, M. Mofarrah, J. Mathew, S. Hussain, R.T. Hepple and Y. Burelle.** Univ. of Montreal and McGill Univ.
- A139 **565.6** Ultrastructural modifications in the mitochondria of hypoxia-adapted *Drosophila melanogaster*. **D. Zhou, G. Perkins, S. Yin, J. Xue, S. Liu, M.H. Ellisman and G.G. Haddad.** UCSD, Beijing Inst. of Genomics and The Rady Children's Hosp., San Diego.
- A140 **565.7** Avocado oil improves dyslipidemia and increase mitochondrial resistance to oxidative stress in streptozotocin-induced diabetic rats. **O. Ortiz-Ávila, C.A. Sámano-García, E. Calderón-Cortés, M. Clemente-Guerrero, R. Noriega-Cisneros, A. Saavedra-Molina and C. Cortés-Rojo.** Univ. Michoacana de San Nicolas de Hidalgo, Mexico.
- A141 **565.8** Peroxisome proliferator coactivator 1a (PGC-1a) deficiency accelerates endothelial dysfunction during chronic angiotensin II treatment by increasing mitochondrial oxidative stress and vascular aging. **T. Jansen, S. Kroeller-Schoen, A. Daiber, T. Muenzel and E. Schulz.** Univ. of Med. Mainz, Germany.
- A142 **565.9** ARH3 catalyzes degradation of mitochondrial matrix-accumulated poly (ADP-ribose). **M. Mashimo, M. Niere, L. Agle dal, C. Dölle, A. Kasamatsu, J. Kato, J. Moss and M. Ziegler.** NHLBI/NIH and Univ. of Bergen, Norway.
- A143 **565.10** Ethanol feeding compromises cardiovascular function: a potential role for mitochondrial topoisomerases. **J.G. Edwards, D. Laurent, J. Mathew, A. Force, M. Taft and N. Labinsky.** New York Med. Col.



- A144 **565.11** Targeted protein glycosylation (O-GlcNAc) of mitochondrial proteins in rats selected for low running capacity. **V.L. Johnsen, M. McConkey, R.T. Hepple, D.D. Belke, L.G. Koch, S.L. Britton, D.S. Hittel and J. Shearer.** Univ. of Calgary, Canada, McGill Univ. and Univ. of Michigan.
- A145 **565.12** Exploring the role of an atypical kinase in ubiquinone biosynthesis. **G.E. Barber, J. Stefely and D.J. Pagliarini.** Univ. of Wisconsin-Madison.
- A146 **565.13** Uncovering the biological function of UQCRB, a terpestacin-binding mitochondrial protein, implies its pro-angiogenic activity in vitro and in vivo. **J. Chang, H.J. Jung, S-K. Lee, S-W. Cho and H.J. Kwon.** Yonsei Univ., South Korea.
- A147 **565.14** Effects of ionizing radiation on mitochondria in human cell lines. **E. Sweet, D. Kwiatkowski, J. Reynolds, R. O'Donnell and W. Pogozeleski.** SUNY at Geneseo.
- A148 **565.15** Paradoxical reduction in cardiac O-GlcNAcylation following short-term high fat feeding. **C.C. Hughey, Z. Ezzat Zadeh, V.L. Johnsen, D.D. Belke, D.S. Hittel and J. Shearer.** Univ. of Calgary, Canada.
- A149 **565.16** Effect of proinflammatory cytokines on mitochondrial function in 3T3-L1 adipocytes. **J.P. Kuzmicic, W. Hahn, J. Burrill, S. Lavandro and D. Bernlohr.** Univ. of Chile and Univ. of Minnesota, Minneapolis.
- A150 **565.17** Mitochondria-targeted treatment attenuates vascular oxidative stress, endothelial dysfunction and hypertension. **S. Dikalov, R. Nazarewicz, A. Bikineyeva and A. Dikalova.** Vanderbilt Univ. Sch. of Med.
- A151 **565.18** Biochemical characterization of pathogenic mutations in human mitochondrial tRNA-Ala and alanyl-tRNA synthetase. **J. Chihade, K. Her, M. Steinbach and K. France.** Carleton Col., MN.

## 566. OBESITY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A152 **566.1** Lysyl oxidase propeptide promotes adipogenesis through inhibition of FGF-2 signaling. **J. Griner, M. Zhu, C. Rodgers and M. Du.** Univ. of Wyoming and Washington State Univ.
- A153 **566.2** Anfepramone effects's evaluation over the expression profile of NLRP3 inflammasome, TXNIP, TLR4 and LEP in peripheral blood mononuclear cells of Mexican obese subjects. **D.M. Lopez Sanchez, M. Martinez Godinez, A. Dominguez Lopez, E. Lara Padilla, A. Ahumada Hernandez and A. Miliar Garcia.** Higher Sch. of Med.-IPN and Natl. Inst. of Med. Sci. and Nutr. Salvador Zubirán, Mexico City.
- A154 **566.3** Maternal obesity enhances ZFP423 expression and adipogenic differentiation of E14.5 fetal muscle of mice. **Q. Yang, C.J. Rogers, Y. Huang, M. Zhu and M. Du.** Washington State Univ. and Univ. of Wyoming.

## 567. ENZYMES, HORMONES AND OBESITY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A155 **567.1** Prohibitin plays an important role in adipocyte differentiation. **S.R. Ande, Z. Xu, Y. Gu and S. Mishra.** Univ. of Manitoba.
- A156 **567.2** The effect of in vivo PBDE treatment on hepatic phosphoenolpyruvate carboxykinase enzyme kinetics in male Wistar rats. **J.T. Nash, D.T. Szabo and G.B. Carey.** Univ. of New Hampshire and US EPA. Washington, DC.
- A157 **567.3** Increased protease activity in obese rats: implications on LDL and insulin receptors. **R. Mazor, T. Alsaigh and G. Schmid-Schonbein.** UCSD.

## 568. FRONTIERS IN OBESITY RESEARCH

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A158 **568.1** Flipping out! Overexpression and localization of a novel flippase, ATP10C. **S.E. Hurst, C. Paulusma, J. Dunlap, J. Biggerstaff and M. Dhar.** Univ. of Tennessee, Knoxville and Acad. Med. Ctr., Amsterdam.

## 569. TREATMENT, PREVENTION AND COMPLICATIONS OF OBESITY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A159 **569.1** Adipocytokines as potential biomarkers for breast and prostate cancers. **M.S. Alokail, N.M. Al-Daghri, K.M. Alkharfy, O.S. Alatas, S. Sabico and H.M. Draz.** King Saud Univ., Saudi Arabia.
- A160 **569.2** Soy protein isolate mediated the Wnt/ $\beta$ -catenin signaling pathway and alleviated fat accumulation in the liver of obese Zucker rats. **D. Zhou, J. Davis, W. Banz and H. Chen.** Univ. of Illinois, Urbana and Southern Illinois Univ.
- A161 **569.3** Progression of obesity-related heart dysfunction in two rat models. **R.F. Martins, M.W. Gorr, D.J. Youtz, S. Teich and L.E. Wold.** Nationwide Children's Hosp. and The Ohio State Univ.

## 570. OBESITY AND THE METABOLIC SYNDROME

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A162 **570.1** Pharmacological evaluation of an analogue of L-carnitine in obese Zucker-Lepr fa/fa rats. **L. Rodríguez-Fragoso, B. Mendoza, R. De la Cruz Cordero, O. Vite, A. Avalos-Soriano and J. Reyes Esparza.** Autonomous Univ. del Estado de Morelos and Ctr. for Res. and Technol. Develop. in Chronic Dis., Queretaro, Mexico.
- A163 **570.2** Deficiency of the DNA glycosylase OGG1 predisposes mice to metabolic disease. **H. Sampath, V. Vartanian, M.R. Rollins and R.S. Lloyd.** Oregon Hlth. & Sci. Univ.
- A164 **570.3** Hepatic MGAT1 is directly regulated by PPAR $\gamma$ 2 and promotes fatty liver. **Y. Lee and J-w. Kim.** Yonsei Univ. Col. of Med., South Korea.
- A165 **570.4** Association of apolipoprotein A5 gene -1131T>C polymorphism and metabolic syndrome in Korean subjects. **K.H. Song, S-G. Yu, H. Yu and J.Y. Kim.** Korea Inst. of Oriental Med., Daejeon.
- A166 **570.5** Imperative role of macrophage in maintaining systemic energy homeostasis. **B. Lee, L. Qiao, B. Kinney and J. Shao.** UCSD and Univ. of Kentucky Col. of Med.
- A167 **570.6** The role of G0/G1 switch gene 2 in mitotic clonal expansion during adipogenesis. **H. Choi, H-M. Lee, H.J. Kim and J-w. Kim.** Brain Korea 21 Proj. for Med. Sci. and Col. of Med., Yonsei Univ., South Korea,.
- A168 **570.7** Adiponectin and leptin secretion are differentially modulated in subcutaneous and visceral adipose tissue by endoplasmic reticulum stress. **I. Torre-Villalvazo, A.E. Bunt, N. Torres and A.R. Tovar.** Natl. Inst. of Med. Sci. and Nutr. Salvador Zubirán, Mexico City.
- A169 **570.8** Palmitate and ceramide induce human monocytic cell toxicity towards neuronal cells. **J.P. Little, J.M. Madeira and A. Klegeris.** Univ. of British Columbia-Okanagan.
- A170 **570.9** AIMing at metabolic syndrome: towards development of novel therapies for modern metabolic diseases via macrophage-derived AIM. **T. Miyazaki, J. Kurokawa and S. Arai.** Univ. of Tokyo.
- A171 **570.10** The role of Tyk2 in regulating energy expenditure and preventing obesity. **V.B. Raje, M. Derecka, A. Gornicka, K. Sczapanek, J. Sisler, C.M. Croniger and A.C. Lerner.** Virginia Commonwealth Univ., Cleveland Clin. Fndn. and Case Western Reserve Univ.

## 571. CALCIUM

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A172 **571.1** The role of cellular energy levels in the calcium-mediated regulation of the Ran nuclear transport gradient. **K. Batzel and K.K. Resendes.** Westminster Col., PA.
- A173 **571.2** LPS/TLR4-NF- $\kappa$ B axis signaling amplifies STIM1 expression to augment PAR-1-induced calcium entry and permeability response in lung microvessels. **A. Debroy, P. Sundivakkam, V. Singh, A.B. Malik and C. Tiruppathi.** Univ. of Illinois, Chicago.

A174 **571.3** Effects of calpain inhibition in excitation-contraction coupling properties in dystrophic muscle exposed to fatiguing contractions. **D.A.G. Mazala, D. Chen, S.A. English, R.W. Grange and E.R. Chin.** Univ. of Maryland College Park and VPI and State Univ.

A175 **571.4** Store-operated calcium entry regulate mesenchymal stem cell proliferation. **J.K. Maliske, B. Pani, S. Bollimuntha, J.E. Ohm and B.B. Singh.** Univ. of North Dakota.

A176 **571.5** Plexin, small GTPases and their interactions with the calcium binding protein, calmodulin: a possible mechanism for calcium to influence cell motility. **I. Ahmed and M. Buck.** Case Western Reserve Univ.

## 572. CYCLASES

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A177 **572.1** Alcohol effect on recombinant adenylyl cyclase. **E. Qualls-Creekmore, R. Gupta and M. Yoshimura.** LSU Sch. of Vet. Med.
- A178 **572.2** Real-time detection of ethanol effects on cAMP in subcellular compartments. **R. Gupta, E. Qualls-Creekmore and M. Yoshimura.** LSU Sch. of Vet. Med.

## 573. NITRIC OXIDE

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A179 **573.1** Glutathione peroxidase-1-deficiency enhances age-dependent vascular dysfunction. **S. Steven, S. Schuhmacher, M. Oelze, M. Bachschmid, C. Doppler, S. Daub, A. Schuff, A. Scholz, M. Torzewski, E. Schulz, K.J. Lackner, T. Münzel and A. Daiber.** Med. Ctr. of Johannes Gutenberg Univ., Mainz and Boston Univ. Med. Ctr.
- A180 **573.2** A comparison of nitrophorin 3 between wild-type and native forms. **K.C. Childers.** Univ. of Arizona.
- A181 **573.3** Deficiency of S-nitrosoglutathione reductase compromises expression of the ER stress-related proteins in LPS-treated liver. **K. Ozawa, H. Tsumoto and G. Tsujimoto.** Kyoto Univ.
- A182 **573.4** Correlation between hemoglobin oxygen affinity and nitrite reductase activity. **S. Olsen, A. Malavalli and K. Vandegriff.** Sangart Inc., San Diego.
- A183 **573.5** Endothelial cell senescence suppresses argininosuccinate synthetase 1 expression by promoter methylation while laminar shear stress rescues it by a mechanism involving KLF4. **Y.C. Boo and G.I. Mun.** Kyungpook Natl. Univ. Sch. of Med., South Korea.
- A184 **573.6** Structural studies of the regulatory domain of bovine soluble guanylate cyclase. **E.D. Garcin and L. Rassouli-Taylor.** Univ. of Maryland Baltimore County.
- A185 **573.7** Control of electron transfer and catalysis in neuronal NOS by a hinge connecting the FMN and FNR domains. **M.M. Haque, M. Fadlalla, K. Aulak, A. Ghosh and D. Stuehr.** Cleveland Clin.

A186 **573.8** Ambient ultrafine particles inhibit eNOS activity via S-glutathionylation. **J. Hill, M. Shen, R. Li, Z. Ning, C. Sioutas and T. Hsiai.** Univ. of Southern California and City Univ. of Hong Kong.

## 574. PHOSPHODIESTERASES

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A187 **574.1** Homogenous, luminescent HTS-formatted platform technologies for cAMP-, and cGMP-dependent phosphodiesterase. **S. Goueli and K. Hsiao.** Promega Corp. and Univ. of Wisconsin Med. Sch.

## 575. SIGNALING CROSSTALK

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A188 **575.1** Vitamin D blocks estrogen signaling through PKA. **A.P. Ankeny and J.M. Schmitt.** George Fox Univ., OR.

A189 **575.2** Estrogen receptor activation of CaM kinase I and ERK. **M.S. Todd and J.M. Schmitt.** George Fox Univ., OR.

A190 **575.3** Molecular mechanisms of the crosstalk between mitochondrial and NADPH oxidase-derived reactive oxygen species in white blood cells – implications for cardiovascular diseases. **S. Steven, S. Schuhmacher, P. Wenzel, M. Oelze, S. Daub, A. Scholz, N. Xia, E. Schulz, H. Li, K.J. Lackner, T. Münzel and A. Daiber.** Med. Ctr., Johannes Gutenberg Univ. Mainz.

A191 **575.4** Simultaneous EGF receptor and thrombin receptor activation synergistically induces pro-angiogenic immediate early genes in endothelial cells. **M. Waitkus, U. Chandrasekharan and P. DiCorleto.** Cleveland State Univ. and Cleveland Clin. Lerner Res. Inst.

A192 **575.5** Prolactin receptor loss with Leydig cell apoptosis after EDS treatment of adult rats. **B. Singhal, D. Dutta, I. Park, S. Sang and N. Mills.** Texas Woman's Univ.

## 576. PLANT BIOCHEMISTRY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A193 **576.1** To gibberellins and beyond! Insights into the evolution of diterpenoid metabolism. **R.J. Peters.** Iowa State Univ.

A194 **576.2** Structural and functional evolution of isopropylmalate dehydrogenases in the leucine and glucosinolate pathways. **S.F. Balogun, A. Galant and J.M. Jez.** Washington Univ. in Saint Louis.

A195 **576.3** Expression and purification of sunflower thiolase mutants. **J.H. Dyer.** Montclair State Univ., NJ.

A196 **576.4** Cloning and expression of cryptochrome proteins from *Arabidopsis thaliana*. **J.D. Velez and J.H. Dyer.** Montclair State Univ., NJ.

A197 **576.5** Simultaneous detoxification and allergens inactivation of castor bean meal by calcium compounds treatment and solid-state fermentation. **K.V. Fernandes, N. Deus-de-Oliveira, M.G. Godoy, V.V. Nascimento, E.J.T. Melo, D.M.G. Freire and O.L.T. Machado.** State Univ. of Norte Fluminense, Brazil and Fed. Univ. of Rio de Janeiro.

A198 **576.6** The effects of *Candidatus Liberibacter asiaticus* infection on the protein expression profiles and nutrient status of citrus plants. **C.C. Nwugo, H. Lin, Y-P. Duan and E. Civerolo.** USDA, Parlier, CA and Fort Pierce, FL.

A199 **576.7** Deciphering the mechanism of antibiotic resistance associated with a plant ABC transporter. **M. Ayalew, R. Hardy, B. Carlington, K. Davis, I. Nichols and M. Jacobsen.** Spelman Col. and ChemRisk LLC, San Francisco.

A200 **576.8** Membrane localization of a novel regulator of actin depolymerizing factor. **K.K. Cuddy, P.H. Grey, X. Zhang and D.G. Oppenheimer.** Univ. of Florida and UCSD.

A201 **576.9** Expression profiles of genes coding for oil biosynthesis in developing tung seeds. **H. Cao, J.M. Shockey and K.T. Klason.** USDA, New Orleans.

A202 **576.10** Whole-genome expression patterns in LTP knockdown Arabidopsis plants. **Y. Homayoun, C. Femrite, R. Vellanoweth and A. Gracey.** California State Univ., Los Angeles and Univ. of Southern California.

A203 **576.11** Beneficial effects of Jamaican bitter yam biomaterials in hypercholesterolemic mice. **D.K. Stennett, A. Wheatley, L. Dilworth, D. McGrowder and H. Asemota.** Univ. of West Indies, Jamaica.

## 577. METHODS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A204 **577.1** Effects of storage conditions on soil molecular biology for forensic science purposes. **S.A. Larson, N. Patel, V. Freeman, J. Hustedt, R. Drijber, D. Carter and C. Bailey.** Univ. of Nebraska-Lincoln.

A205 **577.2** Development of a multiplex immunoassay for receptor signaling protein analysis. **R. Wiese, S. Harbison and D. Hayes.** EMD Millipore, St. Charles, MO.

A206 **577.3** Development of analytical methods for determination of peptide concentration. **E. Lang, K. Rupprecht and J. Fishpaugh.** Abbott Labs.

A207 **577.4** Assay of vitamin C in red blood cells. **H. Li, H. Tu, Y. Wang and M. Levine.** NIDDK/NIH.

A208 **577.5** Column purification of histidine-tagged proteins from unclarified samples. **M. Carlsson, J. Lundqvist, T. Granér and L. Andersson.** GE Healthcare Bio-Sci. AB, Uppsala, Sweden.

A209 **577.6** Purification of MBP- and Strep-tag II-tagged proteins. **M. Carlsson, A. Heijbel, A. Karlsson and L. Lilja.** GE Healthcare Bio-Sci. AB, Uppsala, Sweden.

A210 **577.7** Lab-on-a-Print: desktop microfabrication for quantitative biology. **T. Pan.** Univ. of California, Davis.

A211 **577.8** Detection of antibodies to HPV vaccine types using a multiplexed immunoassay. **G. Panicker, I. Rajbhandari and E. Unger.** Ctrs. for Dis. Control and Prevent.

A212 **577.9** Evaluating transgenic *Xenopus* as a model system for the expression of secreted proteins. **J.G. Laird, K.R. Marshall, M.A. Dean and S.A. Baker.** Univ. of Iowa and Coe Col.

## 578. BIOPHYSICAL METHODS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

A213 **578.1** Histidine-tag-specific optical probes. **H.E. Elverson, L.M. Hellman, M. Melikishvili, C. Zhao, S.W. Whiteheart and M.G. Fried.** Univ. of Kentucky, Univ. of Notre Dame and UCSD Sch. of Pharm.

A214 **578.2** Topocell – an image analysis tool to study intracellular topography. **V.R.C.P.F. Fachada, N. Fachada, T. Turpeinen, P. Rakkila, A. Rosa and H. Kainulainen.** Univ. of Jyväskylä, Finland and Tech Univ. of Lisbon.

A215 **578.3** Rapid and specific measurements of superoxide using fluorescence spectroscopy. **R. Nazarewicz, A. Bikineyeva, D.G. Harrison and S. Dikalov.** Vanderbilt Univ.

A216 **578.4** Measurement of microcantilever spring constants for probing receptor-ligand bonding. **Y. Liu and D.F.J. Tees.** Ohio Univ.

## 579. MASS SPECTROSCOPY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

A217 **579.1** Rapid method for monitoring muscle protein metabolites by LC-MS. **O. Auell, B. Hayes, C. Chow, D. King and D.G. Hammond.** Taylor Univ., IN.

A218 **579.2** A mass spectrometry simulation for biochemistry education. **A. Fisher and P.A. Craig.** Rochester Inst. of Technol.

A219 **579.3** Collaborative center for chemical and biological mass spectrometry. **J. Sauer and J. Lawrence.** Univ. of Wisconsin-Stevens Point.

A220 **579.4** Detection of peptidyl-4-hydroxyproline in *Bacillus anthracis*. **K. Rebecchi, L. Xu, T. Williams and M. Mure.** Univ. of Kansas.

A221 **579.5** Identification of the differentiation status of individual hematopoietic cells from mouse bone marrow using secondary ion mass spectrometry. **M.L. Kraft, J.F. Frisz, J.S. Choi, R.L. Wilson and B.A. Harley.** Univ. of Illinois at Urbana-Champaign.

## 580. NANOTECHNOLOGY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

A222 **580.1** Investigation on the optimal hemocompatible silver nanoparticles. **T. Kwon, Y.H. Kim, B. Youn and K.H. Park.** Pusan Natl. Univ., South Korea.

A223 **580.2** Gold nanoparticle associated to berberine induces vasorelaxation and cytosolic Ca<sup>2+</sup> decrease in rat aorta. **N.T. Santos, B.R. Silva, L.M. Bendhack and C.N. Lunardi.** Univ. of Brasília and Univ. São Paulo, Ribeirão Preto.

A224 **580.3** Tamoxifen association to methacrylate polymer as a promising drug delivery system. **S.S. Barros, J.R. Silva, R.B. Azevedo and A.J. Gomes.** Univ. of Brasilia, Brazil.

A225 **580.4** Investigations of nanoparticle toxicity and uptake of cerium oxide and titanium dioxide in *Arabidopsis thaliana* (L.). **L. Tumburu, C. Andersen, J.N. Betts, M.G. Johnson, G.A. King, M. Plocher, J.R. Reichman and P.T. Rygielwicz.** U.S. EPA, Corvallis, Natl. Res. Council, Washington, DC and Dynamac Corp., Corvallis.

A226 **580.5** Association of berberine into hydrogel as drug delivery system. **C.R. Souza and C.N. Lunardi.** Univ. of Brasilia.

A227 **580.6** Polymeric microparticle loaded with atenolol as a drug delivery system to cardiovascular system. **N.A. Oliveira and A.J. Gomes.** Univ. of Brasilia.

A228 **580.7** Preparation and characterization of polysaccharides microparticles loaded with cisplatin. **C.M.S. Ribeiro and A.J. Gomes.** Univ. of Brasilia.

A229 **580.8** Functionalized-single-walled nanotube-assisted in vitro delivery of the oncogene suppressor genes to cancer cells. **A. Radomska-Pandya, A. Karmakar, S.M. Bratton, Y. Xu, M. Mahmood, A. Ghosh and A.S. Biris.** Univ. of Arkansas for Med. Sci. and Univ. of Arkansas at Little Rock.

A230 **580.9** Differential uptake of functionalized polystyrene nanoparticles by human macrophages and monocytic cells. **O. Lunov, T. Syrovets, C. Loos, G.U. Nienhaus, V. Mailänder, K. Landfester and T. Simmet.** Ulm Univ., Karlsruhe Inst. of Technol. and Max Planck Inst. for Polymer Res., Mainz.

A231 **580.10** Branched polyethyleneimine coating gold nanoparticle-mediated gene delivery targeting nuclear protein in A549 cells. **S. Choi, S. Jung, P.D. Ryu, S. Joo and S. Lee.** Seoul Natl. Univ. and Soongsil Univ., South Korea.

## 581. PROTEIN CHEMISTRY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

A232 **581.1** Using NTHi growth studies to demonstrate the biological significance of *c*-heme covalent attachment. **B. Kalmeta, K. Grimaldi, A. Iqbal, D. Weekes, K.L. Bren and L.V. Michel.** Rochester Inst. of Technol. and Univ. of Rochester.

A233 **581.2** Using flow cytometry to identify the orientations of P6 protein in nontypable *Haemophilus influenzae* and *Escherichia coli*. **J. Snyder, K. Czup, S. Sharma, M. Pichichero and L.V. Michel.** Rochester Inst. of Technol. and Rochester Gen. Hosp.

A234 **581.3** Protease digestion of P6: demonstrating a novel dual orientation of P6 in nontypable *Haemophilus influenzae*. **R. Schmidt, J. Milillo, S. Sharma, M. Pichichero and L.V. Michel.** Rochester Inst. of Technol. and Rochester Gen. Hosp.

A235 **581.4** Phospholipase A2 activity of phosphoperoxiredoxin6 is regulated by the interaction with p67<sup>phox</sup>. **S.Y. Krishnaiah, C. Dodia, S.I. Feinstein, S. Chatterjee and A.B. Fisher.** Univ. of Pennsylvania.

- A236 **581.5** Evidence for the presence of phosphate groups on the two major proteins of the hamster sperm acrosomal matrix and their potential role in acrosomal hydrolase binding activities. **G. Alvarez, T.L. Buchanan, S. Raychoudhury and S.K. Nagdas.** Fayetteville State Univ., NC and Benedict Col., SC.
- A237 **581.6** Glycoprotein changes in the bovine sperm plasma membrane during maturation in the epididymis. **T.L. Buchanan, E. McLean, S. Raychoudhury and S.K. Nagdas.** Fayetteville State Univ., NC and Benedict Col., SC.
- A238 **581.7** Development of analytical methods for characterization of Fab fragments. **L.C. Harwick, J.R. Fishpaugh and K.R. Rupprecht.** Abbott Labs.
- A239 **581.8** Creation of a new protein by substituting all arginine residues by its toxic analogue, canavanine. **Y. Ishida, J-h. Park and M. Inouye.** Robert Wood Johnson Med. Sch.
- A240 **581.9** The roles of conserved cysteine residues in the structure and function of glyoxysomal malate dehydrogenase. **R. Jones and E. Bell.** Univ. of Richmond and Math. & Sci. High Sch. at Clover Hill, VA.
- A241 **581.10** Adhesion of albumin to FDA type II soft contact lenses. **Y. Harkas, M. Harkas, J. Nichols, D. Cooper, A. Janoff and E.O. Keith.** Nova Southeastern Univ. Col. of Arts and Sci. and Col. of Optom.
- A242 **581.11** High selectivity purification screening of histidine-tagged proteins using small sample preparation formats containing cobalt IMAC media. **M. Björner, J. Lundqvist and H. Hedlund.** GE Healthcare, Uppsal, Sweden.
- A243 **581.12** Stability and functionality of HL heteropolymer ferritins responsible for a hereditary ferritinopathy disorder. **J. McNally, P. Arosio and F. Bou-Abdallah.** SUNY Potsdam and Univ. of Brescia, Italy.
- A244 **581.13** The linkage between citrate, pH regulation and protein folding in glyoxysomal malate dehydrogenase. **H. Yanta and E. Bell.** Univ. of Richmond.

## 582. ELECTROPHORESIS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A245 **582.1** Operation invisible dead: a blind study to compare molecular fingerprints of soil samples between crime scene and criminal's shoe. **N. Patel, S. Larson, V. Freeman and C. Bailey.** Univ. of Nebraska-Lincoln.

## 583. NEW MOLECULAR AND CELLULAR IMAGING AGENTS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A246 **583.1** Ultrasensitive, background-free single copy DNA detection: benchmarking performance using HPV infected cell lines and tissue biopsies. **J. Coleman, I. Lebedeva, M. Szczepanik, P. Pande, F. Liang and W. Patton.** ENZO Life Sci., Farmingdale, NY.

- A247 **583.2** New cell biology assays using a stabilized luciferase exhibiting red luminescence. **Y. Jiang and J.J. Naleway.** Marker Gene Technol. Inc., Eugene, OR.

## 584. RECOMBINANT DNA TECHNOLOGY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A248 **584.1** Espresso® cloning and expression systems streamline recombinant protein expression. **S. Sen, H. Sternard, L. Franz, C. Drinkwater, L. Sheets, C. Niebauer, D. Mead, R. Godiska and E.J. Steinmetz.** Lucigen Corp., Middleton, WI.
- A249 **584.2** Molecular cloning of a dithiol glutaredoxin cDNA from sweet potato. **L. Wen, X-W. Chi, C-T. Lin, Y-C. Jiang and C-T. Lin.** Western Illinois Univ., Natl. Taiwan Ocean Univ. and Natl. Changhua Univ. of Educ., Taiwan.
- A250 **584.3** A novel approach to isolate unselected recombinants facilitates markerless DNA recombineering. **G. Lezin, Y. Kosaka, H.J. Yost, M.R. Kuehn and L. Brunelli.** Univ. of Utah and NCI-Frederick.
- A251 **584.4** Differentiating frequency of recombination from frequency of recombinants. **G. Lezin, Y. Kosaka, H.J. Yost, M.R. Kuehn and L. Brunelli.** Univ. of Utah and NCI-Frederick.
- A252 **584.5** Cloning of a putative L-3-hydroxyacyl CoA dehydrogenase from *Micrococcus luteus*. **V. Takkalapalli, J-K. Huang and L. Wen.** Western Illinois Univ.

## 585. MITOCHONDRIAL DYNAMICS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A253 **585.1** Molecular nanoenvironment of the mitochondrial presequence translocase. **C.S. Mehnert, M. Gebert, S. Oeljeklaus, N. Pfanner and M. van der Laan.** Univ. of Freiburg, Germany.
- A254 **585.2** Lithocholic acid delays yeast aging by altering mitochondrial dynamics. **V. Titorenko, A. Beach and M. Burstein.** Concordia Univ., Canada.
- A255 **585.3** Identification and characterization of novel factors regulating kinesin-1 activation and mitochondria dynamics. **K. Cho, H. Patil and P. Ferreira.** Duke Univ. Med. Ctr.
- A256 **585.4** Modeling dynamic regulation of mitochondrial free Ca<sup>2+</sup>: effects of Ca<sup>2+</sup> sequestration and precipitation. **R.K. Pradhan, C.A. Blomeyer, J. Bazil, A.K.S. Camara, D.F. Stowe and R.K. Dash.** Med. Col. of Wisconsin.
- A257 **585.5** Cardiac-specific deletion of prohibitin-2 in adult mice destabilizes mitochondrial proteins, nucleoids, and cristae morphology, resulting in lethal cardiomyopathy. **T. Gawlowski, J. Yan, C. Merkwirth, W. Dillmann, T. Langer and M. Hoshijima.** UCSF and Univ. of Cologne, Germany.
- A258 **585.6** A novel mitochondrial ubiquitin ligase involved in the regulation of mitochondrial fusion. **A-S. Benischke, C. Hemion, M. Neutzner, K. Norris, S. Frank, R. Youle, M. Karbowski and A. Neutzner.** Univ. of Basel, NIH and Univ. of Maryland Biotechnol. Inst.

A259 **585.7** Mitochondrial transcription factor A binding to mitochondrial DNA during aging and calorie restriction. **A. Picca, A. Lezza, C. Leeuwenburgh and S. Tornaletti.** Univ. of Florida and Univ. of Bari, Italy.

## 586. MITOCHONDRIAL GENETIC DISEASES

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A260 **586.1** Differences in susceptibility to nutrient-induced cell death between primary and immortalized Leigh syndrome French Canadian type patient fibroblasts. **M-E. Rivard, Y. Burelle, C. Bemeur, L.R. Villeneuve, L. Coderre and C. Des Rosiers.** Montreal Heart Inst., Univ. of Montreal and Montreal Clin. Res. Inst.

A261 **586.2** Alterations in mitochondrial function in fibroblasts from patients with Leigh syndrome French Canadian type. **C. Bemeur, E. Belec, S. Deschênes, M-E. Rivard, L. Coderre, C. Des Rosiers and Y. Burelle.** Univ. of Montreal, Montreal Heart Inst. and Clin. Res. Inst. of Montreal.

A262 **586.3** Cardiac mitochondrial phenotype of the taz shRNA mouse model of human Barth syndrome. **C.H. Le, A.B. deMooy and A.J. Chicco.** Colorado State Univ.

A263 **586.4** An improved procedure for isolation of functional synaptosomes for the transient generation of cybrids from frozen human brain. **F.J. Castora and M.B. Trevino.** Eastern Virginia Med. Sch.

## 587. MITOCHONDRIAL TOXICITY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A264 **587.1** Effects of manganese and copper on mitochondrial membrane potential in the gill of *Crassostrea virginica*. **B. Boissette, F. Dailey, E.J. Catapane and M.A. Carroll.** Medgar Evers Col., NY.

## 588. NUCLEAR DYNAMICS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A265 **588.1** Calcium-mediated regulation of the Ran gradient and karyopherin nuclear transport receptors. **A. Grenet, S. Woodward and K.K. Resendes.** Westminster Col., PA.

## 589. ORGANELLE BIOGENESIS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A266 **589.1** Mitochondrial biogenesis and increased uncoupling protein 1 in brown adipose tissue of mice fed a ketone ester diet. **S. Srivastava, Y. Kashiwaya, M.T. King, U. Baxa, J. Tam, G. Niu, X. Chen, K. Clarke and R.L. Veech.** NIAAA/NIH, NIBIB/NIH, NCI-Frederick and Univ. of Oxford.

A267 **589.2** Structural and energetic changes in mitochondria associated with aging rodent oocytes may be overcome by mitochondrial microinjection. **F.J. Castora, F. Duran, F. Li, W. Ford, P. Birdsall, A. Mezezi and R.J. Swanson.** Eastern Virginia Med. Sch. and Old Dominion Univ.

## 590. CELL CYCLE

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A268 **590.1** A chemical-genetic screen to unravel the genetic network of CDC28/CDK1 links ubiquitin and Rad6-Bre1 to cell cycle progression. **C. Zimmermann, P. Chymkowitz, V. Eldholm, C.D. Putnam, J.M. Lindvall, M. Omerzu, M. Björås, R.D. Kolodner and J.M. Enserink.** Oslo Univ. Hosp., UCSD and BioinformaticService, Saltsjo-Boo, Sweden.

A269 **590.2** A role for leukemia-associated RhoGEF in the final stages of cytokinesis. **M.K. Martz, N. Beeharry, T. Yen and P. Wedegaertner.** Thomas Jefferson Univ. and Fox Chase Cancer Ctr.

A270 **590.3** Betulinic acid decreases Sp1 level via increasing the sumoylation of Sp1 to inhibit lung cancer growth. **J-J. Hung and W-C. Chang.** Natl. Cheng-Kung Univ. and Taipei Med. Univ., Taiwan.

## 591. CELL CYCLE AND GROWTH CONTROL

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A271 **591.1** Selenoprotein W is required for epidermal growth factor-stimulated proliferation via a pathway involving MKK4 and p53. **W.C. Hawkes and Z. Alkan.** USDA, Davis.

A272 **591.2** Swe1-dependent and Swe1-independent pathways controlling hydroxyurea resistance in *Saccharomyces cerevisiae*. **K. Tripathi, N. Matmati, T. Qin, W. Jim Zheng, B.K. Mohanty and Y.A. Hannun.** Med. Univ. of South Carolina.

A273 **591.3** Deacetylated  $\alpha\beta$ -tubulin dimer acts as a positive regulator for Rheb GTPase. **M.N. Lee, A. Koh, D. Park, J. Jang, D. Kwak, H. Jeon, J. Kim, H. Jung, P-G. Suh and S.H. Ryu.** POSTECH, Pohang, South Korea.

A274 **591.4** Asymmetric cortical extension leads to asymmetric cell division in *Drosophila* neuroblasts. **M. Connell, C. Cabernard, D. Ricketson, C.Q. Doe and K.E. Prehoda.** Univ. of Oregon.

A275 **591.5** Acute and chronic exposure of nickel promotes breast cancer cell growth. **J.P. Sabangan and M.C. Louie.** Dominican Univ. of California.

## 592. CHECKPOINT MECHANISMS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A276 **592.1** Using the *S. cerevisiae* Stn1 telomere capping protein to dissect downstream responses of the S phase checkpoint. **H.J. Gasparyan and C. Nugent.** Univ. of California, Riverside.

## 593. CYCLINS AND CYCLIN-DEPENDENT KINASES

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A277 **593.1** Insulin dysregulation and neurodegeneration: a possible role for CDK5. **D.E. Khost, R. Cotton and A. Aguanno.** Marymount Manhattan Col.

## 594. LIPID DROPLETS: A DYNAMIC SUBCELLULAR COMPARTMENT

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A278 **594.1** Fat storage-inducing transmembrane protein 2 adipose tissue deficiency results in decreased adipose tissue mass. **D.A. Miranda and D.L. Silver.** Duke-NUS Grad. Med. Sch., Singapore.

A279 **594.2** Biochemical mechanism of FIT proteins in mediating lipid droplet formation. **D.A. Gross, C. Zhan and D.L. Silver.** Albert Einstein Col. of Med. and Duke-NUS Grad. Med. Sch., Singapore.

A280 **594.3** CGI-58 regulates triacylglycerol metabolism and lipid signaling pathways in plant cells. **S. Park, S. Gidda, N. Khoo, P. Horn, C. James, K. Chapman, R. Mullen and J. Dyer.** USDA, Maracopa, AZ, Univ. of Guelph, Canada and Univ. of North Texas.

A281 **594.4** Hydrophobic and electrostatic interactions anchor perilipin 2 to the surface of cytosolic lipid droplets. **A.C. Sletten, A.E. Seline and L.L. Listenberger.** St. Olaf Col., MN.

A282 **594.5** Perilipin 2 localization to the surface of lipid droplets. **M.M. Logsdon, D.A. Brown and L.L. Listenberger.** St. Olaf Col. and Stony Brook Univ.

## 595. CHEMICAL PROBES OF LIPID SYSTEMS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A283 **595.1** Chemical approaches to the investigation of protein-membrane binding interactions using synthetic lipid probes. **M.D. Best.** Univ. of Tennessee, Knoxville.

## 596. GENETIC MODELS OF LIPID METABOLISM

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A284 **596.1** Role of hepatic monounsaturated fatty acid synthesis in metabolic regulation. **M. Strable, M. Flowers, X. Liu and J.M. Ntambi.** Univ. of Wisconsin-Madison.

## 597. LIPID DROPLET DYNAMICS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A285 **597.1** Characterization of lipid droplet and its regulation by caveolin-1 in endothelial cells. **A. Kuo, X. Zhang, K.D. Harrison and W.C. Sessa.** Yale Univ.

A286 **597.2** The COPI vesicle associated protein Arf1 GTPase-activation protein 1 is required for lipid droplet biogenesis. **J. Gannon, J. Fernandez-Rodriguez, L. Asp, A. Fazal, J.J.M. Bergeron and T. Nilsson.** McGill Univ. Hlth. Ctr. and Univ. of Gothenburg, Sweden.

A287 **597.3** Dynamic regulation of lipid droplets in the microalgae *Chlamydomonas reinhardtii*. **C-H. Tsai and C. Benning.** Michigan State Univ.

A288 **597.4** Regulation of the alpha beta hydrolase domain protein family in murine and human obesity. **J.M. Brown, K. Martinez, J. Betters, N. Shores, L.L. Rudel, M.K. McIntosh and G. Thomas.** Wake Forest Univ. Sch. of Med. and Univ. of North Carolina at Greensboro.

A289 **597.5** Live cell imaging of lipid droplet breakdown and growth in adipocytes. **H. Wolinski, M. Paar, C. Jüngst, N.A. Steiner, D. Kolb, A. Lass, R. Zimmermann, A. Zumbusch and S.D. Kohlwein.** Univ. of Graz, Austria, Univ. of Konstanz, Germany and Med. Univ. of Graz.

A290 **597.6** Characterization of a novel short-form of perilipin-5. **D.M. DuBreuil and J.T. Tansey.** Otterbein Univ., OH.

A291 **597.7** Formulation development of alcohol-free oil-in-water microemulsions as potential adjuvants and vehicles for vaccines. **J.M. Muderhwa.** Brooke Army Med. Ctr., Fort Sam Houston, TX.

**598. LIPID MOBILIZATION, LIPASES AND LIPID TRANSPORT PROTEINS****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A292 **598.1** Regulation of macrophage cholesterol homeostasis by trans fatty acid. **F. Shao and D.A. Ford.** St. Louis Univ. Sch. of Med.
- A293 **598.2** Fatty acid uptake in the early branching eukaryotic pathogen *Trypanosoma brucei*. **K.S. Paul, P. Vigueira, B. Winston, B. McCall, S. Cain, H. Evans and J. McCallister.** Clemson Univ.

**599. LIPID STORAGE****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A294 **599.1** Alterations in ceramide in hyperglycemic and fatty acid supplemented macrophages. **C.J. Albert and D.A. Ford.** St. Louis Univ. Sch. of Med.
- A295 **599.2** Homology modeling of perilipin 5. **Z. Niday and J.T. Tansey.** Otterbein Univ., OH.

**600. STRUCTURE, FUNCTION AND BIOGENESIS OF CELL MEMBRANES****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A296 **600.1** Temporal hierarchy of membrane restructuring during cold acclimation in fish. **K. Ward and E.E. Williams.** Salisbury Univ., MD.

**601. LIPID DOMAINS AND LIPID RAFTS****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A297 **601.1** A multifaceted investigation of the localization of the human follicle stimulating hormone receptor. **D. Steinmetz and B.D. Cohen.** Union Col., NY.
- A298 **601.2** Class A scavenger receptor-mediated adhesion is regulated by lipid raft localization and cytoplasmic motifs. **S. Vadali and S.R. Post.** Univ. of Arkansas for Med. Sci.
- A299 **601.3** Cloning and characterization of novel CTP: phosphoethanolamine cytidyltransferase (Pcyt2) isoforms made by alternative splicing. **Z. Pavlovic and M. Bakovic.** Univ. of Guelph, Canada.
- A300 **601.4** FSH can induce ERK activation in a cAMP independent manner. **C.L. Curtis and B.D. Cohen.** Union Col., NY.

- A301 **601.5** Chemical imaging of cholesterol and sphingolipid distribution in the plasma membranes of fibroblast cells. **M.L. Kraft, J.F. Frisz, H.A. Klitzing, K. Lou, V. Lizunov, J. Zimmerberg and P.K. Weber.** Univ. of Illinois at Urbana-Champaign, NICHD/NIH and Lawrence Livermore Natl. Lab.

**602. MEMBRANE PROTEIN SYNTHESIS, INSERTION AND ASSEMBLY****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A302 **602.1** Expression of PMCA4a in the extratesticular pathway and accessory organs of the mouse. **R. Patel, D. Stabley, E. Strehler and P. Martin-DeLeon.** Univ. of Delaware, A.I. DuPont Hosp. for Children and Mayo Clin. Col. of Med.
- A303 **602.2** Formation of integral membrane protein oligomers. **Y-c. Lai and R. Renthal.** Univ. of Texas and Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- A304 **602.3** Lipid-protein interactions as a determinant of the function and topogenesis of membrane proteins. **H. Vitrac, M. Bogdanov and W. Dowhan.** Univ. of Texas-Houston Med. Sch.

**603. PROTEIN-LIPID INTERACTIONS AS DETERMINANTS OF FUNCTION****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A305 **603.1** The effect of the lipid environment on drug binding and transport by the P-glycoprotein multidrug transporter. **F.J. Sharom and A.T. Clay.** Univ. of Guelph, Canada.
- A306 **603.2** Phosphatidylcholine transfer protein attenuates high fat diet-induced changes in mitochondrial membrane phosphatidylcholine composition. **K. Maner-Smith and D.E. Cohen.** Brigham and Women's Hosp.

**604. STRUCTURE AND FUNCTION OF TRANSPORT PROTEINS AND CHANNELS****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A307 **604.1** Structural investigations of CIC-ec1, a large integral membrane protein, using solution-state NMR and nanodisc technology. **T. Chew, S. Abraham, S. Elvington and M. Maduke.** UCSD and Stanford Univ.
- A308 **604.2** Functional and structural analysis of transmembrane segment IV of Na<sup>+</sup>/H<sup>+</sup> exchanger of *Schizosaccharomyces pombe*. **A. Ullah, C. Alves, B.L. Lee, B.D. Sykes and L. Fliegel.** Univ. of Alberta.
- A309 **604.3** Regulatory activation is accompanied by movements in the C-terminus of the Na-K-Cl cotransporter (NKCC1). **M.Y. Monette and B. Forbush.** Yale Univ.



- A310 **604.4** Pannexin 1 knockdown in metastatic melanoma cells induces cell differentiation into a melanocytic phenotype decreasing tumor size and metastasis in vivo. **S. Penuela, L. Gyenis, A. Ablack, J. Churko, A. Berger, J. Lewis, D. Litchfield and D. Laird.** Univ. of Western Ontario.
- A311 **604.5** Identification of the structural domains of *Trypanosoma brucei* Tim17 that is required for its function. **E.I. Weems and M. Chaudhuri.** Meharry Med. Col.
- A312 **604.6** Characterization of rOrf8/Escl of the enteropathogenic *Escherichia coli* as an inner rod protein. **N. Sal-Man, W. Deng and B.B. Finlay.** Univ. of British Columbia.

## 605. VESICULAR TRAFFICKING

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A313 **605.1** *S. cerevisiae* Env7 encodes a novel vacuolar membrane kinase involved in delivery or function at the vacuole and is an ortholog of human Ser/Thr kinase STK16. **E. Gharakhanian, S. Manandhar, S. Cocca and F. Ricarte.** California State Univ., Long Beach.
- A314 **605.2** Determination of the intracellular, surface, and extracellular localization of Hsp70s under different stress conditions. **R. Medina, M. Rashedan and N. Nikolaidis.** California State Univ., Fullerton.
- A315 **605.3** A fibrinogen-derived peptide induces clathrin- and caveolae-independent endocytosis in endothelial cells. **D. Serrano, C. Garnacho and S. Muro.** Univ. of Maryland College Park.
- A316 **605.4** A novel mechanism of transcytosis of drug carriers across gastrointestinal epithelial cells mediated by ICAM-1. **R. Ghaffarian, T. Bhowmick and S. Muro.** Univ. of Maryland College Park.
- A317 **605.5** *S. cerevisiae* *ENV9*, *ENV10* and *ENV11* are novel genes involved in lysosomal vacuole events and their products localize to lipid droplets, ER, and nucleus, respectively. **L.A.K. Remington, T. Hseuh and E. Gharakhanian.** California State Univ., Long Beach.
- A318 **605.6** Characterization of the interaction between sorting nexin 27 and  $\beta$ -catenin in kidney epithelial cells. **B. Duchez, S.L. Milgram and M.P. Playford.** NHLBI/NIH.
- A319 **605.7** The *Vibrio parahaemolyticus* effector VopQ induces autophagosome accumulation in host cells. **A. Sreelatha, T. Bennett, V. Starai and K. Orth.** Univ. of Texas Southwestern Med. Ctr. and Univ. of Georgia.
- A320 **605.8** A model system to investigate antibody bipolar bridging mediated by gE-gI, a herpes virus Fc receptor. **B. Ndjamen, A. Farley and P.J. Bjorkman.** Caltech and MIT.

## 606. GLYCOCONJUGATES IN PATHOGEN INVASION AND VIRULENCE

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A321 **606.1** Nucleotide sugar transporters of *Trypanosoma brucei*: glycosylation and infectivity. **L. Liu, Y-X. Xu, B.A. Burleigh, J.D. Bangs and C.B. Hirschberg.** Boston Univ. Goldman Sch. of Dent. Med., Harvard Sch. of Publ. Hlth. and Univ. of Wisconsin-Madison.
- A322 **606.2** Generation of an IgG monoclonal antibody to LactiNac glycan epitopes from splenocytes of *Schistosoma mansoni*-infected Swiss Webster mice. **V.H. Bartlette, B. Mamphey, M. Mandalasi and K. Nyame.** Univ. of Maryland Eastern Shore.
- A323 **606.3** Receptor determinants for the avian coronavirus infectious bronchitis virus: roles of host cell lectins and glycans. **Y. Zhang and G. Whittaker.** Cornell Univ.

## 607. ROLE OF GLYCOCONJUGATES IN SIGNALING AND DEVELOPMENT

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A324 **607.1** O-GlcNAc, a novel paradigm for regulating stress-induced signal transduction pathways. **S. Sengupta, T. Boronina, V. Paruchuri, R. Cole and N.E. Zachara.** Johns Hopkins Univ. Sch. of Med.
- A325 **607.2** Extension of poly-N-acetyllactosamine chain in human cancer cell lines is under src regulation. **K. Hwa, H-C. Liu and T-Y. Chou.** Natl. Taipei Univ. of Technol. and Taipei Veterans Gen. Hosp.
- A326 **607.3** Thrombospondin-1 signaling via CD47 regulates T lymphocyte glycosaminoglycan biosynthesis. **S. Kaur, S.A. Kuznetsova, M.L. Pendrak, J.M. Sipes and D.D. Roberts.** NCI/NIH.
- A327 **607.4** Global increases in O-GlcNAc levels lead to differentiation of myoblasts. **K. Vaidyanathan and L. Wells.** Univ. of Georgia.
- A328 **607.5** NogoB receptor is essential for extraembryonic vascular development and protein glycosylation. **E.J. Park and W.C. Sessa.** Sch. of Med., Yale Univ.
- A329 **607.6** The role of N-linked glycosylation during *Drosophila* embryonic development. **A. McCague and E. Selva.** Univ. of Delaware.
- A330 **607.7** Nonenzymatic and enzymatic functions of the Skp1  $\alpha$ galactosyltransferase in *Dictyostellium* oxygen-sensing. **C.M. Schafer, D. Zhang and C.M. West.** Univ. of Oklahoma Hlth. Sci. Ctr.

## 608. GLYCANS IN PATHOGENIC PROTOZOA

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A331 **608.1** A mutant of *Leishmania donovani* deficient in elongating mannosylphosphoryl transferase activity. **M.R. Phillips and S.J. Turco.** Univ. of Kentucky.

## 609. IMMUNE SYSTEM GLYCOBIOLOGY

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A332 **609.1** Alteration of heparan sulfate 2-O-sulfation in endothelial cells enhances neutrophil infiltration in mice. **D. Xu, J. Axelsson, B.N. Kang, P. Sriramarao, T.M. Handel, K. Ley and J.D. Esko.** UCSD, Univ. of Minnesota, St. Paul and La Jolla Inst. for Allergy and Immunol.
- A333 **609.2** Strategies to enhance T cell reconstitution after severe immunodepletion. **M.R. Martinez, J. Dudakov and M. van den Brink.** Univ. of Puerto Rico Mayaguez and Mem. Sloan Kettering Cancer Ctr.

## 610. NERVOUS SYSTEM GLYCOBIOLOGY

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A334 **610.1** Unusual chemical and enzymatic stability of polysialic acid containing *N*-glycolylneuraminic acid. **L. Davies, O. Pearce, M. Tessier, S. Assar, V. Smutova, A. Pshezhetsky, R. Woods and A. Varki.** UCSD, Univ. of Georgia and CHU Sainte-Justine, Univ. of Montreal.

## 611. CHEMISTRY AND CELL BIOLOGY OF NATURAL PRODUCTS

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A335 **611.1** Biological features of human catalytic antibody light chains showing anti-cancer activity. **T. Uda and E. Hifumi.** Oita Univ., Japan and CREST of JST, Saitama.
- A336 **611.2** Catalytic and biological features of human light chains suppressing of infection of influenza virus A type. **E. Hifumi, N. Fujimoto and T. Uda.** Oita Univ. and CREST of JST, Saitama, Japan.
- A337 **611.3** Antibacterial activity of some coumarins and their metal complexes. **S.R. Govori, A. Buza, N. Ajvazi and A. Haziri.** Univ. of Prishtina, Kosovo.

- A338 **611.4** Determining intracellular concentrations of flavonoids in MDA-MB-231 cells using mass spectrometry. **A. Pham, S. Yadegarynia and B. White.** San Jose State Univ.
- A339 **611.5** Effects of chalcone on oxidatively stressed *Caenorhabditis elegans*. **M. Duong, K. Susman, F. Caruso and M. Rossi.** Vassar Col. and CNR, Rome.
- A340 **611.6** rLosac induces pro-survival mechanisms in dorsal root ganglia neurons. **M.P. Alvarez-Flores, C.M. Remuzgo, Y. Cury and A.M. Chudzinski-Tavassi.** Butantan Inst. and Ctr. of Applied Toxicol., São Paulo.
- A341 **611.7** Orf6: biochemical characterization of a putative thioesterase from a polyunsaturated fatty acid synthase. **M.M. Rodriguez-Guilbe, R. González-Méndez, T. Wymore, E. Screiter and A. Baerga-Ortiz.** Univ. of Puerto Rico Sch. of Med., Pittsburgh Supercomputing Ctr. and Univ. of Puerto Rico.
- A342 **611.8** Avocado oil increases cell viability and respiratory rate of yeast during oxidative stress induced by ferrous iron. **J.L. Fernández de la Paz, P.J. Martínez-Morales, E. Calderón-Cortés, M. Fernández-Quintero, R. Montoya-Pérez, M. Clemente-Guerrero, A. Saavedra-Molina and C. Cortés-Rojo.** Univ. Michoacana de San Nicolás de Hidalgo, Mexico.

## 612. MODE OF ACTION OF BIOACTIVE NATURAL PRODUCTS

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A343 **612.1** Cranberry flavonols inhibit matrix metalloproteinase activity in human prostate cancer cells. **R. Hurta, J. MacPhee, B. Elwood, K. Patel and C. Neto.** Univ. of Prince Edward Island, Canada and Univ. of Massachusetts-Dartmouth.
- A344 **612.2** Investigation of the role of dietary flavonoids on cell death: evidence to support a non-apoptotic mechanism. **T. Lialiutska, N. Ngo and B. White.** San Jose State Univ.
- A345 **612.3** Identification of mechanism of action of anti-HIV properties of compounds present in neem (*Azadirachta indica*) extracts. **S. Arora and J. Vanniyasingam.** Kean Univ., NJ.
- A346 **612.4** Systemic chemical proteomics based target identification and validation of OMe-Syn, a new anti-angiogenic natural small molecule. **N.H. Kim, N. Pham, R. Quinn and H.J. Kwon.** Yonsei Univ., South Korea and Griffith Univ., Australia.
- A347 **612.5** Relating coumarin molecular structure to biological and chemical properties. **E. Hefter, F. Caruso and M. Rossi.** Vassar Col. and Inst. of Biomolec. Chem.-CNR, Rome.
- A348 **612.6** Rubber plant (*Hevea brasiliensis*) extract inhibits polyisoprenylated methylated protein methyl esterase and cancer cell viability. **U.N. Hester, F. Amisshah, B. Aguilar, R. Duverna and N. Lamango.** Florida A&M Univ. Col. of Pharm. and Pharmaceut. Sci.

## 613. PROTEIN-SMALL MOLECULE INTERACTIONS

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A349 **613.1** The role of histidines in neurosteroid binding of NMDA NR2B and D subunits. **S. Rhoads, S. Biello, L. Zemcik and L. Gentile.** Univ. of Richmond.
- A350 **613.2** Alterations in the activity of the yeast peroxiredoxin Tsa1 upon modification by alkylating agents. **H.A. Brown, S.L. Justice, F.J. Garcia, K.S. Carroll, K.A. Morano and J.D. West.** Col. of Wooster, OH, Scripps Res. Inst. Florida and Univ. of Texas Med. Sch. at Houston.
- A351 **613.3** Disruption of the HIF-1 $\alpha$ /p300 interaction as a means of inhibiting angiogenesis. **K.M. Reece, E.D. Richardson, S.T. Pisle, A.J. Holly, T.J. Campbell and W.D. Figg.** NCI/NIH and SAIC, NCI-Frederick.
- A352 **613.4** Understanding the regulation of AMPA and NMDA iGluRs through the binding of sulfated neurosteroids. **E.I. Bartle, D. Fanelli, R. Roark, A. Young and L. Gentile.** Univ. of Richmond.
- A353 **613.5** Study of a potent small-molecule benzosuberene anti-cancer agent. **A.K. Charlton-Sevcik, T.E. Strecker, S.O. Odutola, J.K. Tidmore, R.P. Tanpure, C.S. George, M. Sriram, D.J. Chaplin, K.G. Pinney and M.L. Trawick.** Baylor Univ. and Oxigene Inc., San Francisco.
- A354 **613.6** A fluorescent glutathione analog for monitoring interactions of GST fusion proteins. **H.C. Huff, C.R. Gaines and B.D. Caldwell.** Missouri Western State Univ. and Boys Latin Sch. of Maryland, Baltimore.

## 614. CASPASES

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A355 **614.1** Optimization of expression of *Schizophyllum commune* metacaspase gene *scp1* via codon-optimization, prodomain removal, and autoinduction. **A. Major and K.M. Fox.** Union Col., NY.
- A356 **614.2** CASP-8 D302H gene polymorphism and susceptibility to primary brain tumors. **S. Pence, C. Cacina, S. Turan, F. Genc, A. Kafadar, M.Y. Kaynar and I. Yaylim Eraltan.** Istanbul Univ. Inst. for Exptl. Med. Res. and Cerrahpasa Med. Fac., Turkey.

## 615. SIGNALING IN DISEASE AND THERAPY

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A357 **615.1** Physiologic cardiac hypertrophy and cardiac dilation: a comparative study using ZmRacD transgenic mouse model. **M.T. Elnakish, M.D.H. Hassona, M.A. Alhaj, L. Moldovan, M. Khan and H.H. Hassanain.** The Ohio State Univ.

A358 **615.2** Cardiotonic steroids induce stress signaling in preeclampsia: a translational approach with in vivo, in vitro, and patient studies. **M.N. Uddin, D. Horvat, S.R. Allen, R.O. Jones, D.C. Zawieja and T.J. Kuehl.** Scott & White Healthcare and Texas A&M Hlth. Sci. Ctr. Col. of Med., Temple.

A359 **615.3** A sphingosine derivative recruits regulatory T cells to the kidney by nuclear translocation of NF $\kappa$ B and upregulation of CCL5. **E. Ly, K-C. Yong, Y-H.H. Lien and L-W. Lai.** Univ. of Arizona.

A360 **615.4** Antiproliferative factor regulates connective tissue growth factor (CTGF/CCN2) expression in T24 bladder carcinoma cells. **S.L. Planey, C.A. Matika, J.A. Arnott and M. Wasilewski.** The Commonwealth Med. Col., PA.

A361 **615.5** Effects of iron deficiency on the activation of glial cells against an antigenic challenge. **I. Contreras-Garcia, J.A. Estrada-Guadarrama and F.B. Pliego-Rivero.** Autonomous Univ. of State of Mexico.

A362 **615.6** Structure and function of E3 ubiquitin ligase mindbomb RING domain. **R.D. Wardlow II, S.H. Choi, B. McMillan and S.C. Blacklow.** Univ. of Maryland Baltimore County and Dana-Farber Cancer Inst.

A363 **615.7** The effects of G $\alpha$  signaling on pancreatic  $\beta$ -cell function and mass. **M.E. Kimple, J.B. Moss, H.K. Brar, T.C. Rosa, C.B. Newgard and P.J. Casey.** Univ. of Wisconsin-Madison and Duke Univ. Med. Ctr.

A364 **615.8** Stress-activated cellular senescence as a mechanism of melanocytes degeneration in vitiligo. **B. Bellei, A. Pitisci, M. Ottaviani, M. Ludovici, C. Cota, L. Fabiola, M.L. Dell'Anna and M. Picardo.** IFO San Gallicano Dermatol. Inst., Rome.

A365 **615.9** Modulation of microRNA miR-29c in a novel cross-talk between mTOR complex 1 and angiotensin II type 2 receptor AT2R: an adaptive mechanism in over-nutrition. **L. Pulakat, R. Gul, S. Arnold, V. DeMarco and J.R. Sowers.** Univ. of Missouri-Columbia.

A366 **615.10** HSP90 is a novel target of thrombospondin-1 to regulate colon cancer development. **J. Ling, L. Gutierrez, Z. Lopez-Dee, S. Pan, V. Kalter, C. Cottell and D. Nye.** The Commonwealth Med. Col., Wilkes Univ. and Univ. of California, Riverside.

## 616. MAXIMIZING TEACHING EFFECTIVENESS

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

A367 **616.1** The effectiveness of images in the development of conceptual understanding in undergraduate biochemistry classes: what do we know? **R. Milner.** Univ. of Alberta.

A368 **616.2** Probing and improving students' understanding of protein alpha helix structure using targeted assessment and classroom interventions. **J. Loertscher, V. Minderhout, J.E. Lewis and S.M. Villafane.** Seattle Univ. and Univ. of South Florida.

A369 **616.3** Monkeys, beach balls, and Twinkies®: using analogies to teach enzyme kinetics. **E.A. First.** LSU Hlth. Sci. Ctr., Shreveport.

A370 **616.4** Design of purification and analysis protocols for riboflavin binding protein in an undergraduate biochemistry laboratory. **T. Arnold Murray.** Capital Univ., OH.

## 617. MAXIMIZING YOUR MARKETABILITY

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A371 **617.1** **Withdrawn.**

A372 **617.2** Myth busters: 10 things you don't know that you think you know about launching a career at a predominantly undergraduate institution. **R.S. Rowlett and K.A. Parson.** Colgate Univ., NY and Macalester Col., MN.

## 618. ENGAGING K-12 STUDENTS IN SCIENCE

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A373 **618.1** Getting the high schools involved in scientific research! The New York City Partnership to Advance Science; collaborative research projects between NYC high schools and a liberal arts college: the pilot year. **A. Aguzzo.** Marymount Manhattan Col.

## 619. ENHANCING UNDERGRADUATE RESEARCH EXPERIENCES

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A374 **619.1** Undergraduate laboratory renaissance: research integration across the entire biochemistry laboratory curriculum. **J. Roecklein-Canfield, R. Gurney, N. Lee and L. Soltzberg.** Simmons Col.

A375 **619.2** *STEP into Science* at Medgar Evers College, a successful strategic plan. **M.A. Carroll, D. Skeete and E.J. Catapane.** Medgar Evers Col., NY.

A376 **619.3** Continuing studies on the structural stability of *E. coli* alkaline phosphatase by an undergraduate biochemistry laboratory course. **J.T. Hazzard, A. Hailey, M.E. Klein, S.R. Korte, A.M. Mason, N.H. Narendran and C.L. Schnoebelen.** Univ. of Arizona.

A377 **619.4** A laboratory course exploring the relationship between structure and function of yeast alcohol dehydrogenase 1. **M.O. Huff and B.V. Plapp.** Bellarmine Univ., KY and Univ. of Iowa.

A378 **619.5** Gaining those important lab skills: three different training programs at a liberal arts college. **A. Brower, R. Romano, D. Columbus and A. Aguzzo.** Marymount Manhattan Col. and Boston Univ. Sch. of Publ. Hlth.

## 620. INNOVATIVE APPROACHES TO STEM EDUCATION

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A379 **620.1** Enhancing student engagement in an advanced protein structure, function and biophysics class. **E. Bell.** Univ. of Richmond.

A380 **620.2** Science of Cooking – an interdisciplinary approach to teaching a non-science majors lab and lecture course. **J.J. Provost.** North Dakota State Univ.

A381 **620.3** Using distance learning tools as a mechanism to create a STEM mentoring opportunity. **P. Ortiz, J. Duncan-Poitier, M. Groome, K. Hoffman, J. Lansing and S. Wortel.** SUNY Empire State Col., SUNY at Albany and New York Acad. of Sci.

A382 **620.4** Mathematica's computable document format player: a versatile tool for displaying interactive graphs and 3-D structures. **D.W. Sears and N.K. Clayton.** Univ. of California, Santa Barbara.

A383 **620.5** Teaching biochemistry and molecular biology using dihydrofolate reductase as an expression system. **J. Lau and M. Gilbert.** Bellarmine Univ., KY and Bio-Rad Labs., Hercules, CA.

A384 **620.6** Reading and writing about science: biochemistry, biomedicine and bioethics presented through the first year seminar. **C. Rohlman.** Albion Col., MI.

A385 **620.7** Incorporating mathematics principles into high school biology experiments using GFP denaturation studies. **M. Puccinelli, E. Ogele, S. Kasper and L. West.** Lee Univ., TN.

A386 **620.8** A novel approach to science? did Alice learn toxicology from the Mad Hatter? **V.V. Shende and M.A. Benore.** Univ. of Michigan-Dearborn.

## 621. PERFORMANCE ASSESSMENT FOR TEACHERS AND STUDENTS

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A387 **621.1** Community-based design and national testing of an assessment tool to measure student understanding of enzyme kinetics in undergraduate biochemistry. **J. Loertscher, V. Minderhout, J.E. Lewis and S.M. Villafane.** Seattle Univ. and Univ. of South Florida.

## 622. STRATEGIES FOR COMMUNITY OUTREACH AND ENGAGEMENT

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A388 **622.1** A medical humanities perspective of Frida Kahlo – an opportunity for recruitment into the health sciences. **F. Antelo.** Harbor-UCLA Med. Ctr.

**623. WORKING WITH STUDENTS OF CULTURALLY DIVERSE BACKGROUNDS****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A389 **623.1** Characterization of a compensatory mutant of *Leishmania major* that lacks ether lipids but exhibits normal growth and G418 resistance. **T. Zhu, S. Dhalladoo, S. Bibis and R. Zufferey.** St. John's Univ., NY.

- A390 **623.2** Self-efficacy ratings of URM students who return to a STEM summer research program. **C.R. Shadding and D. Whittington.** Washington Univ. in St. Louis Sch. of Med. and Strategic Evaluations Inc., Durham, NC.

## Nutrition

**624. LACTATION: BIOLOGY OF MILK PRODUCTION AND SECRETION****Poster**

*(Sponsored by: Lactation RIS)*

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C1 **I** **624.1** The total amino acid profile of human milk is stable over the first three months of lactation. **R.J. McMahon, M. Gray, A. Adelman, P.M. Herbers, J.G. Woo and A.L. Morrow.** Mead Johnson Nutr., IN and Cincinnati Children's Hosp.
- C2 **II** **624.2** Effects of milk collection and processing methods on origin and integrity of RNA in milk. **D.G. Lemay, K. Hinde, R.C. Hovey, J.T. Smilowitz, S.R. Hartono, F. Ventimiglia, K.A. Schmidt, J.W.S. Lee, I. Korf, P.A. Barry and J.B. German.** Univ. of California, Davis and Harvard Univ.
- C3 **I** **624.3** Breastmilk cells produce milk proteins in the culture dish. **F. Hassiotou, P. Metzger, N. Trengove, C. Tat Lai, L. Filgueira and P. Hartmann.** Univ. of Western Australia, Crawley and Albert Ludwigs Univ. Freiburg.
- C4 **II** **624.4** An automated method to quantify milk fat globules and sources of RNA in milk. **S.R. Hartono, F. Ventimiglia, J.T. Smilowitz, J.B. German, I. Korf and D.G. Lemay.** Univ. of California, Davis.
- C5 **I** **624.5** Macronutrient composition of milk produced by Ngandu and Aka women in the Central African Republic. **J. Williams, J. Wilcox, C.L. Meehan, S.L. Brooker, K.M. Hunt, M.A. McGuire and M.K. McGuire.** Univ. of Idaho and Washington State Univ.
- C6 **II** **624.6** Genetic influence on fatty acid composition of human breastmilk. **C.L. Cheatham.** Univ. of North Carolina at Chapel Hill, Kannapolis.
- C7 **I** **624.7** Effect of the amount of dietary protein in the dam metabolism in rat liver and mammary gland during pregnancy and lactation. **L. Velazquez, A. Lopez, A.R. Tovar and N. Torres.** Natl. Inst. of Med. Sci. and Nutr. Salvador Zubirán and UNAM, Mexico City.
- C8 **II** **624.8** Washing the milk fat globule minimizes cellular contamination without compromising mRNA quality. **L.A. Nommsen-Rivers, O.M. Ballard, N.D. Horseman, A.L. Morrow, D.G. Lemay and M.A. Hughes.** Cincinnati Children's Hosp. Med. Ctr., Univ. of Cincinnati and Univ. of California, Davis.

- C9 **I** **624.9** Identification of the variability of metabolites in human milk using gas chromatography-mass spectrometry profiling. **P. Hartmann, K.M. Piper, J.K. Lui, C. Rawlinson, R.D. Trengove and N.J. Trengove.** Univ. of Western Australia and Murdoch Univ., Australia.

**625. MILK BIOACTIVE COMPONENTS****Poster**

*(Sponsored by: Lactation RIS)*

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C10 **I** **625.1** Microbial composition and in vitro fermentation patterns of human milk oligosaccharides and prebiotics differ between formula-fed and sow-reared piglets. **M. Li, B.L. Laura, X. Chen, M. Wang, T.B. Kuhlenschmidt, M.S. Kuhlenschmidt, G.C. Fahey, Jr. and S.M. Donovan.** Univ. of Illinois, Urbana.
- C11 **II** **625.2** Human milk oligosaccharides in banked donor milk compared to mother's milk in the NICU. **C. Marx, R. Bridge, A. Wolf, W. Rich, J.H. Kim and L. Bode.** UCSD.
- C12 **I** **625.3** Maternal fucosyltransferase 2 genotype alters milk immunoglobulin A levels specific to some strains of norovirus. **D.H. Taft, J. Jiang, P-W. Huang, B. Davidson and A.L. Morrow.** Cincinnati Children's Med. Ctr. and Univ. of Cincinnati.
- C13 **II** **625.4** Human milk oligosaccharides are differentially metabolized in neonatal rats. **E. Jantscher-Krenn, C. Marx and L. Bode.** UCSD.
- C14 **I** **625.5** Galactooligosaccharides: effects on calcium absorption and gut microflora in young premenarcheal girls. **C.M. Whisner, B.R. Martin, A. Clavijo, C.H. Nakatsu, G.P. McCabe, L.D. McCabe, E.G.H.M. van den Heuvel, M.H.C. Schoterman and C.M. Weaver.** Purdue Univ. and FrieslandCampina Domo, Netherlands.
- C15 **II** **625.6** Active transcription factors in the development of the small intestine during early life. **M. Zhang, Y. Liao and B. Lönnnerdal.** Univ. of California, Davis and Australian Natl. Univ.
- C16 **I** **625.7** Improvement of bioactivity of alpha-lactalbumin through Maillard reaction with dextran. **S-T. Hong, Y-M. Ha, M-H. Nam and K-W. Lee.** Korea Univ.

C17 II **625.8** Dietary bovine lactoferrin stimulates intestinal proliferation in piglets. **E.A. Reznikov, S.S. Comstock, N. Contractor and S.M. Donovan.** Univ. of Illinois, Urbana and Pfizer Nutr., Collegeville, PA.

## 626. NUTRITION INTERVENTIONS FOR RISK FACTOR MODIFICATION IN CHRONIC DISEASE

### Poster

(Sponsored by: Aging and Chronic Disease RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C18 I **626.1** Case-control study of eating behaviors of young adults with and without diet-related chronic health condition. **V. Quick, R. McWilliams and C. Byrd-Bredbenner.** Univ. of Minnesota, Minneapolis and Rutgers Univ.

C19 II **626.2** Hi-5 Way: a multidisciplinary approach to secondary prevention of obesity in children 5 and under from underserved areas. **K.A. Gorman, A. Lim-Miller, L. Oliver and C. Lenders.** Boston Med. Ctr., Dell Children's Med. Ctr. of Central Texas, Austin and Boston Univ. Sch. of Med.

C20 I **626.3** Individualized counseling for a Healthy People 2010 diet results in surpassed fruit and vegetable intakes. **E. Sidahmed, M. Cornellier, L. Askew, A. McCoy, M. Rapai, A. Sen and Z. Djuric.** Univ. of Michigan.

C21 II **626.4** Reducing the glycemic load of mixed meals reduces postprandial glycemia and insulinemia over the entire day but does not affect satiety. **A.G. Liu, M.M. Most, M.M. Brashear, W.D. Johnson, W.T. Cefalu and F.L. Greenway.** Pennington Biomed. Res. Ctr., Baton Rouge.

C22 I **626.5** A rural community engaged in a cancer prevention program. **N.L. Dawkins, V.L. Carter and B. Howard.** Tuskegee Univ.

C23 II **626.6** Evaluation of a telephone-delivered dietary behavior intervention for ovarian cancer survivors. **M.R. Berglund, R.J. Paxton, C. Garcia-Prieto, M. Hernandez, R.A. Hajek, B.C. Handy, J. Brown and L.A. Jones.** Univ. of Texas MD Anderson Cancer Ctr.

C24 I **626.7** Baseline vitamin D status in patients with chronic kidney disease. **B.N. Wright, K. Coakley, J. Alvarez and V. Tangpricha.** Univ. of Maryland Baltimore County and Emory Univ. Sch. of Med.

C25 II **626.8** Internet-based tools to assess diet and provide feedback in CKD IV. **L. Arab, S. Murali, A. Rastogi, A. Ang, N. Shetty and R. Vargas.** UCLA and Kaiser Permanente, Fontana, CA.

C26 I **626.9** **Withdrawn.**

C27 II **626.10** Nutritional assessment of Omani patients with diabetes and chronic kidney disease: a case control study. **M. Waly, A. Ali, S. Al-Kalbani and M. Al-Maskari.** Sultan Qaboos Univ., Ministry of Hlth., Muscat and Col. of Hlth. Sci., Univ. of Buraimi, Oman.

C28 I **626.11** Effect of dairy foods on cell adhesion molecules. **K. Hilpert, S.G. West, E. Ferencik, D. Bagshaw and P.M. Kris-Etherton.** SUNY Oneonta and Penn State.

C29 II **626.12** Effect of whole grains on markers of systemic inflammation. **M. Lefevre and S.S. Jonnalagadda.** Utah State Univ. and General Mills Inc., MN.

C30 I **626.13** Sacha inchi (*Plukenetia volubilis* L.) oil as novel source of dietary fat to prevent inflammation and cardiovascular disease risk. **G.D. Noratto, R. Chirinos, D. Campos, Y. Larondelle, S. Arbizu, M.M. Dos Santos and S. Mertens-Talcott.** Texas A&M Univ., Natl. Univ. Agraria La Molina, Peru and Catholic Univ. of Louvain, Belgium.

C31 II **626.14** Grape seed extract attenuates oxidative stress induced by high fat/carbohydrate meal in metabolic syndrome patients. **R.K. Tadapaneni, S. Krishnankutty, L. Alandete, J.M. Randolph, M. Cheema, E. Park, I. Edirisinghe, B. Burton-Freeman and C.T. Kappagoda.** Illinois Inst. of Technol. and Univ. of California, Davis.

C32 I **626.15** High-oleic acid ground beef and risk factors for cardiovascular disease in men and postmenopausal women. **G. Ghahramany, S-h. Choi, L.A. Gilmore and S.B. Smith.** Texas A&M Univ.

C33 II **626.16** Effects of a low-fat diet on the anti-inflammatory interleukin levels of older adults. **E.D. Wall-Bassett, L. Maddy, I. Tharrington, J. Macesich, B.M. Harper, K. Heidal, W.E. Pofahl and S.E. Gordon.** East Carolina Univ.

C34 I **626.17** Dose response effect of almond consumption on serum fatty acid profile and coronary heart disease risk: a randomized controlled crossover trial. **C.W.C. Kendall, S. Nishi, A-M. Yoon, A. Esfahani, K.G. Lapsley, D.J.A. Jenkins and R.P. Bazinet.** Univ. of Toronto, New York Med. Col. and Almond Bd. of California, Modesto.

C35 II **626.18** Impact of a functional food bar on biomarkers of heart disease in hypercholesterolemic adults. **A. Hutchins.** Univ. of Colorado Colorado Springs.

C36 I **626.19** Dietary n-3 fish oil protects young mice against mortality during pneumonia. **G. Fernandes, C. Hinojosa, P. Williams and C. Orihuela.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.

C37 II **626.20** Glucosamine regulates autophagy in vitro and in vivo. **B. Carames and M. Lotz.** The Scripps Res. Inst.

C38 I **626.21** Breakfast and ready-to-eat cereal consumption is associated with improved markers of cardiometabolic health in adults: results from National Health and Nutrition Examination Survey 2001 – 2008. **L.M. Sanders, K.B. Miller and V.L. Fulgoni III.** Kellogg Co. and Nutr. Impact LLC, Battle Creek.

C39 II **626.22** Effects of vitamin D and calcium supplementation on blood pressure and serum lipids: a randomized, double-blind, placebo-controlled, clinical trial. **W. Chai, R.M. Bostick, A.A. Franke and R.V. Cooney.** Logan Col. of Chiropractic Univ. Progs., Emory Univ. and Univ. of Hawaii.

C40 I **626.23** Exploring the association between dietary patterns and the presence of age-related macular degeneration. **B. Goulão, P.M. Camacho, C. Mota, I. Coelho, M. Roe and I. Castanheira.** Higher Sch. of Hlth. Technol. of Lisbon, Natl. Inst. of Hlth. Dr. Ricardo Jorge, Lisbon and Inst. of Food Res., Norwich, U.K.

C41 II **626.24** Changes in core foods of individuals with type 2 diabetes because of a nutrition education intervention. **K.S. Keim, E. Lynch, E. Mang and L. Lorenzi.** Rush Univ.

C42 I **626.25** Does lowering glycated hemoglobin reduce hypogonadism in type 2 diabetic men with low PSA levels on low glycemic index diets? **L.S. Augustin, C.W.C. Kendall, A. Mirrahimi, L. Chiavaroli, S. Blanco and D.J.A. Jenkins.** Univ. of Toronto.

- C43 **II** **626.26** Development of a four-week cyclic Mexican Mediterranean menu for health. **C.D. Duran and C.F. Tam.** California State Univ., Los Angeles.
- C44 **I** **626.27** Effects of camellia oil-enriched diet on oxidative stress and oxidized LDL-C in hypercholesterolemic subjects. **A. Bumrungpert, P. Pavadhgul, S. Chusri and R. Kalpravidh.** Mahidol Univ., Thailand.
- C45 **II** **626.28** Cholesterol lowering effects of milk with added plant sterols. **L.K. Cusack, L.J. Kunces, M.L. Fernandez, W.J. Kraemer and J.S. Volek.** Univ. of Connecticut.
- C46 **I** **626.29** Effects of a low-carbohydrate versus high-carbohydrate, high-fiber diet on soluble cell adhesion molecules and endothelial function in adults with metabolic syndrome. **S. Angadi, N. Weltman, J. Patrie, E. Barrett, A. Weltman, D. Brock, B. Irving, C. Davis, J. Rodriguez and G. Gaesser.** Arizona State Univ. and Univ. of Virginia.
- C47 **II** **626.30** Systems biology evaluation of combi-phenol on metabolic syndrome-induced brain dysfunction. **J. Wang, M.G. Ferruzzi, E.M. Janle, C.Y. Tang, B. Gong, M. Varghese, L. Ho and G.M. Pasinetti.** Mount Sinai Sch. of Med., James J. Peters VA Med. Ctr., Bronx and Purdue Univ.
- C48 **I** **626.31** An obesity prevention and treatment worksite intervention by a faculty-directed student research team. **V. Haley-Zitlin, L. Surapaneni, D. Brodland, A. Musarra, A. Wiles, S. Carney and E. Challenger.** Clemson Univ.

## 627. NUTRITION AND COGNITIVE AND PHYSICAL FUNCTION IN OLDER ADULTS

### Poster

(Sponsored by: Aging and Chronic Disease RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C49 **I** **627.1** Relationship of cognitive function with plasma homocysteine, folate, vitamin B12 levels and nutrient intake in cognitively impaired elderly. **G. Kim, H. Kim, Y. Kim, H.J. Kim, J.I. Son, S.Y. Kim and N. Chang.** Ewha Womans Univ. and Seoul Asan Med. Ctr., South Korea.
- C50 **II** **627.2** The characterization of iron status in InCHIANTI: the use of a higher ferritin cutoff. **L. Chen, L.E. Murray-Kolb and K.V. Patel.** Johns Hopkins Bloomberg Sch. of Publ. Hlth., Penn State and NIA/NIH.
- C51 **I** **627.3** Neuronal MCP-1 mediates microglia recruitment and neurodegeneration induced by thiamine deficiency. **G. Yang and Z. Ke.** Shanghai Insts. for Biol. Sci., Chinese Acad. of Sci.
- C52 **II** **627.4** A longitudinal study on the preventive effects of dumbbell exercise and gum-chewing training on the sarcopenia and dementia in old people in Korea (2009-2019). **M. Suzuki, S-J. Lee and H.R. Kim.** Waseda Univ., Japan and Uiduk Univ., South Korea.
- C53 **I** **627.5** Assessment of appendicular lean mass in older adults. **A. Ellis and B.A. Gower.** Univ. of Alabama at Birmingham.
- C54 **II** **627.6** Effects of blueberry versus carrot juice supplementation on muscle strength and performance of psychomotor tasks in older persons. **M.A. Schrage, L.H. Darnell, J.F. Kelly and B.M. Wood.** Stetson Univ.

- C55 **I** **627.7** Dietary protein is inversely associated with sarcopenia, sarcopenic-obesity, and impaired gait speed in U.S. adults: NHANES 1999-2002. **M. Zanovec, C.E. O'Neil, V.L. Fulgoni III and T.A. Nicklas.** LSU AgCtr., Nutr. Impact LLC, Battle Creek, Baylor Col. of Med. and USDA, Houston.

## 628. COMMUNITY NUTRITION PROGRAMS AND POLICIES FOR OLDER ADULTS

### Poster

(Sponsored by: Aging and Chronic Disease RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C56 **I** **628.1** Supplementing the nutrition screening initiative survey to characterize nutritionally at risk older adults. **S.M. Wunderlich, Y. Bai, J. Brusca and S. Gaits.** Montclair State Univ., NJ.
- C57 **II** **628.2** Prevalence of osteoarthritis and dietary pattern in older people above 60 in southern area of Korea. **D. Shin and H-J. Oh.** Kyungnam Univ., South Korea.
- C58 **I** **628.3** Identification of environmental supports for healthy eating in older adults. **A. Sylvie and N.L. Cohen.** Univ. of Massachusetts Amherst.

## 629. CREATING HEALTHY FOOD ENVIRONMENTS

### Poster

(Sponsored by: Community and Public Health Nutrition RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C59 **I** **629.1** Don't walk this talk: public health discourse that disempowers. **C.M. Porter.** Univ. of Wyoming.
- C60 **II** **629.2** Selecting target populations for community nutrition intervention using spatial analyses. **J.E. Bryant.** West Virginia Univ.
- C61 **I** **629.3** Nutrition environment measures survey examining food price, availability, and quality, before and after relocation of Atlanta public housing residents. **M. Ndirangu, D. Oakley and A. Anderson.** Georgia State Univ.
- C62 **II** **629.4** Calories, portion size and caloric density? implications for restaurant calorie labeling. **M.J. Scourboutakos and M.R. L'Abbe.** Univ. of Toronto.
- C63 **I** **629.5** Changing the children's menu default: a Best Food for Families, Infants, and Toddlers community intervention. **C.J. Hachenberg, S.H. Crixell, B.J. Friedman and M.N. Clark.** Texas State Univ., San Marcos.
- C64 **II** **629.6** Nutritional knowledge and overweight or obesity in Mexican urban women of low socioeconomic level. **C. Galindo-Gómez, L. Juárez-Martínez, T. Shamah-Levy, A.F. García-Guerra, A. Ávila-Curiel and M.A. Quiroz-Aguilar.** Natl. Inst. of Med. Sci. and Nutr. Salvador Zubirán., Mexico City and Natl. Inst. of Publ. Hlth., Cuernavaca.
- C65 **I** **629.7** Identifying nutrition education deficits that affect food purchasing by low-income families with young children. **E.E. Calloway, S.J. Sweitzer, M.E. Briley, M. Romo, K. McInnis and M. Mcallaster.** Univ. of Texas at Austin and Johns Hopkins Bloomberg Sch. of Publ. Hlth.

- C66 II **629.8** Integrating nutrition and physical activity education into a food pantry. **S. El-Kabany, E.A. Jara and A. Al Abdrabalnabi.** Loma Linda Univ. Sch. of Publ. Hlth.
- C67 I **629.9** School environment and its relationship with obesity in the state of Mexico. **T. Shamah Levy, M. Morales- Ruan, C. Amaya Castellanos, A. Salazar Coronel, A. Jiménez Aguilar and I. Méndez Gómez Humarán.** Natl. Publ. Hlth. Inst., Cuernavaca and Math. Res. Ctr., Guanajuato, Mexico.
- C68 II **629.10** Associations between food types, the concentration of SNAP approved stores and community health. **E.F. Racine, Q. Wang, S.B. Laditka, C. Wilson and A. Mignery.** Univ. of North Carolina at Charlotte, Humana, S. Petersburg, FL and Mecklenburg Hlth. Dept., Charlotte, NC.
- 630. WHAT SHOULD I EAT? NUTRITIONAL EFFECTS OF FOODS**
- Poster**
- (Sponsored by: Community and Public Health Nutrition RIS)
- SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D
- Presentation time:* 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)
- C69 I **630.1** Association between dietary factors and human skin conditions in healthy subjects. **J. Kim, W. Song and Y. Cho.** Michigan State Univ. and Grad. Sch. of East-West Med. Sci., Kyung Hee Univ., South Korea.
- C70 II **630.2** Nutrient intake from food among women of childbearing age? is the burden of nutrient inadequacies growing in the USA? **D. Rai, V.L. Fulgoni III, M. McBurney and K. Chapman-Novakofski.** DSM Nutr. Products, Parsippany, NJ, Nutr. Impact LLC, Battle Creek, MI and Univ. of Illinois at Urbana-Champaign.
- C71 I **630.3** Applying the dietary guidelines for Americans to the foods actually consumed in the U.S.: why are so many SoFAS on MyPlate? **N. Carr, S. Kranz and L.M. Jahns.** Purdue Univ. and USDA, Grand Forks.
- C72 II **630.4** Self-reported lactose intolerance in Canadian adults. **S.I. Barr.** Univ. of British Columbia.
- C73 I **630.5** Are yogurt consumers different than other dairy consumers? **S.J. Nielsen, V. Ginder, T. Steiler and D. Paineau.** The Dannon Co., White Plains, NY, Danone Res., Palaiseau, France and Danone GMBH, Haar, Germany.
- C74 II **630.6** Nutrient intakes of Canadian children consuming breakfast and ready-to-eat cereal compared with non-consumers. **L. DiFrancesco, S.I. Barr and V.L. Fulgoni III.** Source! Nutr., Toronto, Univ. of British Columbia Nutr. Impact LLC, Battle Creek.
- C75 I **630.7** Race/ethnicity, family income, and education differentials in nutritional biomarkers in American children and adolescents: NHANES 2003-2006. **A.K. Kant and B.I. Graubard.** Queens Col., CUNY and NCI/NIH.
- C76 II **630.8** Relationship between serum folate status and blood lead concentrations in pregnant women: mothers and children's environmental health. **H. Kim, K-N. Kim, E-H. Ha, H. Park, M. Ha, Y. Kim, Y-C. Hong and N. Chang.** Ewha Womans Univ., Dankook Univ. Col. of Med., Ulsan Univ. Hosp., Univ. of Ulsan Col. of Med. and Seoul Natl. Univ. Col. of Med., South Korea.
- C77 I **630.9** Calcium intake, restrained eating, physical activity and bone health in college-aged Caucasian women. **D. Joyeux, H. Durham, M. Zanovec and G. Tuuri.** Sch. of Human Ecol., LSU and LSU Agr. Ctr.
- C78 II **630.10** Beyond 5-a-day: the relationship of fruit and vegetable consumption with nutrient intake adequacy among Mexican Americans. **A. Chavez, K.J. Farr, N.M. Lindberg and S. Vega-López.** Sch. of Nutr. and Hlth. Promotion, Arizona State Univ. and Kaiser Permanente Ctr. for Hlth. Res., Portland, OR.
- C79 I **630.11** A study on the nutritional status and effect of iron and calcium intervention in Korean preschool children. **K.O. Shin, T.H. Jung, H.J. Hwang, K.S. Choi, H.S. Park and K.H. Chung.** Sahmyook Univ. and Kyunghee Univ., South Korea.
- C80 II **630.12** Dietary behaviors associated with cardiovascular disease risk factors in Mexican-American adults. **J.L. Beckmann, K.J. Farr, S. Neupane, N.M. Lindberg and S. Vega-López.** Sch. of Nutr. and Hlth. Promotion, Arizona State Univ. and Kaiser Permanente Ctr. for Hlth. Res., Portland, OR.
- C81 I **630.13** Determining motivators and barriers of college students in purchasing milk from on campus vending for use in development of tailored messages that promote purchase of vended milk. **J. Sullivan, L.E. Monnat, J.A. Kennel and C.W. Gunther.** The Ohio State Univ. and Cleveland Clin. Fndn.
- C82 II **630.14** Korean office workers' recognition and use of health functional foods. **K.J. Chang and S.H. Choi.** Inha Univ., South Korea.
- C83 I **630.15** Dietary patterns and risk factors for glucose abnormalities in Korean adult population. **S. Song, H.Y. Paik and Y. Song.** Seoul Natl. Univ. and Catholic Univ. of Korea.
- C84 II **630.16** Korean high school male students' recognition and use of nutrient-enriched foods. **K.J. Chang and J-R. Park.** Inha Univ., South Korea.
- C85 I **630.17** Daily intakes of iron, zinc and manganese in Korean children aged 6 to 11 years. **M-K. Choi, Y-J. Bae, M-H. Kang and M-H. Kim.** Kongju Natl. Univ., Hanbuk Univ., Hoseo Univ. and Kangwon Natl. Univ., South Korea.
- C86 II **630.18** Korean middle school students' recognition and consumption of fast food. **K.J. Chang and S-E. Kim.** Inha Univ., South Korea.
- C87 I **630.19** Korean elementary school students' recognition, preference and nutrition knowledge on seafood. **K.J. Chang and R. Joo.** Inha Univ., South Korea.
- C88 II **630.20** Dietary intake in women consuming three supplements with identical micronutrient content. **F. Mejia Rodriguez, L.M. Neufeld, A.D. Quezada-Sanchez and A.F. Garcia-Guerra.** Natl. Inst. of Publ. Hlth., Cuernavaca and Micro Nutrient Initiative, Ottawa.
- C89 I **630.21** Formative evaluation for promoting adoption of the DGA, 2005 among African American parents and children in the Lower Mississippi Delta: focus group results. **B.B. McGee, V. Richardson, G.S. Johnson and C. Johnson.** Southern Univ. and A&M Col., LA.
- C90 II **630.22** Automated extraction and analysis of *Salmonella enterica* from ground turkey and kitchen surfaces. **P. Williams, T. Parrish, M. Duggan and J. Chapman.** Evogen Inc., Lenexa, KS.
- C91 I **630.23** Health disparities in coronary heart disease in Miami-Dade County among multi-ethnic populations. **G. Nagi and F.G. Huffman.** Florida Intl. Univ.



- C92 **II** **630.24** A food-based intervention for drug-naïve HIV<sup>+</sup> women living in Turbo, Kenya. **G. Etyyang, C. Neumann, A. Siika, W. Nyandiko and J. Ernst.** Moi Univ. Sch. of Med., Kenya, UCLA Schs. of Publ. Hlth. and Med. and Indiana Univ., Indianapolis.
- C93 **I** **630.25** Automated DNA extraction and multiplexed PCR assay to identify *Escherichia coli* O157:H7 from ground beef and kitchen surface swab samples. **J. Chapman, T. Parrish, M. Duggan and P. Williams.** Evogen Inc., Lenexa, KS.
- C94 **II** **630.26** Vitamin D assessment using simple questionnaires from a college cohort study. **M. Bishop, A.Y. McDermott, A. Nazmi, C. Stevenson and L. Hall.** California Polytech State Univ., San Luis Obispo, Univ. of California, Davis and USDA, Davis.
- C95 **I** **630.27** Monitoring of a pilot micronutrient powder home fortification program in the Kyrgyz Republic. **E.A. Lundeen.** Emory Univ.
- C96 **II** **630.28** Distribution of sodium intake in Mexican adults from a national probabilistic survey. **J.S. Angulo, A.D. Quezada-Sanchez, S. Barquera and T. Shamah-Levy.** Natl. Inst. of Publ. Hlth., Cuernavaca.
- 631. THE EXPERIENCE OF HOUSEHOLD FOOD INSECURITY**
- Poster**  
(Sponsored by: Community and Public Health Nutrition RIS)  
SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D  
Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)
- C97 **I** **631.1** Food insecurity, nutrition knowledge, and cooking skills are barriers to healthy eating among food pantry users. **R.N. Hale, S. Chhabra, A. Zipfel, D.H. Holben, L.M. Vaughn, G. Falciglia and S-Y. Lee.** Univ. of Cincinnati, Ohio Univ. and Cincinnati Children's Hosp. Med. Ctr.
- C98 **II** **631.2** Are food insecure adults more likely to have undiagnosed diabetes mellitus? **M. Ding and C. Zizza.** Auburn Univ.
- C99 **I** **631.3** Risk of protein inadequacy among young children from rural, low-income populations of Uganda, Kenya and Bangladesh. **D. Suri, J. Urbanek and S. Ghosh.** Nevin Scrimshaw Intl. Nutr. Fndn., Boston and Tufts Univ. Friedman Sch. of Nutr. Sci. and Policy.
- C100 **II** **631.4** Is social capital associated with food security in food pantry users? **S. Chhabra, R.N. Hale, D.H. Holben, G. Falciglia, L.M. Vaughn and S-Y. Lee.** Univ. of Cincinnati, Ohio Univ. and Cincinnati Children's Hosp. Med. Ctr.
- C101 **I** **631.5** Dietary behaviors and diet quality of low-income children in the Supplemental Nutrition Assistance Program. **C.W. Leung, E.E. Hoffnagle, H.H. Jensen, S.B. Foerster, S.P. Murphy, M. Nestle, L. Cheung, S. Turrell, D. Mozaffarian, W.C. Willett and S.J. Blumenthal.** Harvard Sch. of Publ. Hlth., Ctr. for Study of Presidency and Congress, Iowa State Univ., California Dept. of Publ. Hlth., Sacramento, Univ. of Hawaii and NYU.
- C102 **II** **631.6** A garden-based nutrition intervention in the rural Dominican Republic – impact on vitamin A rich food consumption. **J.C. Binford, M.A. Camp and D. Camp.** Yale Univ. Sch. of Med. and Sch. of Publ. Hlth.
- C103 **I** **631.7** The burden of malnutrition among school children in Kelantan, Malaysia. **Y.Y. Lee, W.A.M. Wan Muda and M. Suzuki.** Sch. of Hlth. Sci., Univ. Sains Malaysia and Waseda Univ., Japan.
- C104 **II** **631.8** Food insecurity is associated with poor social capital, perceived health, and perceived diet among adult food bank users in and around the lower mainland of British Columbia, Canada. **R.W. Hill and D.H. Holben.** Ohio Univ.
- C105 **I** **631.9** Participation in the food stamp program, food insecurity and HIV-disease among low income HIV<sup>+</sup> adults in Miami. **I. Hatsu, A. Campa, F.G. Huffman, P. Johnson, B. Thomlison, S. Barr, S. Williams and M.K. Baum.** Florida Intl. Univ. Sch. of Soc. Work.
- C106 **II** **631.10** Food insecurity-associated factors in poor Mexican households. **V. Mundo-Rosas and T. Shamah-Levy.** Natl. Inst. of Publ. Hlth., Cuernavaca.
- 632. BEHAVIORAL SCIENCE AND EATING BEHAVIOR CHANGE**
- Poster**  
(Sponsored by: Nutrition Education RIS)  
SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D  
Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)
- C107 **I** **632.1** Shaping college-age eating behavior in an institutionally derived food setting with a simple, interactive computer spreadsheet. **T.A. Crowder and W.B. East.** U.S. Military Acad., NY.
- C108 **II** **632.2** Weight regulation practices of young adults: predictors of restraint eaters. **V. Quick.** Univ. of Minnesota, Minneapolis.
- C109 **I** **632.3** 2009-10 USDA Fresh Fruit and Vegetable Program in Indiana improved several factors that lead to improved health. **Y-C. Lin, E. Foland and A.D. Fly.** Indiana Univ. and Indiana Dept. of Educ., Indianapolis.
- C110 **II** **632.4** Child appetitive traits influence dietary intake in treatment seeking overweight children. **J.M. Cahill, J.M. Iacovino, R.P. Kolko, N. Bitow, R.I. Stein, R. Welch, M.G. Perri, K.B. Schechtman, L.H. Epstein, B.E. Saelens and D.E. Wilfley.** Washington Univ. Sch. of Med., Univ. of Florida, Univ. at Buffalo, Seattle's Children's Hosp. Res. Inst. and Univ. of Washington.
- C111 **I** **632.5** Sodium benzoate intake in beverages may contribute to ADHD symptoms in college students. **B. Beezhold and C.S. Johnston.** Benedictine Univ., IL and Arizona State Univ.
- C112 **II** **632.6** Eating behavior traits during weight loss and weight loss maintenance in premenopausal women. **M.K. Zack, J.D. Shlisky, C.M. Durward and S.M. Nickols-Richardson.** Penn State.
- C113 **I** **632.7** Media coverage and awareness of the release of the 2010 Dietary Guidelines for Americans and MyPlate. **S.B. Epstein, K. Jeanpierre, S. Lynn and A.K. Kant.** Queens Col., CUNY.

**633. NUTRITION INTERVENTION IN DIABETES CARE****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C114 **I**     **633.1**   Anti-diabetic activities of the extract of *Rehmanniae Radix* preparata. **J.E. Song, B.R. You, M.J. Kim and M.R. Kim.** Chungnam Natl. Univ., South Korea.
- C115 **II**     **633.2**   Effect of soluble fiber on blood lipid profiles in patients with type 2 diabetes in Korea. **S. Jung, J. Ha, M. Doo and Y. Kim.** Ewha Womans Univ., South Korea.
- C116 **I**     **633.3**   Osteocalcin is significantly higher in Caucasian pregnant women with gestational diabetes mellitus. **N. Tabatabaei, Y. Giguère, M. Charland, J.-C. Forest, C. Rodd, R. Kremer and H. Weiler.** Sch. of Dietetics and Nutr., McGill Univ., CHUQ Res. Ctr., Hosp. Saint-François d'Assise and Laval Univ., Canada, Montreal Children's Hosp. and McGill Univ.
- C117 **II**     **633.4**   Change in adherence to DASH diet and cardiovascular risk factors in youth with type 1 and type 2 diabetes mellitus: the search for diabetes in youth study. **T.L. Barnes, J.L. Crandell, R.A. Bell, E.J. Mayer-Davis, D. Dabelea and A.D. Liese.** Univ. of South Carolina, Univ. of North Carolina at Chapel Hill, Wake Forest Sch. of Med., Colorado Sch. of Publ. Hlth., Univ. of Colorado Denver.
- C118 **I**     **633.5**   Effect of hyperketonemia and L-cysteine on monocyte adhesion to endothelial cells. **P. Kanikarla-Marie and S.K. Jain.** LSU Hlth. Sci. Ctr., Shreveport.
- C119 **II**     **633.6**   Adiponectin enhances fetal fat deposition. **L. Qiao, H-s. Yoo, A. Madon, B. Kinney, B. Lee, W.W. Hay and J. Shao.** UCSD and Univ. of Colorado Denver, Aurora.
- C120 **I**     **633.7**   Genetic variation in TAS1R2 taste receptor and sweet taste perception and sugar intake. **A.G. Dias and A. El-Soheby.** Univ. of Toronto.
- C121 **II**     **633.8**   Egg consumption and coronary heart disease among diabetic individuals: a systematic review of the literature. **N.L. Tran, L.M. Barraj and J. Heilman.** Exponent, Washington, DC.
- C122 **I**     **633.9**   High protein intake improves insulin sensitivity but exacerbates bone resorption in immobility. **M. Heer, S.M. Smith, P. Frings-Meuthen, S.R. Zwart and N. Baecker.** Univ. of Bonn, Profil Inst. for Metab. Res., Neuss, Germany, NASA Johnson Space Ctr., German Aerospace Ctr., Cologne and Univs. Space Res. Assn., Houston.

**634. NUTRITION AND SUSTAINABILITY****Poster**

*(Sponsored by: Nutrition Translation RIS)*

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C123 **I**     **634.1**   Vegetarian dietary pattern is associated with increased consumption of fiber, calcium and potassium in adult respondents of the National Health and Nutrition Examination Survey, 2003-2008. **L. Devareddy, K. Miller, D. Liska and V.L. Fulgoni III.** The Kellogg Co. and Nutr. Impact LLC, Battle Creek.

C124 **II**     **634.2**   Impact of Eat Well...For your Self, For the World text and curriculum on college students' attitudes and eating habits. **M. Neyman Morris, L. Rios, L. Bacon, D. Clifford and K. Gray.** California State Univ., Chico and City Col. of San Francisco.

C125 **I**     **634.3**   Attitudes and behaviors related to locally grown and sustainable foods in a multiethnic population. **A. Spieckerman.** California State Univ., Fullerton.

**635. FOOD-RELATED BEHAVIORS: CRITICAL FOR FOOD POLICY****Poster**

*(Sponsored by: Nutrition Translation RIS)*

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C126 **I**     **635.1**   Buffets and obesity: is there a connection? **N.J. Temple and B. Nowrouzi.** Athabasca Univ., Canada.
- C127 **II**     **635.2**   Intake, knowledge, beliefs and perception regarding the benefits and barriers of nuts intake among individuals with or at risk of cardiovascular disease and/or diabetes. **R. Pawlak, H. London, S. Colby, E. Wall-Bassett and N. Sira.** East Carolina Univ. and Univ. of Tennessee, Knoxville.
- C128 **I**     **635.3**   Vegetarians have higher risk for inadequate intake of iron, zinc, and vitamin B12 compared to non-vegetarians even when considering use of dietary supplements. **B. Farmer, B. Larson, D.R. Keast and V.L. Fulgoni III.** PlantWise Nutr., Plainwell, MI, JG Consulting Svcs., Dowling, MI, Food & Nutr. Database Res. Inc., Okemos, MI and Nutr. Impact, Battle Creek.
- C129 **II**     **635.4**   Following a diet and hemoglobin A1C in Cuban Americans with and without type 2 diabetes. **F.G. Huffman, J.A. Vaccaro, G.G. Zarini and Z. Dixon.** Florida Intl. Univ.
- C130 **I**     **635.5**   Food-related behaviors of international college students. **Z. Dixon, J.A. Vaccaro, C. Tellez, M. Harper and F.G. Huffman.** Florida Intl. Univ.
- C131 **II**     **635.6**   U.S. trends in dietary variety and its association with BMI and micronutrient intakes. **R.E. Ebner, A.P. Burke, S. Kranz, C.J. Boushey, S.B. Roberts and M.A. McCrory.** Purdue Univ., Dublin Inst. of Technol. and Trinity Col., Ireland, Univ. of Hawaii Cancer Ctr. and USDA at Tufts Univ.
- C132 **I**     **635.7**   Comparison of vegetarian and non-vegetarian diets to 2010 Dietary Guidelines. **B. Farmer, B. Larson, D.R. Keast and V.L. Fulgoni III.** PlantWise Nutr., Plainwell, JG Consulting Svcs., Dowling, Food & Nutr. Database Res., Okemos and Nutr. Impact, Battle Creek.

**636. UNDERSTANDING AND COMMUNICATING BENEFITS/RISKS OF NATURAL-STATE FOODS (E.G. MINIMALLY PROCESSED, NATURAL, ORGANIC)**

**Poster**

(Sponsored by: Nutrition Translation RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C133 I **636.1** Nutritional profiling of cod liver oil processed by molecular distillation, fermentation, or unrefined. **B.T. Metzger and D.M. Barnes.** Standard Process Inc., Palmyra, WI.
- C134 II **636.2** Higher levels in a continuum of processed foods are sources of both nutrients to encourage and nutrients to limit: results from analyses of NHANES 2003-2008, dietary data. **D.R. Keast and V.L. Fulgoni III.** Food & Nutr. Database Res. Inc., Okemos, MI and Nutr. Impact LLC, Battle Creek.
- C135 I **636.3** Effect of fat claims on consumer perceptions about product helpfulness for weight management. **A. Schermel, Y. Qi, W. Lou, J.E. Mendoza, S. Henson and M.R. L'Abbe.** Univ. of Toronto and Univ. of Guelph, Canada.
- C136 II **636.4** Potato consumption among children and adolescents, ages 2 to 18, in the U.S. **M.L. Storey and P.A. Anderson.** Alliance for Potato Res. and Educ., McLean, VA.
- C137 I **636.5** Potato consumption among adults in the U.S. **M.L. Storey and P.A. Anderson.** Alliance for Potato Res. and Educ., Mclean, VA.
- C138 II **636.6** New culinary uses for pork testicles from immunologically castrated male pigs. **D.L. Pucciarelli, C.A. Friesen and A.L. Schroeder.** Ball State Univ. and Pfizer Animal Hlth., Kalamazoo.
- C139 I **636.7** Consumption of buckwheat modulates the post-prandial response of selected gastrointestinal satiety hormones: a randomized, clinical trial with *Fagopyrum esculentum* Moench (common buckwheat). **D.M. Stringer, C.G. Taylor, P. Appah, A. Wilson, H. Blewett and P. Zahradka.** Univ. of Manitoba, Food Develop. Ctr., Portage La Prairie, St. Boniface Hosp. Res. Ctr. and Agr. Agri-Food Canada, Winnipeg.
- C140 II **636.8** Comparison of the anti-inflammatory activities among water extracts of grapefruit, green tea, and cochineal and their microencapsulation particles in raw 264.7 macrophages. **Y-K. Jun, Y-H. Jeon, Y-Z. Jiang, M-H. Kim, S-P. Nam and M-J. Chang.** Kookmin Univ., Dankook Univ. and Natl. Inst. of Animal Sci., Suwon, South Korea.
- C141 I **636.9** Protein, phosphorus and EPA+DHA in 14 fish species, as nutrients to be considered in renal diet. **C. Galindo-Gómez, M.A. Castro-Gonzalez, J.L. Silencio-Barrita and A.G. Maafs-Rodríguez.** Natl. Inst. of Med. Sci. and Nutr. Salvador Zubirán., Mexico City.
- C142 II **636.10** Glycemic response to muscadine grape components, comparing healthy weight and overweight individuals. **S. Cvitkusic.** North Carolina State Univ.
- C143 I **636.11** Validation of the digestive tolerance of soluble gluco fiber, a new fiber. **B. Housez and M. Cazaubiel.** Biofortis, Nantes.
- C144 II **636.12** Prevalence of nutrient inadequacy in pregnant women in the United States. **C. Chung, W.Y. Juan, E. Yamini and P. Trumbo.** FDA, College Park, MD.

- C145 I **636.13** Canned fruits, vegetables, beans and fish provide nutrients at a lower cost compared to fresh, frozen or dried. **C. Kapica and W. Weiss.** Ketchum, Chicago.
- C146 II **636.14** Commercially prepared single serving meals as lunch meal replacements produce energy deficit and weight loss. **K.J. Reimers, S. Sinnett, T. Papadopoulos, V. Nguyen, Z. Yu and J. Rippe.** ConAgra Foods, Omaha and Rippe Lifestyle Inst., Celebration, FL.
- C147 I **636.15** Protein and amino acid biofortification of staple crops has potential to reduce population risk of protein inadequacy in Sub-Saharan Africa. **D. Suri, N. Strutt and S. Ghosh.** Nevin Scrimshaw Intl. Nutr. Fndn., Boston and Tufts Univ. Friedman Sch. of Nutr. Sci. and Policy.

**637. METABOLIC PHENOTYPING, METABOLOMICS AND BIOMARKERS**

**Poster**

(Sponsored by: Energy and Macronutrient Metabolism RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C148 I **637.1** Identification of N-acetyltaurine as a novel metabolite of ethanol through metabolomics-guided biochemical analysis. **X. Shi, D. Yao and C. Chen.** Univ. of Minnesota, St. Paul.
- C149 II **637.2** Use of MetaboAnalyst as a tool to study metabolomics data for a dietary intervention study. **G.D. Panjeton, M.A. Remz, H.J. Allen, D.H. Powell and P.R. Borum.** Univ. of Florida.
- C150 I **637.3** Effects of consuming oxidized vegetable oils on amino acid metabolism. **L. Wang, D. Yao and C. Chen.** Univ. of Minnesota, St. Paul.
- C151 II **637.4** Dose-response effect of long-term quercetin supplementation on metabolomics and quercetin conjugate profile in adults. **L. Cialdella-Kam, D.C. Nieman, W. Sha, M.P. Meaney, A.M. Knab and R.A. Shanely.** Appalachian State Univ. and Univ. of North Carolina at Charlotte, Kannapolis.
- C152 I **637.5** In utero bisphenol A exposure: effects on metabolic homeostasis throughout the life-course. **O.S. Anderson, B.N. Sanchez, K.E. Peterson, Z. Zhang and D.C. Dolinoy.** Univ. of Michigan.
- C153 II **637.6** Metabolites in human breastmilk identified as markers for sample storage quality. **P. Hartmann, J.K. Lui, K.M. Piper, C. Rawlinson, G.L. Maker, N.J. Trengove and R.D. Trengove.** Univ. of Western Australia and Murdoch Univ., Australia.
- C154 I **637.7** Plasma metabolomics biomarkers for caloric intake and dietary macronutrient composition. **B. Kristal, Y.I. Shurubor, W.R. Matson, W.C. Willett, S.E. Hankinson, I.G. Stavrovskaya, B.F. Krasnikov, V.R. Marur, M. Sniatynski, C.L. Porter and D. Sheldon.** Brigham and Women's Hosp., Harvard Med. Sch., Burke Med. Res. Inst., White Plains, NY, Bedford VA, MA, Harvard Sch. of Publ. Hlth. and Univ. of Massachusetts Amherst.
- C155 II **637.8** Identification of an early metabolic marker panel and the role of individual metabolites in type-2 diabetes. **D. Rein, V. Nikiforova, I. Padberg and V. Liebenberg.** Metanomics Hlth. GmbH, Berlin.

- C156 I **637.9** Metabolite signatures reflective of muscle metabolism and insulin sensitivity following a diet and fitness intervention in obese, sedentary, insulin-resistant women. **C. Campbell, C.J. Chandler, D.J. Burnett, E.C. Souza, G.A. Casazza, O. Fiehn, C. Hoppel, J.W. Newman, W.T. Garvey, G.R. Hunter, N.L. Keim, J.R. Fernandez and S.H. Adams.** USDA, Davis, Univ. of California, Davis, Case Western Reserve Univ. and Univ. of Alabama at Birmingham.
- C157 II **637.10** Contrast ultrasound imaging does not affect Hsp70 expression in cholesterol-fed rabbit aorta. **B.W. Smith, D.G. Simpson, R.J. Miller, M.B. Lee, W.D. O'Brien, Jr. and J.W. Erdman, Jr.** Univ. of Illinois at Urbana-Champaign.
- C158 I **637.11** Zinc-metallothionein ratios reflect cellular zinc status. **D.W. Killilea, S.V. Shenvi, T.C. Holland, S.J. Burke, M.K. Shigenaga, B. Sutherland and J.C. King.** Children's Hosp. Oakland Res. Inst.
- C159 II **637.12** Soluble receptor for advanced glycation endproducts correlates inversely with body mass index and waist circumference and positively correlates with high molecular weight adiponectin. **K.E. Davis, V. Imrhan and C. Prasad.** Texas Woman's Univ.

## 638. CARBOHYDRATE METABOLISM

### Poster

(Sponsored by: Energy and Macronutrient Metabolism RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C160 I **638.1** Use of <sup>13</sup>C-labelled carbohydrates to trace microbial metabolism in the colon: light in the tunnel! **K. Venema, A.J.H. Maathuis, M.N. Steijart and A.A. de Graaf.** TNO Hlth. Living, Zeist, Top Inst. Food and Nutr., Wageningen and Netherlands Consortium for Syst. Biol., Amsterdam.
- C161 II **638.2** Novel secreted maltase activity enables suckling mouse pup starch digestion. **B.L. Nichols, M. Diaz-Sotomayor, S. Avery, S. Chacko, D. Hadsell, S. Baker, L. Yan, A. Lin, Z-H. Ao, R. Quezada-Calvillo and B. Hamaker.** Baylor Col. of Med., Univ. at Buffalo, SUNY, Purdue Univ. and Autonomous Univ. of San Luis Potosi, Mexico.
- C162 I **638.3** Partial substitution of fructan fibers with acacia gum altered fermentation profile in an in vitro batch system fermentation. **J. Noack, A. Klosterbuer, D. Timm, W. Thomas and J. Slavin.** Univ. of Minnesota, St. Paul and Minneapolis.
- C163 II **638.4** A blend of acacia gum, fructan-type fibers, and outer pea fiber exhibits lower gas production compared to other fiber blends in vitro. **A. Klosterbuer, J. Noack, D. Timm, W. Thomas and J. Slavin.** Univ. of Minnesota, St. Paul and Univ. of Minnesota Sch. of Publ. Hlth.
- C164 I **638.5** The metabolic effects of a high fructose versus a high glucose diet in healthy overweight men. **R.D. Johnston, M. Stephenson, H. Crossland, S. Cordon, M. Taylor, G.P. Aithal and I. Macdonald.** Univ. of Nottingham, U.K.
- C165 II **638.6** Postprandial effect of a novel rice product on blood glucose in healthy men. **N. Poquette, E. Arijaje, Y-J. Wang and S-O. Lee.** Univ. of Arkansas.
- C166 I **638.7** Modulation of starch digestion for slow glucose release through 'togglings' of mucosal  $\alpha$ -glucosidases by acarbose. **B-H. Lee, R. Eskandari, B.M. Pinto, B.L. Nichols and B.R. Hamaker.** Purdue Univ., Simon Fraser Univ., Canada and Baylor Col. of Med.
- C167 II **638.8** Physiological effects of polydextrose and soluble corn fiber in a randomized, placebo-controlled, study of healthy adults. **D. Timm, W. Thomas, P. Williamson-Hughes, T. Boileau and J. Slavin.** Univ. of Minnesota, St. Paul and Minneapolis, Tate & Lyle, Decatur, IL and General Mills Inc., Minneapolis.
- C168 I **638.9** How analysis of data from alpha-amylase catalysed starch digestibility performed in vitro contributes to an understanding of rates and extent of digestion starchy foods in vivo. **P.J. Butterworth, F.J. Warren, C.H. Edwards, T. Grassby, H. Patel and P.R. Ellis.** Sch. of Med., King's Col. London.
- C169 II **638.10** Glycemic index of native fructose extracted from fruits: a scientific-based specificity. **A. David, M. Cazaubiel, D. Gendre and B. Housez.** Nutritis, Moissac and Biofortis, Nantes, France.
- C170 I **638.11** Concept of slowly released dietary glucose: a focus on starch digestion at the mucosal  $\alpha$ -glucosidase level. **A.H-M. Lin, B.L. Nichols and B.R. Hamaker.** Purdue Univ. and USDA and Baylor Col. of Med.
- C171 II **638.12** Reduced sampling schedules for calculation of an insulin sensitivity index from the liquid meal tolerance test. **K.C. Maki, B.A. Gower, T.M. Rains and A. Schild.** Provident Clin. Res., Biofortis USA, Glen Ellyn, IL and Univ. of Alabama at Birmingham.
- C172 I **638.13** A comparison of meal-derived indices for predicting glucose tolerance. **K.C. Maki, B.A. Gower, T.M. Rains, A. Schild and W.M. Granger.** Provident Clin. Res./BioFortis USA, Glen Ellyn, IL and Univ. of Alabama at Birmingham.
- C173 II **638.14** Effects of pattern of pulse consumption on postprandial glycemic, insulinemic and appetite responses in the second meal: a pilot study. **K. Osei-Boadi, W.W. Campbell and M.A. McCrory.** Purdue Univ.
- C174 I **638.15** Effects of apple cider vinegar on postprandial blood glucose and satiety. **L. Bollinger, J. Holden and J.C. Chezem.** Ball State Univ.
- C175 II **638.16** Influence of cultivar, processing, and food form on the glycemic index of barley. **A. Aldughpassi, T.M.S. Wolever and E.M. Abdel-Aal.** Univ. of Toronto and Agr. and Agri-Food Canada, Guelph.
- C176 I **638.17** Effects of an inulin-chromium complex on glycemic index in obesity. **O.L. Tulp and G.P. Einstein.** Col. of Med., Univ. of Sci. Arts & Technol., Montserrat.
- C177 II **638.18** Gut fermentation and health effects of Louisiana sweet potato varieties. **K.L. McCutcheon, D.R. LaBonte, D.H. Picha, C.C. Williams, M.J. Keenan and R.J. Martin.** LSU AgCtr.

## 639. REGULATION OF FOOD INTAKE

### Poster

(Sponsored by: Energy and Macronutrient Metabolism RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C178 I **639.1** Complementary foods for appetite suppression. **E. Sussman and C.S. Johnston.** Arizona State Univ., Scottsdale and Phoenix.
- C179 II **639.2** Popcorn snack more satiating than almonds, party mix or pretzels. **K.J. Reimers, U.T. Lowczyk and M.C. Meyer.** ConAgra Foods, Omaha.

- C180 I **639.3** Effect of a beverage containing dextrin fiber on satiety and energy intake in healthy volunteers. **S.C. Park, J. Boza, M. LaSalle, D. Striegel, S. Hull and R. Re.** The Coca-Cola Co. and Leatherhead Food Res., Surrey, U.K.
- C181 II **639.4** Comparison of serum levels of lipids and inflammatory markers in Korean young adult men by fat intakes. **S.K. Kim, S.H. Lee and M.K. Choi.** Soonchunhyang Univ. and Kongju Natl. Univ., South Korea.
- C182 I **639.5** Within subject variation of satiety hormone responses to a standard lunch. **S.M. Forester, M. Witbracht, W. Horn, K. Laugero and N.L. Keim.** Univ. of California, Davis and USDA, Davis.
- C183 II **639.6** The effects of BMI and ratings of hunger on perceived taste of food. **A.M. Stickel, E. Green and C. Murphy.** San Diego State Univ. and UCSD.
- C184 I **639.7** Increasing the number of masticatory cycles reduces food intake in healthy young adults. **Y. Zhu and J.H. Hollis.** Iowa State Univ.
- C185 II **639.8** Increasing the number of masticatory cycles reduces appetite and modulates glycemic response and plasma gut hormone concentrations. **Y. Zhu, W.H. Hsu and J.H. Hollis.** Iowa State Univ.
- C186 I **639.9** Effect of masticatory cycles on postprandial appetite and subsequent food intake in seniors. **Y. Zhu, W.H. Hsu and J.H. Hollis.** Iowa State Univ.
- C187 II **639.10** Effect of pre-meal screen-time activities on subjective appetite and food intake in normal weight girls. **A.A. Almeahadi, D. Pollard and N. Bellissimo.** Mount Saint Vincent Univ., Canada.
- C188 I **639.11** Assessing beans as a source of intrinsic protein and fiber on satiety in men and women with the metabolic syndrome. **J.M. Randolph, E.J. Reverri, C.T. Kappagoda, E. Park, I. Edirisinghe and B. Burton-Freeman.** Univ. of California, Davis and Illinois Inst. of Technol.
- C189 II **639.12** Acute effect of avocados in meals on peptide hormones in overweight healthy adults. **E.H. Haddad, M. Wien, T. Schaffer, K. Oda and J. Sabaté.** Loma Linda Univ.
- C190 I **639.13** Triglyceride administration alters leptin responsiveness in rats. **J.R. Vasselli and D. Sanders.** St. Luke's-Roosevelt Hosp. Ctr. and Columbia Univ.
- C191 II **639.14** High-fat feeding leads to decreased responsiveness to the GLP-1 analogue, exendin-4, in obesity-prone rats. **F. Duca, Y. Sakar and M. Covasa.** INRA, Jouy en Josas, France and Western Univ. of Hlth. Sci., CA.
- C192 I **639.15** Maintenance on an energy-dense cafeteria diet reduces the reinforcing effectiveness of corn oil but not saccharin in rats. **K.B. Freeman and W.L. Woolverton.** Univ. of Mississippi Med. Ctr.
- C194 II **640.2** Uptake of beta-carotene by the maternal-fetal barrier: influences of maternal vitamin A regimens and its mechanisms. **V. Shete, L. Wassef and L. Quadro.** Rutgers Univ.
- C195 I **640.3** The role of  $\beta$ -carotene-9',10'-oxygenase as a retinoid-generating enzyme during mammalian embryonic development. **E. Spiegler, Y-K. Kim and L. Quadro.** Rutgers Univ.
- C196 II **640.4** Effects of dietary carotenoids on steroid hormone status in male mice lacking carotene-15,15'-monooxygenase (CMO-I) or carotene-9',10'-monooxygenase (CMO-II). **J.W. Smith, N.A. Ford, S.K. Clinton and J.W. Erdman, Jr.** Univ. of Illinois at Urbana-Champaign, Univ. of Texas at Austin and The Ohio State Univ.
- C197 I **640.5** Genotypic differences impact serum and hepatic lipids in mice lacking carotenoid cleavage enzymes. **A.C. Elsen, N.A. Ford and J.W. Erdman, Jr.** Univ. of Illinois at Urbana-Champaign and Univ. of Texas at Austin.
- C198 II **640.6** High resolution carotenoid separations of serum and natural products using UHPLC. **N.E. Craft.** Craft Technol. Inc., Wilson, NC.
- C199 I **640.7** Comparison of dietary supplementation with lutein diacetate and lutein. **J. Landrum, R. Bone, V. Mendez, A. Valenciaga and D. Babino.** Florida Intl. Univ.
- C200 II **640.8** Biofortification of maize for nutritional security. **D.P. Chaudhary, S. Singh, S. Mandhanja, P. Srivastava, S. Dass and R.S. Kumar.** Directorate of Maize Res., Delhi and Natl. Seed Corp., Delhi.
- C201 I **640.9** Effects of lecithin/oil ratio in salad dressing on the bioavailability of fat soluble micronutrients in salad vegetables. **Y. Zhang, Y. Zhou, L. Flendrig, M. Gribnau and W.S. White.** Iowa State Univ. and Unilever R&D, Netherlands.
- C202 II **640.10** Coconut oil facilitates tomato carotenoid tissue accumulation in the Mongolian gerbil (*Meriones unguiculatus*). **L.E. Conlon, R.D. King, N.E. Moran and J.W. Erdman, Jr.** Univ. of Illinois, Urbana and The Ohio State Univ.

## 640. CAROTENOIDS AND HEALTH

### Poster

(Sponsored by: CARIG RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C193 I **640.1** Variability of vitamin A and carotenoid status among women of childbearing age. **M.J. Goodman and M.A. Murtaugh.** Univ. of Utah.

## 641. IRON, COPPER AND CHRONIC DISEASE

### Poster

(Sponsored by: Vitamins and Minerals RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C203 I **641.1** Serum soluble transferrin receptor concentrations in U.S. preschool children and non-pregnant women of childbearing age from the National Health and Nutrition Examination Survey 2003-2008. **Z. Mei, C.M. Pfeiffer, A.C. Looker, R.C. Flores-Ayala, D.A. Lacher, L.B. Mirel and L.M. Grummer-Strawn.** Ctrs. for Dis. Control and Prevent., Atlanta and Hyattsville, MD.
- C204 II **641.2** Effect of beef consumption on body iron and cognitive function in iron-deficient women. **C. Blanton.** Idaho State Univ.
- C205 I **641.3** The effects of resistance exercise and post-exercise meal timing on the iron status in iron-deficient rats. **T. Fujii, T. Matsuo and K. Okamura.** Osaka Univ. of Hlth. and Sport Sci. and Kagawa Univ., Japan.

- C206 II **641.4** Biomarker erythrocyte copper chaperone for superoxide dismutase is higher following marginal copper deficiency. **J.R. Prohaska, K. Lassi and M. Broderius.** Univ. of Minnesota Med. Sch. Duluth.
- C207 I **641.5** Temporal changes in serum hepcidin concentrations and iron status in male soldiers during military training. **J.P. McClung, L.J. Lutz, J.P. Karl, J.C. Rood, S.J. Cable, K.W. Williams, S.M. Pasiakos and A.J. Young.** U.S. Army Res. Inst. of Envrn. Med., Natick, MA, Pennington Biomed. Res. Ctr., Baton Rouge and Directorate of Basic Combat Trng., Fort Jackson, SC.
- C208 II **641.6** Mathematical modeling of iron uptake by Tim-2 receptor in mouse kidney cells. **J. Han and Z. Xie.** North Carolina A&T State Univ.
- C209 I **641.7** Effect of dietary copper concentrations on dyslipidemia in SOD1<sup>-/-</sup> mice. **S-K. Wang, C.A. Roneker and X.G. Lei.** Cornell Univ.
- C210 II **641.8** High dietary iron and radiation exposure increase biomarkers of oxidative stress in blood and liver of rats. **J.L.L. Morgan, C.A. Theriot, H. Wu, S.M. Smith and S.R. Zwart.** NASA, Houston.
- C211 I **641.9** The role of N-linked glycosylation in the trafficking and transferrin binding of TfR2. **N. Zhao and C.A. Enns.** Oregon Hlth. & Sci. Univ.
- C212 II **641.10** Discovery of a novel cytosolic ferroxidase in rodent enterocytes. **Y. Lu, P.N. Ranganathan and J.F. Collins.** Univ. of Florida.
- C213 I **641.11** Olfactory manganese uptake in Hfe knockout mice, a model of iron overload. **J. Kim and M. Wessling-Resnick.** Harvard Sch. of Publ. Hlth.
- C214 II **641.12** Low prevalence of iron deficiency and iron deficiency anemia in children attending daycare in a large Canadian city. **S. Jean-Philippe, T. Pham, T. Hazell, C. Vanstone, S. Agellon, J. El Hayek and H. Weiler.** Sch. of Dietetics and Human Nutr., McGill Univ.
- C215 I **641.13** Melatonin can attenuate HOCl-mediated hemolysis, free iron release and heme degradation from hemoglobin. **D. Maitra, I. Abdulhamid, M.P. Diamond, G.M. Saed and H.M. Abu-Soud.** Wayne State Univ. and Children's Hosp. of Michigan.
- C216 II **641.14** Neonatal and maternal iron status, but not serum folate, is related to placental expression of the proton coupled folate transporter. **C. Cao, T. Bemis, M. Young, T. McNanley, E. Cooper, E. Pressman, M. Westerman, R. Guillet and K. O'Brien.** Cornell Univ., Univ. of Rochester Sch. of Med. and Intrinsic LifeSci., La Jolla.
- C217 I **641.15** Effect of zinc deficiency and diet restriction on liver and spleen non-heme iron concentrations in rats. **A. Konomi and K. Yokoi.** Aichi Gakusen Univ. and Seitoku Univ., Japan.
- C218 II **641.16** Effect of iron deficiency on serum lipids in rats. **K. Yokoi and A. Konomi.** Seitoku Univ. and Aichi Gakusen Univ., Japan.
- C219 I **641.17** Ferroportin1 in hepatocytes and macrophages mediates systemic iron homeostasis. **Z. Zhang, F. Zhang, X. Guo, P. An, Y. Tao and F. Wang.** Inst. for Nutr. Sci., Chinese Acad. of Sci., Shanghai.
- C220 II **641.18** How does iron deficiency affect infant memory? A model of brain networks and the physiological effects of iron deficiency. **J. Hammons, M.J. Wenger, S. Robertson and J.D. Haas.** Cornell Univ. and Univ. of Oklahoma.
- C221 I **641.19** Copper transporter 1 and the mechanisms of Cu uptake from blood plasma proteins by mammalian cells. **R. Farhad, T.Z. Kidane, K.J. Lee, A. Santos and M.C. Linder.** California State Univ., Fullerton.
- C222 II **641.20** The iron transporter ferroportin is regulated by ascorbate. **N.M. Scheers, K.B. Hoffmann and A-S. Sandberg.** Chalmers Univ. of Technol., Sweden.
- C223 I **641.21** Diet-induced obesity decreases liver iron stores in mice fed iron deficient, adequate or excessive diets. **K.J. Hintze, D.W. Killilea and B.J. Healy.** Utah State Univ. and Children's Hosp. of Oakland Res. Inst., CA.
- C224 II **641.22** Physiologic role of the Menkes copper ATPase (Atp7a) in intestinal iron transport. **S. Gulec, P. Ranganathan, Y. Lu and J. Collins.** Univ. of Florida.
- C225 I **641.23** Role of clathrin-mediated endocytosis in transferrin-bound iron uptake by hepatocytes. **L. Zhang and M. Knutson.** Univ. of Florida.
- C226 II **641.24** Iron transport ability of the Slc39a (ZIP) family of metal-ion transporters. **W. Zhang and M. Knutson.** Univ. of Florida.
- C227 I **641.25** Iron overload upregulates the expression of regenerating islet-derived family genes in rat pancreas. **R. Coffey, H. Nam and M. Knutson.** Univ. of Florida and Univ. of Utah.
- C228 II **641.26** Early life iron deficiency impairs spatial cognition in neonatal piglets. **J.L. Rytych, M.R.P. Elmore, R.N. Dilger and R.W. Johnson.** Univ. of Illinois, Urbana.
- C229 I **641.27** Role of the iron-import protein DMT1 (divalent metal transporter 1) in liver iron uptake. **C-Y. Wang and M. Knutson.** Univ. of Florida.
- C230 II **641.28** High dietary iron and <sup>137</sup>Cs radiation exposure induce oxidative stress and reduce bone mass. **E. Yuen, J.L. Morgan, S.R. Zwart, E. Gonzales, K.A. Camp, B.R. Macias, S.M. Smith and S.A. Bloomfield.** Texas A&M Univ. and ORAU and USRA, NASA Johnson Space Ctr.
- C231 I **641.29** Tracing iron balance from mouse to human. **F. Wang.** Inst. for Nutr. Sci., Chinese Acad. of Sci., Shanghai.
- C232 II **641.30** Posttranslational regulation of the Menkes copper ATPase (Atp7a) in intestinal epithelial cells. **L. Xie and J.F. Collins.** Univ. of Florida.
- C233 I **641.31** Copper transport by divalent metal transporter 1 under low iron conditions. **L. Jiang and J.F. Collins.** Univ. of Florida.
- C234 II **641.32** Metal transport, subcellular localization, and tissue distribution of Zip8, a Zip14 homologue. **C-Y. Wang, S. Jenkitkasemwong, B.K. Sparkman, A. Shawk, B. Mackenzie and M. Knutson.** Univ. of Florida and Univ. of Cincinnati.

## 642. VITAMIN D AND OBESITY: FROM CELLULAR TO CLINICAL TRIALS

### Poster

(Sponsored by: Vitamins and Minerals RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C235 I **642.1** Vitamin D2 intake increases 25-hydroxy vitamin D2 but decreases 25-hydroxy vitamin D3 concentration in the serum of healthy adults. **C.B. Stephensen, M. Zerofsky, D.J. Burnett, Y. Lin, B.D. Hammock, L.M. Hall and T. McHugh.** USDA, Davis, Univ. of California, Davis, California Polytech State Univ., San Luis Obispo and USDA, Albany, CA.

- C236 II **642.2** The inhibitory effect of dietary fructose on lactation-induced increases in rat epithelial calcium transport is mediated by fructose-induced reductions in vitamin D levels. **V. Douard, T. Suzuki, Y. Sabbagh, J. Lee, S. Shapses, S. Lin and R.P. Ferraris.** UMDNJ, Newark, Yamagata Univ., Japan, Genzyme Corp., Framingham, MA and Rutgers Univ.
- C237 I **642.3** Bone mineral density and vitamin D status in older women with and without metabolic syndrome. **K. Lasley, P. Changwatpol, J.R. Hermann, A. Bogale and B.J. Stoecker.** Oklahoma State Univ.

### 643. FAT SOLUBLE VITAMINS AND CHRONIC DISEASE

#### Poster

(Sponsored by: Vitamins and Minerals RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C238 I **643.1** Predictors of 5-year change in plasma 25-hydroxyvitamin D concentrations in postmenopausal women. **M. Kluczynski, M. Platek, C. DeNysschen, J. Wactawski-Wende and A. Millen.** Univ. at Buffalo, NYU and Buffalo State Col.
- C239 II **643.2** Vitamin D status of immigrant mothers and infants in metro Vancouver. **W. Li, S.I. Barr, T.J. Green, S.J. Whiting and G.E. Chapman.** Univ. of British Columbia and Univ. of Saskatchewan Col. of Pharm. and Nutr.
- C240 I **643.3** Reproducibility and validity of a food frequency questionnaire for the assessment of vitamin D intake in Canadian lactating women. **A. Phan, S. Gallo, C. Vanstone, C. Rodd and H. Weiler.** Sch. of Dietetics and Human Nutr., McGill Univ. and Montreal Children's Hosp., McGill Univ. Hlth. Ctr.
- C241 II **643.4** Poor vitamin D status is associated with increased risk for metabolic syndrome, diabetes mellitus, and several unfavorable cardiometabolic markers in U.S. adults. **V. Ganji, X. Zhang and V. Tangpricha.** Georgia State Univ. and Emory Univ. and VA Med. Ctr.
- C242 I **643.5** Restoration of bone morphology by retinoic acid in a vitamin A deficiency model in rats. **H. Hamdan, J. Standard, B.L. Herndon, K. Kunz, J. Hufstedler, J. Chou, D. Dim, H. Zia, A. Mansour, M. Lankachandra, R. Baybutt and A. Molteni.** Univ. of Missouri Sch. of Med., Wheaton Col., IL and Univ. of Kansas Med. Sch.
- C243 II **643.6** Excessive variability in a popular direct immunoassay for total 25 hydroxy vitamin D. **E.W. Holmes, J. Garbincius and K.M. McKenna.** Loyola Univ. Stritch Sch. of Med. and Loyola Univ. Med. Ctr.
- C244 I **643.7** Cardiovascular risk factors are related to vitamin D status in midlife and older African Americans. **J.L. Lemacks, J. Ilich-Ernst, P.A. Ralston, I. Young-Clark, C. Coccia, K. Wickrama and C.M. Harris.** Florida State Univ., Texas A&M Univ.-Kingsville, Univ. of Georgia and Florida A&M Univ.
- C245 II **643.8** Season, adiposity, and baseline 25-hydroxyvitamin D are predictors of maternal change in vitamin D status from 1-to-4-months postpartum. **A. Phan, S. Gallo, C. Vanstone, S. Agellon, C. Rodd and H. Weiler.** Sch. of Dietetics and Human Nutr., McGill Univ., Montreal Children's Hosp. and McGill Univ. Hlth. Ctr.

- C246 I **643.9** An improved method for vitamin D3 quantification in cod liver oil supplements. **C. Scholl, B.T. Metzger and D.M. Barnes.** Standard Process Inc., Palmyra, WI.
- C247 II **643.10** Quantitation of alpha-tocopherol metabolism in humans. **J.A. Novotny, J.C. Chuang, J.G. Fadel, D.M. Holstege, H.C. Furr and A.J. Clifford.** USDA, Beltsville, Univ. of California, Davis and Univ. of Wisconsin-Madison.
- C248 I **643.11** Supercritical fluid extraction of vitamin D2 from UV enhanced yeast. **B.T. Metzger, C. Scholl and D.M. Barnes.** Standard Process Inc., Palmyra, WI.

### 644. MECHANISMS OF ACTION AND MOLECULAR TARGETS OF DIETARY BIOACTIVE COMPONENTS

#### Poster

(Sponsored by: Dietary Bioactive Components RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C249 I **644.1** The effects of raw kernel and peanut butter on glucose homeostasis in glucose-intolerant obese women. **N.M.B. Costa, C.E.G. Reis, D.N. Ribeiro, A.S. Totaro, M.C. Tonazio, J. Bressan, R.D. Mattes and R.C.G. Alfenas.** Fed. Univ. of Espirito Santo and Fed. Univ. of Viçosa, Brazil and Purdue Univ.
- C250 II **644.2** Ferulic acid enhances  $\gamma\delta$ -T cell proliferation. **C.A. Rowe, S.P. Bonard, J.M. Stanilka and S.S. Percival.** Univ. of Florida.
- C251 I **644.3** Ratio of primary to secondary oxidation products and time of exposure correlate with lipid accumulation in murine adipocytes. **J.P. Skinner, N. Dingels, N. Santanam and M. Penumetcha.** Georgia State Univ. and Marshall Univ., WV.
- C252 II **644.4** Antihyperglycemic and antioxidant activities of nopal (*Opuntia ficus-indica*) in patients with type 2 diabetes. **P. Lopez, E. Pichardo-Ontiveros, A. Avila-Nava, J. Pedraza-Chaverri, A.R. Tovar and N. Torres.** Natl. Inst. of Med. Sci. and Nutr. Salvador Zubirán and UNAM, Mexico City.
- C253 I **644.5** The lactoferrin receptor is differentially expressed across several human epithelial cell types. **S.A. Lopez, E.B. Nonnecke and B.L. Lönnerdal.** Univ. of California, Davis.
- C254 II **644.6** Eicosapentaenoic acid enhances nitric oxide production through upregulating SIRT1 expression in human endothelial cells. **K. Fukuo and R. Fukada.** Mukogawa Women's Univ., Japan.
- C255 I **644.7** Proanthocyanidins stimulate an inflammatory response in a pig intestinal epithelial cell line (IPEC-1 cells). **M. Monagas, N. Schoene, J. Urban and G. Solano-Aguilar.** UAM-CSIC, Madrid and USDA, Beltsville, MD.
- C256 II **644.8** Development and validation of a sensitive, high throughput bioassay of radiolabeled *E. coli* adhesion to uroepithelial cell in vitro. **B.D. Mathison, L.L. Kimble, K.L. Kaspar, C. Khoo and B.P. Chew.** Sch. of Food Sci., Washington State Univ. and Ocean Spray Cranberries Inc., Middleboro, MA.

- C257 I **644.9** Development of a fluorometric microplate anti-adhesion assay using uropathogenic *E. coli* and human uroepithelial cells. **L.L. Kimble, B.D. Mathison, K.L. Kaspar, C. Khoo and B.P. Chew.** Sch. of Food Sci., Washington State Univ. and Ocean Spray Cranberries Inc., Middleboro, MA.
- C258 II **644.10** Electron microscopy study of the alteration of P-fimbriated *E. coli* adhesion to human uroepithelial cells. **L.L. Kimble, B.D. Mathison, K.L. Kaspar, C. Khoo and B.P. Chew.** Sch. of Food Sci., Washington State Univ. and Ocean Spray Cranberries Inc., Middleboro, MA.
- C259 I **644.11** Quercetin exerts anti-adipogenic effects through modulation of 3T3-L1 preadipocyte proliferation and differentiation. **J. Swick, O.H. Lee and Y-C. Kim.** Univ. of Massachusetts Amherst.
- C260 II **644.12** Effect of lipid extracts from edible blue-green algae, *Nostoc commune* var. *sphaeroides* Kützing and *Spirulina platensis*, on the regulation of genes for cholesterol and lipid metabolism in HepG2 cells. **C.S. Ku, M.J. Balunas and J. Lee.** Univ. of Connecticut.
- C261 I **644.13** Cranberry bioactives promote activation and proliferation of innate immune cells. **J.M. Stanilka, C.A. Rowe, C. Khoo and S.S. Percival.** Univ. of Florida and Ocean Spray Cranberries Inc., Lakeville, MA.
- C262 II **644.14**  $\alpha$ -Tocopheryl phosphate – an activated form of vitamin E important for angiogenesis? **J-M. Zingg, M. Meydani and A. Azzi.** USDA at Tufts Univ.
- C263 I **644.15** Maternal DHA supplementation improves lung growth and function in offspring exposed to LPS and hyperoxia. **M. Velten, K.M. Heyob, R.D. Britt, Jr., C.J. Valentine, T.E. Tipple and L.K. Rogers.** Rheinische Friedrich Wilhelms Univ. Med. Ctr., Bonn, Nationwide Children's Hosp., Columbus and Cincinnati Children's Hosp.
- C264 II **644.16** Effect of fenugreek methanolic extract in inducing apoptosis through triggering proapoptotic genes. **A.A. Alshatwi, T.N. Hasan, G. Shafi, N.A. Syed, K.K. Khoja, A.A. Al-Hazzani, M.A. Alsaif and D.K.Y. Lei.** King Saud Univ., Saudi Arabia and Univ. of Maryland College Park.
- C265 I **644.17** Over-expression of 12/15-lipoxygenase increases oxLDL-induced pro-inflammatory mediator expression and foam cell formation in rodent macrophages. **K.M. Thakali, J. Kang and X. Wu.** Univ. of Arkansas for Med. Sci.
- C266 II **644.18** Polymethoxyflavones and atorvastatin synergistically inhibit breast cancer cell growth. **L. Li, N. Charoensinphon, J. Zheng and H. Xiao.** Univ. of Massachusetts Amherst.

## 645. EPIDEMIOLOGIC ASSOCIATIONS BETWEEN DIETARY BIOACTIVE COMPONENTS AND HEALTH

### Poster

(Sponsored by: Dietary Bioactive Components RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C267 I **645.1** Energy and nutrient contribution and diet quality of breakfast patterns in children 2-18: National Health and Nutrition Examination Survey 2001-2008. **C.E. O'Neil, T.A. Nicklas and V.L. Fulgoni III.** LSU, Baylor Col. of Med. and Nutr. Impact, Battle Creek.

- C268 II **645.2** Development of a flavonoid database for assessing population exposures and its application. **J.K.C. Ahuja, S. Bhagwat, D. Haytowitz, J. Holden, R. Bailey, J. Dwyer, J.A. Milner and A. Moshfegh.** USDA, Beltsville, ODS/NIH and NCI/NIH.
- C269 I **645.3** Relationship between isoflavone intake and metabolic syndrome diagnostic components in Korean postmenopausal women. **Y.J. Bae and M.H. Kim.** Hanbuk Univ. and Kangwon Natl. Univ., South Korea.
- C270 II **645.4** Correlation between serum uric acid, BMI, fasting blood sugar, TG and HDL in Korean health check examinees. **H.S. Ryu, H. Park and M. Yun.** Sangji Univ., South Korea and ICAN Nutr. Educ. and Res., Seoul.

## 646. BIOAVAILABILITY, METABOLISM AND BIOMARKERS OF DIETARY BIOACTIVE COMPONENTS

### Poster

(Sponsored by: Dietary Bioactive Components RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C271 I **646.1** Development and validation of a urinary biomarker for dietary furanocoumarins. **S.W. Simpkins, L.R. Young and S. Peterson.** Univ. of Minnesota, St. Paul.
- C272 II **646.2** Anthocyanin metabolites in the mice fed purple-fleshed anthocyanin-enriched sweet potato. **T-y. Chen, J. Xu, S. Lim, E. Carey, B. Katz, J. Griffin, T. John and W. Wang.** Kansas State Univ. and Intl. Potato Ctr., Kumasi, Ghana.
- C273 I **646.3** Differences in pharmacological activities of the antioxidant flavonoid monoHER in humans and mice are caused by variations in its metabolic profile. **H. Jacobs, G.H. Koek, R. Peters, M. Moalin, J. Tack, W.J. van der Vijgh, A. Bast and G.R. Haenen.** Maastricht Univ. Med. Ctr., Netherlands, DSM Resolve, Geleen, Netherlands and Univ. Hosp. Gasthuisberg, Belgium.
- C274 II **646.4** Dose response bioavailability of green tea catechins in humans. **M. Renouf, P. Guy, C. Marmet, F. Giuffrida and F. Dionisi.** Nestlé Res. Ctr., Lausanne.
- C275 I **646.5** Nanoencapsulation increases (-)-epigallocatechin gallate stability and its cellular bioavailability in macrophages. **S. Wang, J. Zhang, M. Sun and Z. Fan.** Texas Tech Univ.
- C276 II **646.6** Validation of an in vitro digestive system for studying macronutrient decomposition in humans. **K.A. Kopf-Bolanz, F. Schwander, M. Gijs, G. Vergères, R. Portmann and L. Egger.** Fed. Res. Sta. Agroscope-Liebefeld-Posieux, Bern and Swiss Fed. Inst. of Technol., Lausanne.
- C277 I **646.7** Determining functional fiber properties of berry pomaces via an anaerobic fermentation system. **M.L. Goita, K.L. McCutcheon, A.M. Raggio and J.W. Finley.** LSU AgCtr.
- C278 II **646.8** Bioavailability and brain deposition of proanthocyanidin, anthocyanin and flavonoid in combi-phenol treated rats on high fat or low fat diet. **T-Y. Chen, E. Janle, M.G. Ferruzzi, C. Weaver, J. Simon, Q. Wu, S. Talcott, P. Marambaud, J. Wang, L. Ho and G.M. Pasinetti.** Purdue Univ., Rutgers Univ., Texas A&M Univ., Litwin-Zucker Res. Ctr. for Study of Alzheimer's Dis., Manhasset, NY and Mount Sinai Sch. of Med.



- C279 I **646.9** Variability on urinary excretion of chlorogenic acid compounds and metabolites in humans after overnight fasting and under controlled diets. **G. Duarte, M. Monteiro, V. Marques and A. Farah.** Fed. Univ. of Rio de Janeiro.
- C280 II **646.10** Metabolism of sulforaphane in humans: supplements versus whole foods. **L. Atwell, J.D. Clarke, A. Hsu, J. Allen, D. Bella, J.F. Stevens and E. Ho.** Oregon State Univ.
- C281 I **646.11** Effect of phytate reduction of sorghum on zinc availability as assessed by in vitro dialysability, Caco-2 cell uptake, and suckling rat pups. **A. Oelofse, J. Kruger, X. Du, F.F. De Moura and B. Lönnerdal.** Univ. of Pretoria, South Africa, Univ. of California, Davis, and Harvest Plus/Intl. Food Policy Res. Inst., Washington, DC.
- C282 II **646.12** Effects of whole grain phytochemicals on biomarkers of postprandial metabolic dysregulation in overweight/obese adults following an oral glucose challenge. **D.L. McKay, C-Y.O. Chen and J.B. Blumberg.** USDA at Tufts Univ.
- C283 I **646.13** Bioavailability and pharmacokinetics of whole grain phytochemicals in overweight/obese adults. **D.L. McKay, C-Y.O. Chen, M. Gómez-Juaristi and J.B. Blumberg.** USDA at Tufts Univ. and Spanish Council for Sci. Res. (CSIC), Madrid.
- C284 II **646.14** The effects of storage-induced polymerization on the absorption and metabolism of fresh versus aged chokeberry juices in a rodent model. **S.E. Graves, L. Howard, R. Prior, W. Gilbert and L. Devareddy.** Univ. of Arkansas.
- C285 I **646.15** Preparation, characterization, and induction of cell apoptosis of cocoa procyanidins-gelatin-chitosan nanoparticles. **L. Gu, T. Zou, S.S. Percival, Q. Cheng, Z. Li and C. Rowe.** Univ. of Florida.
- C286 II **646.16** A-type procyanidin dimers, trimers, and tetramers from cranberries transported across monolayers of human intestinal epithelial Caco-2 cells. **K. Ou, S.S. Percival, T. Zou, C. Khoo and L. Gu.** Univ. of Florida and Ocean Spray Cranberries Inc., Lakeville-Middleboro, MA.
- C287 I **646.17** Uptake and metabolism of  $\alpha$ -mangostin by human cell lines: HepG2 liver cells, HT-29 colon cells, and THP-1 macrophage-like cells. **F. Gutierrez Orozco, C. Chitchumroonchokchai, K.M. Riedl and S.J. Schwartz.** The Ohio State Univ.
- C288 II **646.18** Absorption and biotransformation of  $\alpha$ -mangostin by nude mice without and with HT-29 colon cancer xenograft. **C. Chitchumroonchokchai, K.M. Riedl, J.M. Thomas-Ahner, S.J. Schwartz, S.K. Clinton and M.L. Failla.** The Ohio State Univ.
- C289 I **646.19** Metabolism of [6]-shogaol in mice and in cancer cells. **H. Chen, R.F. Warin and S. Sang.** North Carolina A&T State Univ.
- C290 II **646.20** Improving bioavailability of 5-hydroxy tangeretin by food grade nanoemulsions. **J. Zheng, Y. Li, N. Charoensinphon, W. Nutakul, P. Dong, P. Qiu, D.J. McClements and H. Xiao.** Univ. of Massachusetts Amherst and Ocean Univ. of China.
- C291 I **646.21** Fatty acid composition of erythrocytes reflects CLA intake in a depletion-repletion study with healthy subjects. **J.C. Nunes, L.A. Penedo and A.G. Torres.** Fed. Univ. of Rio de Janeiro.
- C292 II **646.22** Changes in cell hydration and amino acid efflux related to chronically higher water intake in healthy young men. **J. Stookey, A. Klein, J. Hamer, C. Chi, A. Higa, V. Ng, F. Kuypers and F. Lang.** Children's Hosp. Oakland Res. Inst., Danone Res., Palaiseau, France and Univ. of Tuebingen.
- C293 I **646.23** Analysis of study length truncation in vitamin A compartmental analysis in human and rats. **B.M. Gannon, J.A. Howe, M.H. Green and S.A. Tanumihardjo.** Univ. of Wisconsin-Madison, Auburn Univ. and Penn State.
- C294 II **646.24** Do intakes of 250-500mg/d of EPA and DHA increase blood biomarkers? **A.C. Patterson, A. Chalil, P. Charkhzarin, J.J. Aristizabal Henao, I. Streit, F. Ciobanu and K.D. Stark.** Univ. of Waterloo, Canada.
- C295 I **646.25** Quantification of (-)-epicatechin metabolites after ingestion of flavanol-rich foods. **L. Actis-Goretta, A. Leveques, M. Renouf, M. Rein, G. Williamson and F. Dionisi.** Nestlé Res. Ctr., Lausanne.
- C296 II **646.26** The effects of almonds on the profile and bioaccessibility of isoflavones from a soy soft pretzel. **A.L. Simmons, C. Chitchumroonchokchai, M.L. Failla and Y. Vodovotz.** The Ohio State Univ.
- C297 I **646.27** Glutamine activates heat shock transcription factor-1 gene transcription. **H. Xue, D. Slavov and P. Wischmeyer.** Univ. of Colorado Denver, Aurora.

## 647. NUTRIENT-GENE INTERACTIONS

### Poster

(Sponsored by: Nutrient Gene Interactions RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C298 I **647.1** Identification of three promoters in the human holocarboxylase synthetase gene. **M. Xia, S.A. Malkaram and J. Zempleni.** Univ. of Nebraska-Lincoln.
- C299 II **647.2** Expression of one-carbon metabolism genes in cultured primary lymphocytes. **J. Zhu and M. Kohlmeier.** Univ. of North Carolina at Chapel Hill, Kannapolis.
- C300 I **647.3** Identification of biotin- and holocarboxylase synthetase-dependent microRNAs in human fibroblasts. **S.S. Wijeratne, S.A. Malkaram, J. Zempleni, M.D. Pabian and A.D. Granatowicz.** Univ. of Nebraska-Lincoln.
- C301 II **647.4** The effects of the interaction between adiponectin genotype and dietary folate, vitamin B6 and vitamin E on serum TNF- $\alpha$  level in the patients with type 2 diabetes. **K.N. Kim, S. Kim, H. Kim, Y.J. Choi, K.B. Huh and N. Chang.** Ewha Womans Univ. and Huh's Diabetes Clin., Seoul.
- C302 I **647.5** Regulation of the PBMCs gene expression profile with the Western dietary pattern in healthy men and women. **A. Bouchard-Mercier, A-M. Paradis, I. Rudkowska, S. Lemieux, P. Couture and M-C. Vohl.** Laval Univ. and Laval Univ. Hosp. Res. Ctr., Canada.
- C303 II **647.6** MTHFR gene polymorphisms and circulating folate concentrations are associated with survival after breast cancer diagnosis. **A.J. McEligot, A. Ziogas and H. Anton-Culver.** California State Univ., Fullerton and Univ. of California, Irvine.
- C304 I **647.7** Differential regulation of liver gene expression by in vitro digested soy and caseinate. **J. Li, P. Liu, M. Cope, S. Crosby, N. Napawan and E.S. Krul.** Solae LLC, St. Louis and Washington Univ.

- C305 II **647.8** Salty taste acuity in relation to zinc nutritional status and  $\alpha$ ENaC A663T gene polymorphism among Korean young adults. **H.Y. Noh, H.Y. Paik and J. Chung.** Seoul Natl. Univ. and Kyung Hee Univ., South Korea.
- C306 I **647.9** Glutathione S-transferase (gst) M1 and T1 polymorphism influence plasma antioxidant status of Korean smokers after grape juice supplementation. **M-H. Kang, H-J. Lee and M.R. Cho.** Hannam Univ., South Korea.
- C307 II **647.10** An RNA-seq approach to identify mechanisms by which the phytochemical sulforaphane acts to prevent prostate cancer. **L.M. Beaver, J.H. Chang, D.E. Williams, R.H. Dashwood and E. Ho.** Oregon State Univ.
- C308 I **647.11** Botanical oil supplementation alters insulin levels in diabetic/metabolic syndrome subjects in a genotypic-specific manner. **S. Sergeant, T.C. Lee, P. Ivester, H.C. Ainsworth, L.D. Case and F.H. Chilton.** Wake Forest Sch. of Med.
- C309 II **647.12** Characterization and regulation of the novel zinc transporter, ZIP11, in the murine gastrointestinal tract. **A.B. Maki, G.J. Guthrie, T. Beker Aydemir and R.J. Cousins.** Univ. of Florida.
- C310 I **647.13** Monocarboxylate transporter-1 genotype and breastfeeding status protect against elevated BMI in preschool aged Caucasian children. **A.A. Wang, S.M. Donovan and M. Teran-Garcia.** Univ. of Illinois, Urbana.
- C311 II **647.14** Association between polymorphisms in the *FADS* gene cluster and the plasma triacylglycerol response to an  $\omega$ -3 PUFA supplementation. **H. Cormier, I. Rudkowska, A-M. Paradis, E. Thifault, V. Garneau, S. Lemieux, P. Couture and M-C. Vohl.** Laval Univ. and Med. Ctr., Canada.
- C312 I **647.15** Saturated fat intake interacts with HDL-c genes to influence plasma HDL-c of Filipino women. **N. Zubair, L.S. Adair and A. Feranil.** Univ. of North Carolina at Chapel Hill and Univ. of San Carlos, Philippines.
- C313 II **647.16** ZIP14 regulates tight junction protein expression in response to LPS. **G.J. Guthrie, T. Beker-Aydemir and R.J. Cousins.** Univ. of Florida.
- C314 I **647.17** Retinol tends to reduce activator protein-1 and nuclear factor kappa B mediated gene transcription in cultured human colorectal cancer cells. **K. Olds and M.A. Lane.** Texas State Univ.- San Marcos.
- C315 II **647.18** Effect of vitamin D on aging in *Caenorhabditis elegans*. **J.A. Messing, J.A. Schisa and R.A. Heuberger.** Central Michigan Univ.

## 648. NUTRIENTS, EPIGENETICS AND MATERNAL PROGRAMMING

### Poster

(Sponsored by: Nutrient Gene Interactions RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C316 I **648.1** Liver antioxidant status after hemorrhage in inbred rat strains fed diets varying in levels of methyl group donors for 9 weeks. **M.A. Dubick, R. Rose, D.L. Grubbs, J.L. Barr and H.G. Klemcke.** U.S. Army Inst. of Surg. Res., San Antonio.

- C317 II **648.2** Influence of dietary methyl group donors on survival time after hemorrhage in an inbred rat strain. **R. Rose, T. Oh, M. Calderon and H.G. Klemcke.** U.S. Army Inst. of Surg. Res., Fort Sam Houston.
- C318 I **648.3** Green tea supplementation during gestation and lactation modulates heart lipid metabolism and oxidative status in rat offspring born of high-fat, diet-fed dams. **B.C.Y. Lam and E.T.S. Li.** Univ. of Hong Kong.
- C319 II **648.4** Effects of pre- and postnatal diets on body compositions of diet-induced obesity-prone Sprague-Dawley rats. **E.O. Uthus, K.J. Claycombe and W.T. Johnson.** USDA, Grand Forks.
- C320 I **648.5** Maternal overconsumption of calories during pregnancy programs offspring for increased adiposity through induction of adipogenic genes. **R.B. Potu, E.J. Arentson, D. Ragland, S.S. Donkin and K.M. Ajuwon.** Purdue Univ.
- C321 II **648.6** Effect of maternal diet on proliferation and development of rat offspring liver. **Y.H. Kwon, S.B. Won and A. Han.** Seoul Natl. Univ.
- C322 I **648.7** Effect of maternal soy protein isolate consumption on hepatocarcinogenesis in adult rat offspring. **Y.H. Kwon and J. Choi.** Seoul Natl. Univ.

## 649. NUTRIENT-GENE INTERACTIONS IN MODELS OF NEUROGENERATIVE/NEUROMUSCULAR AND METABOLIC DISEASE

### Poster

(Sponsored by: Nutrient-Gene Interactions RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C323 I **649.1** Fructose-induced stress signaling in hepatocytes involves methylglyoxal. **D. Wang, Y. Wei and M. Pagliassotti.** Colorado State Univ.
- C324 II **649.2** Development of diet-induced obesity models in rats, comparison of metabolic and genetic effects. **N. Hamdan-Perez, N. Torres, A.T. Palacio, G. Ordaz-Nava, I. Torre-Villalvazo, S. Moran, C. Tovar-Palacio, B. Martinez, M. Hiriart, R. Santillan-Medina and G. Torres-Villalobos.** Natl. Inst. of Med. Sci. and Nutr. Salvador Zubiran, UNAM and Natl. Polytech. Inst., Mexico City.
- C325 I **649.3** Retinaldehyde-mediated lipolysis underlay sexual dimorphism in visceral obesity in mice. **R. Yasmeen, B. Reichert, G. Duester and O. Ziouzenkova.** The Ohio State Univ. and Sanford-Burnham Med. Res. Inst.
- C326 II **649.4** The effects of 24R, 25-dihydroxyvitamin D3 and 24S, 25dihydroxyvitamin D3 on phosphate transport in vivo. **Y. Meng and I. Nemere.** Utah State Univ.
- C327 I **649.5** *Caenorhabditis elegans* as a diabetes and ischemia model? a genetic approach to understanding glucose toxicity and oxygen deprivation. **P. Padilla, A. Garcia and M. Ladage.** Univ. of North Texas.
- C328 II **649.6** Amino acids suppress the autophagic degradation pathway in skeletal muscle of septic neonatal pigs. **A. Suryawan, R.A. Orellana, H.V. Nguyen, R.D. Almonaci and T.A. Davis.** USDA and Baylor Col. of Med.
- C329 I **649.7** Genetic variation in the epithelial sodium channel and salt taste perception in humans. **A.G. Dias and A. El-Soehmy.** Univ. of Toronto.

C330 II 649.8 Effect of caloric restriction on the expression of the Sirtuin proteins. **K-V. Nguyen, E.L. Rickert, J.M. Olefsky and N.J. Webster.** UCSD and VA San Diego Healthcare Syst.

C331 I 649.9 The role of autophagy in radiation induced salivary gland dysfunction. **M. Morgan.** Univ. of Arizona.

## 650. ANIMAL RESEARCH MODELS IN NUTRITION AND MUSCULAOSKELETAL DEVELOPMENT

### Poster

(Sponsored by: Experimental Animal Nutrition RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C332 I 650.1 Omeprazol produces changes in blood calcium, phosphorous and magnesium after food ingestion in horses. **H.C. Manso-Filho, H.E.C.C.C. Manso, S.K. Mélo, R. Lima, J. D'Araújo, T. Almeida, F. Souza e Silva, J. Cortizo, J.T. D'Paula, E. Wanderley and M. Hunka.** Fed. Rural Univ. of Pernambuco and Uberaba Farm, Lagoa do Carro, Brazil.

C333 II 650.2 Relation between plasma vitamin K and bone and cartilage markers in osteoarthritic dogs. **A. Salas Mani, M. Manuelian, J. Font, X. Totusaus, C. Vermeer, L. Vilaseca and C. Torre.** Affinity Petcare, Sant Cugat del Valles, Hosp. Vet. Canis, Girona and Hosp. Vet. Desvern, Spain, IVOT, Barcelona and VitaK BV, Maastrucht, Netherlands.

C334 I 650.3 Effect of high fat diet on inflammatory markers and bone morphological microstructure in growing male mice. **M. Kim, W. Na, H. Kim, E. Park, H-A. Lee, O. Kim and C. Sohn.** Wonkwang Univ., South Korea.

C335 II 650.4 Vitamin K<sub>2</sub> administration and bone mineral density in senescence accelerated mice P6. **H. Katsuyama, S. Fushimi, K. Yamane, H. Hinenoya, Y. Akiyama, M. Tomita, T. Okuyama, Y. Watanabe, M. Katsuyama, L.N. Anh and K. Saijoh.** Kawasaki Med. Sch. and Kanazawa Univ. Sch. of Med., Japan.

C336 I 650.5 Maternal vitamin D supplementation results in higher expression of bone formation markers at the growth plate and site-specific effects on bone strength in male offspring. **K.A. Fielding, J. Chen, R. Jahani, E.M. Comelli and W.E. Ward.** Univ. of Toronto and Brock Univ., Canada.

## 651. ANIMAL RESEARCH MODELS FOR MACRONUTRIENT METABOLISM

### Poster

(Sponsored by: Experimental Animal Nutrition RIS)

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C337 I 651.1 Bacterial strain-specific effects on immune markers in RSV-infected mice. **S.H. Mitmesser, W.M. Russell, D. O'Mahony, J. MacSharry, M. Ceddia and L. O'Mahony.** Mead Johnson Nutr., IN and Alimentary Hlth., Cork, Ireland.

C338 II 651.2 Effects of early growth restriction on development and insulin sensitivity in rats. **E. Ebanks, B. Lönnerdal and I.J. Griffin.** Univ. of California, Davis and Sacramento.

C339 I 651.3 Severe heat stress affects the expression of Hsp90, GLUT4 and b<sup>0+</sup>, in liver and leptin in adipose tissue of pigs. **H. Garcia, F. Grageola, A. Morales, A. Araiza, N. Arce and M. Cervantes.** Autonomous Univ. of Baja California, Mexico.

C340 II 651.4 The effect of dietary selenium intake on numbers of T and B cells in C57BL/6 mice with chronic inflammation. **H. Nekatebeb, B.J. Smith, S. Kuvibidila, Y. Wang, A. Girma, S. Peterson and B.J. Stoecker.** Oklahoma State Univ.

C341 I 651.5 Clofibrate increases in vivo fatty acid oxidation by neonatal pigs. **X. Bai, L. Xi, J. Drayton, C. Ji and J. Odle.** North Carolina State Univ. and China Agr. Univ., Beijing.

C342 II 651.6 Effect of conjugated linoleic acid on fatty acid synthesis in soy and coconut oil fed mice. **M.W. Sanda, Z. Angius, S.M. Ippagunta and K.M. Barnes.** West Virginia Univ.

C343 I 651.7 Effect of genetics and feeding strategies on growth of rainbow trout. **L.E. Berg, S.K. Gatrell, B.M. Cleveland, J.G. Grimmitt, T. Leeds, G. Weber, H. Klandorf, P. Turk, K.J. Semmens and K.P. Blemings.** West Virginia Univ. and Natl. Ctr. for Cool and Cold Water Aquacult., Kearneysville, WV.

C344 II 651.8 The chronic effect of quercetin and epigallocatechin gallate-based supplementation on exercise performance in mice. **K. Kennerly, A. Knab, L. Kam, D. Henson, M.P. Meaney and D.C. Nieman.** Appalachian State Univ., Boone and Kannapolis.

C345 I 651.9 An avian model of nutrition and embryonic development: the requirement for cholesterol. **K-N. Hsu and R.E. Austic.** Cornell Univ.

C346 II 651.10 Influence of dietary carbohydrate source and high fat on reproductive tract characteristics of prepubertal female pigs. **G. Xie, H.F. Reeves, S.E. Deaver, K.A. Dixon, J. Escobar, R.P. Rhoads and M.L. Rhoads.** Virginia Tech.

C347 I 651.11 Studies on the biochemical effect of a local energy drink (KPE) on rats. **O.O. Ogunlabi, I.O. Banjoko, O.O. Adebawo and G.A. Adenuga.** Olabisi Onabanjo Univ., Yaba Col. of Technol. and Babcock Univ., Nigeria.

C348 II 651.12 Serum inosine, and symmetrical dimethyl arginine concentrations were reduced at different time points when dogs were fed a controlled protein and phosphorus food with different fatty acid compositions. **D.E. Jewell, M. Yerramilli, E. Obare and M. Yerramilli.** Hill's Pet Nutr., Topeka and IDEXX Labs., Westbrook, ME.

C349 I 651.13 Earlier kidney injury associated with high fat diet from weaning to adult rats. **A.P.O. Leite, C.R. Muller, N. Senger, A.L.V. Americo, R.S. Mateus, M.C. Fonteles, V. Farah and P. Fiorino.** Mackenzie Presbyterian Univ., Brazil.

**652. LONG-TERM EFFECTS ON NUTRITION****Poster***(Sponsored by: International Nutrition Council (INC))*

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)*

- C350 **I** **652.1** Anthropometric assessment of lactating mothers attending public clinics in the Guatemalan highlands in metropolitan Quetzaltenango. **L. Oyesiku, C.M. Doak, M. Vossenaar and N.W. Solomons.** CeSSIAM, Guatemala City and VU Univ., Amsterdam.
- C351 **II** **652.2** Child nutritional status and cognitive performance in Hawassa Town, Southern Ethiopia. **M. Girma, E. Loha, A. Bogale and B.J. Stoecker.** Hawassa Univ., Ethiopia and Oklahoma State Univ.
- C352 **I** **652.3** Maternal height and child growth: intergenerational perspectives. **O.Y. Addo, A.D. Stein, B.L. Horta, R. Martorell and COHORTS Group.** Emory Univ., Fed. Univ. of Pelotas, Brazil and COHORTS, Atlanta.
- C353 **II** **652.4** Associations between preterm birth, small for gestational age, and early neonatal morbidity, and cognitive function in school-age children. **P. Christian, L. Murray-Kolb, J. Katz, J. Tielsch, B. Schaefer, P. Cole, S. LeClerq and S.K. Khatri.** Johns Hopkins Bloomberg Sch. of Publ. Hlth., Penn State and NNIPS Proj., Kathmandu.
- C354 **I** **652.5** Dietary zinc intake is inversely associated with stunting among adolescent girls in Tanzania. **S. Chen, A.G. Ronnenberg and L. Cordeiro.** Univ. of Massachusetts Amherst.
- C355 **II** **652.6** Morbidity and undernutrition are associated with impaired neurodevelopment among HIV-exposed infants in Tanzania. **C. McDonald, K. Manji, D. Spiegelman, D. Bellinger, R. Kisenge, G. Msamanga, W.W. Fawzi and C. Duggan.** Harvard Sch. of Publ. Hlth., Muhimbili Univ. of Hlth. and Allied Sci., Tanzania and Children's Hosp. Boston.
- C356 **I** **652.7** Fetal growth and birth weight are determined by maternal fat mass at mid pregnancy in low-income Brazilian women. **T. Toro-Ramos, R. Sichieri and D.J. Hoffman.** Rutgers, The State Univ. of New Jersey and State Univ. of Rio de Janeiro.

**653. INTERVENTIONS TO IMPROVE DIET AND/OR NUTRITION OUTCOMES****Poster***(Sponsored by: International Nutrition Council (INC))*

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)*

- C357 **I** **653.1** Infant and young child feeding practices: a formative research in rural India. **F. Anwar, R. Srivastava and S. Singh.** Inst. of Med. Sci., Varanasi, India.
- C358 **II** **653.2** Sustainability of backyard gardening to improve nutrition in HIV-affected individuals in Swaziland. **S. Malinga, C. Magagula, T. Sibiyi, S. Benson and R.T. Ramlal.** World Vision Inc., Washington, DC.

- C359 **I** **653.3** Breastfeeding practices and beliefs among HIV+ pregnant and lactating women on antiretroviral therapy in rural Uganda indicate obstacles to following national guidelines. **B.K. Natamba, M. Robine, F. Luwedde, J. Mwesigwa, P. Natureeba, B. Osterbauer, V. Ades, T. Clark, E. Charlebois, A. Plenty, D. Havlir, D. Cohan, J. Achan and S. Young.** Cornell Univ., Infect. Dis. Res. Collaboration, Tororo, Uganda, UCSF and Makerere Univ., Uganda.
- C360 **II** **653.4** A dietary analysis of Haitian infants and a critical analysis of dietary quality using IYCF standards. **L.E. Webster, R. Heidkamp, R.J. Stoltzfus, D. Fitzgerald and J.W. Pape.** Cornell Univ., GHESKIO, Port-au-Prince, Haiti and Weill Cornell Med. Col.
- C361 **I** **653.5** Maternal and infant iron status in HIV-infected Malawian women and their exclusively breastfed infants. **E.M. Widen, M.E. Bentley, C. Chasela, D. Kayira, G. Tegha, A. Kourtis, D. Jamieson, C. van der Horst, L. Allen, S. Shahab-Ferdows and L.S. Adair.** Univ. of North Carolina at Chapel Hill, UNC Project, Lilongwe, Malawi, Ctrs. for Dis. Control and Prevent. and USDA, Davis.
- C362 **II** **653.6** Patterns and predictors of growth in HIV-exposed 24-48-week-old Malawians receiving lipid-based nutrient supplements as a breastmilk replacement: results of the BAN study. **V.L. Flax, M.E. Bentley, C. Chasela, D. Kayira, M.G. Hudgens, K.G. Kacheche, C. Chavula, D.J. Jamieson, C. van der Horst and L.S. Adair.** Univ. of North Carolina at Chapel Hill, UNC Project, Lilongwe, Malawi and Ctrs. for Dis. Control and Prevent.
- C363 **I** **653.7** The effect of agricultural strategies to improve household food production on the health and nutrition outcomes of women and young children: a systematic review. **A. Webb Girard, J. Self, C. McAuliffe and O. Olude.** Rollins Sch. of Publ. Hlth., Emory Univ.
- C364 **II** **653.8** Early and more variable growth velocities improved linear growth in Peruvian infants. **L. Iannotti, N. Zavaleta, Z. Leon, C. Huasaquiche and L. Caulfield.** Washington Univ. in St. Louis, Nutr. Res. Inst., Lima, Peru and Johns Hopkins Univ. Bloomberg Sch. of Publ. Hlth.
- C365 **I** **653.9** Food security, nutrition and art adherence in Latin America. **H. Martinez, S. Lynemmayr, B.Y. Ramirez, H. Farias, J. Adams, K.P. Derosé and A. Smith.** RAND Corp., Santa Monica, Dr. Federico Gómez Children's Hosp., Mexico City and HIV/AIDS World Food Prog., Honduras and Panama.
- C366 **II** **653.10** Supply and demand constraints in the delivery of a national food by prescription program for HIV+ individuals in Ethiopia. **J. Coates, H. Stobaugh and E. Bontrager.** Friedman Sch. of Nutr. Sci. and Policy, Tufts Univ. and Feinstein Intl. Ctr., Tufts Univ.

**654. COMMUNICATION AND EDUCATION****Poster***(Sponsored by: International Nutrition Council (INC))*

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)*

- C367 **I** **654.1** Role of private institutions in the globalization of medical education. **O.L. Tulp, G.P. Einstein, D. Karam, R.K. Bailey, B.H. Robinson, J. Martinez and P.B. Hudson.** Col. of Med., Univ. of Sci. Arts & Technol., Montserrat.

- C368 II **654.2** Advertising for food and dietary supplements in the print media in South Africa. **N.J. Temple, Z. Mchiza, Z. Abrahams and N.P. Steyn.** Athabasca Univ., Canada and Human Sci. Res. Council, Cape Town.

## Pathology

### 655. INFLAMMATION AND IMMUNE RESPONSE

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 11:30 AM-1:30 PM

- B169 **655.1** Neutrophil infiltration related to the methotrexate-induced intestinal barrier dysfunction. **T. Horie, C. Asada, N. Kakigawa and S. Sekine.** Chiba Univ. Grad. Sch. of Pharmaceut. Sci.
- B170 **655.2** Mucosal permeability is an intrinsic factor determining susceptibility to dextran sulfate sodium-induced colitis in rats. **H. Iwaya, K. Maeta, H. Hara and S. Ishizuka.** Hokkaido Univ., Japan.
- B171 **655.3** The candidate tumor suppressor gene Ecrq4 inhibits proliferation of the inflamed mucosal epithelium. **A. Kurabi, X. Dang, K. Pak, R. Coimbra, B. Eliceiri, A. Baird and A. Ryan.** UCSD and VA Med. Ctr., San Diego.
- B172 **655.4** Overexpression of  $\beta$ -catenin and EphB4 in *Helicobacter pylori*-infected Mexican children with gastritis. **R. Villarreal-Calderon, A. Mackinnon, A. González-Luévano, M. Aragón-Flores and S. Suster.** Univ. of Montana, Med. Col. of Wisconsin and Central Military Hosp., Mexico City.
- B173 **655.5** Stromal cell-derived factor-1 induces RANKL in rheumatoid arthritis synovial fibroblasts and CD4<sup>+</sup> T cells. **K-W. Kim, H-R. Kim, B-M. Kim, M-L. Cho and S-H. Lee.** Catholic Univ. of Korea and Konkuk Univ. Sch. of Med., South Korea.
- B174 **655.6** VEGF induces RANKLI in rheumatoid arthritis synovial fibroblasts. **K-W. Kim, H-R. Kim, B-M. Kim, M-L. Cho and S-H. Lee.** Catholic Univ. of Korea and Konkuk Univ. Sch. of Med., South Korea.
- B175 **655.7** Quantitative assay for evaluating anti-clumping reagents. **G. Zem, M. Khurram, L. Saab, S. Nazari, O. Tonyan, A. Shahbazian, G. Alvarez, Y. Leyva, A. Azatyan, A. Majd, M. Moshtael, S. Shafagh, N. Farivar-moheb, S. Azalbar, K. Harutyunyan, A. Sabbaugh, C. Kirungi, A. Dzhambazian, C. Khachatoorian, S. Miranda, Z. Sherazi, M. Altunyan, N. Iriana, O. Aghdasi, J. Dorian, H. Ter-Papayan, N. Zadori, F. Hernandez and S.B. Oppenheimer.** California State Univ., Northridge.
- B176 **655.8** The influence of alternative housing on dairy calf innate immune measures after weaning. **L.E. Hulbert, M.S. Calvo, K.C. Klasing and F.M. Mitloehner.** Univ. of California, Davis.
- B177 **655.9** Loss of  $\alpha$  SNAP induces colonic epithelial cell apoptosis via downregulation of Bcl-2 expression and fragmentation of the Golgi. **N.G. Naydenov, G. Harris, B. Brown, K.L. Schaefer, S.K. Dash, P.B. Fisher and A.I. Ivanov.** Univ. of Rochester and Virginia Commonwealth Univ.
- B178 **655.10** Fluorescence compared to brightfield detection of CD35 in lymphoid follicles of the monkey to assess immunomodulatory treatment effect. **J. Brodbeck, F. Chu, M. Gonzales Edick, L. Rangell, S. Bheddah and G. Cain.** Genentech.

### 656. IMMUNOPATHOLOGY, INFLAMMATION AND VASCULAR CELL BIOLOGY

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 11:30 AM-1:30 PM

- B179 **656.1**  $\alpha(1,3)$ -Fucosyltransferases-IV/-VII modulate the prevalence of murine IL-17-producing cells in vivo. **L.C. Mackey, J.M. Rose and J.W. Homeister.** Univ. of North Carolina at Chapel Hill.
- B180 **656.2** New method for systemic sclerosis, systemic lupus erythematosus and vascular angiopathy diagnosis. **G. Cattaruzzi, F. Vitrani, M. Moretti, R. Scorza and F. Curcio.** VBC spa, Udine, Univ. of Milan, Univ. of Udine and Azienda Univ. Hosp., Udine, Italy.
- B181 **656.3** RAGE signaling influences smoke-induced secretion of pro-inflammatory cytokines by primary alveolar macrophages. **K.D. Johnson, A.B. Robinson and P.R. Reynolds.** Brigham Young Univ.
- B182 **656.4** A comparison of young and aged NK cells at basal, homeostatic conditions in C57BL/6 mice. **E. Beli, J.F. Clinthorne, D.M. Duriancik, T.H. Lee, S. Kim and E.M. Gardner.** Michigan State Univ.
- B183 **656.5** Weaning weight and impact on innate immunological status of beef cattle. **W.D. Preston, M. Fergerstrom, G. Fukumoto, T. Sy, M. Abran and A.M. Stokes.** Univ. of Hawaii Manoa.
- B184 **656.6** Genetic variation in CARD15 and allergy. **A. Katenta and S. Guerra.** Univ. of Maryland Eastern Shore and Univ. of Arizona.
- B185 **656.7** Plasma kininogen and bradykinin receptors are required for collagen antibody-induced arthritis. **A. Yang, Z. Xie, X. Zhu and Y. Wu.** Soochow Univ., China and Temple Univ.
- B186 **656.8** VEGFR2 activation during the early onset of flow is ligand-dependent and mediated by the release of autocrine VEGF. **N.G. dela Paz and J.A. Frangos.** La Jolla Bioengin. Inst.
- B187 **656.9** Quantifying differences in local wall stress between carotid and femoral arteries. **R. Wang, R.L. Gleason and L.P. Brewster.** Georgia Tech and Emory Univ. Hosp.
- B188 **656.10** Response of dorsal root ganglion tissue to chronically stimulated electrodes. **C. Kolarcik, E. Rost, I. Albrecht, X. Luo, K. Catt, D.J. Weber and X.T. Cui.** Univ. of Pittsburgh.
- B189 **656.11** Peritoneal mechanobiology and metastatic success in epithelial ovarian cancer. **R.J. Burkhalter, Y. Liu, M. Marszow, Z. Sun, G.A. Meininger, D. Wagner and M.S. Stack.** Univ. of Missouri-Columbia and Univ. of Notre Dame.
- B190 **656.12** Phosphorylation of cytokeratin fibers alters their response to mechanical extension. **G. Fois, M. Weimer, E.T. Felder, X. Zheng, B. Tobias, T. Seufferlein, P. Dietl and E. Felder.** Ulm Univ., Ulm Univ. Hosp. and Univ. Clin. for Int. Med. I, Halle, Germany.

- B191 **656.13** Ambient ultrafine particles promote vascular calcification. **D.R. Mittelstein, R. Li, Z. Ning, C. Sioutas and T. Hsiai.** Univ. of Southern California.
- B192 **656.14** Renal oxidized fatty acids are reduced in LDL receptor-deficient mice following treatment with anti-inflammatory peptide. **F. K.D. Navab, O. Elboudwarej, M. Memarzadeh, L. Vakili, M. Shabikhani, R. Rostami, J. Swartz and S. Vazirian.** UCLA.
- B193 **656.15** Activation and dephosphorylation of PPAR $\gamma$  induce PCSK9 production. **Y. Duan, Y. Chen and J. Han.** Nankai Univ., China.
- B194 **656.16** The inhibitory effect of sulforaphane on the expression of VCAM-1 in vascular smooth muscle cells. **J.Y. Kim, D-K. Rhee and S. Pyo.** Sungkyunkwan Univ., South Korea.
- B195 **656.17** Cardiovascular complications among African Americans with HIV. **A. Meshack, A. Oyekan and N. Agu.** Texas Southern Univ.
- B196 **656.18** Cav-3 is associated with and regulates the actin cytoskeleton in BV2 cells. **I.R. Niesman, M. Saldana, N. Zemke, B.P. Head and H.H. Patel.** UCSD.
- B197 **656.19** Collapsing glomerulopathy in two renal transplant recipients: a rare pattern of glomerular injury. **U.N. Sheikh, S. Herman and H. Qu.** St. John Hosp. & Med. Ctr. and Wayne State Univ. Sch. of Med.

## 657. ADVANCES IN TUMOR BIOLOGY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 11:30 AM-1:30 PM

- B198 **657.1** Is mass cytological cancer screening possible worldwide? **O. Markovic and N. Markovic.** Global Acad. for Women's Hlth. and BioSciCon Inc., Rockville, MD.
- B199 **657.2** Q-MOL: a high fidelity platform for in silico structure-based drug discovery and design. **A. Cheltsov.** Q-MOL LLC, San Diego.
- B200 **657.3** Putting the more back in morphology: quantitating multiple protein expressions in intact tissue sections. **J.R. Mansfield and C. Hoyt.** Caliper Life Sci., Hopkinton, MA.
- B201 **657.4** Prediction of peripheral blood progenitor cell numbers in leukocyte apheresis collection. **J. Chen and C. Leveque.** The Methodist Hosp., Houston.
- B202 **657.5** Calreticulin upregulates VEGF-A and VEGF-C in SK-N-DZ and SH-SY5Y neuroblastoma cell lines. **K. Lin, P-Y. Wu and H. Lee.** Natl. Taiwan Univ.
- B203 **657.6** Induced myeloperoxidase activity in ovarian cancer mouse model. **R.V. Papineni, G. Mor, W. McLaughlin, J. Holmberg and V. Craveiro.** Carestream Hlth. Inc., Woodbridge, CT and Yale Univ.
- B204 **657.7** Novel treatment of bladder cancer with cell therapy. **C. Jeong, A. Luria, J. Nolta and E. Kurzrock.** Univ. of California, Davis, Sacramento.
- B205 **657.8** A composite polymeric nanoparticle overcomes multidrug resistance and ameliorates doxorubicin-associated cardiomyopathy. **N.R. Campbell, D. Pramanik, S. Das, S. Gupta, V. Chenna, S. Bisht, P. Sysa Shah, D. Bedja, C. Karikari, C. Steenbergen, K.L. Gabrielson, Am. Maitra and An. Maitra.** Johns Hopkins Univ. Sch. of Med.

- B206 **657.9** An in vitro model of HIPEC. **D.K. Strom, S.D. Hoy, R. Huffman, M. Stencil, J.L. Boettcher, A.A. Hawkins and B. Larsen.** Des Moines Univ., Northwestern Col., IA and Marion Univ. Sch. of Med., IN.
- B207 **657.10** Aptamer-assisted cell targeting and its application in cell-based immunotherapy of cancer. **X. Xiong, M. O'Donoghue and W. Tan.** Univ. of Florida.
- B208 **657.11** The study of androgen effects on LPA-induced ROS in different human prostate cancer cell lines. **Y-C. Lin, Y-L. Huang and H. Lee.** Natl. Taiwan Univ. and Asia Univ., Taiwan.
- B209 **657.12** Clinical and biological significance of KISS1 expression in prostate cancer. **H. Wang, J.D. Jones, Q.P. He, W.E. Grizzle, D. Welch, T. Turner and C. Yates.** Tuskegee Univ., Univ. of Alabama at Birmingham and Univ. of Kansas.
- B210 **657.13** Lysophosphatidic acid induces reactive oxygen species generation through protein kinase C in PC-3 prostate cancer cells. **C-C. Lin, C-E. Lin, Y-C. Lin and H. Lee.** Natl. Taiwan Univ.
- B211 **657.14** Human cytomegalovirus and mucoepidermoid carcinoma of salivary glands: cell-specific localization of active viral and oncogenic signaling proteins. **M. Melnick, P.P. Sedghizadeh, C.M. Allen and T. Jaskoll.** Univ. of Southern California and The Ohio State Univ. Col. of Dent.
- B212 **657.15** Mechanisms for luminal cell filling induced by active Rac 1 and K-Ras. **E. Kiyokawa.** Kanazawa Med. Univ., Japan.
- B213 **657.16** Gene expression in the colon of wild type and knockout Parp1 mice. **K. Moua, A. Rod and R. Cormier.** Univ. of Minnesota Duluth.
- B214 **657.17** A case of JAK-2 positive essential thrombocythemia followed by mantle cell lymphoma. **U.N. Sheikh, C. Socec and D. Snower.** St. John Hosp. & Med. Ctr., Detroit.
- B215 **657.18** HLA-A\*7401 and HLA-C\*0401 allelic disease association with plasma cell neoplasia. **V.R. Mannam, W. Gilbert, T. Green, M. Santos, J. Goodin, R.E. Lewis and J.M. Cruse.** Univ. of Mississippi Med. Ctr.
- B216 **657.19** Recombinant mojastin disintegrins inhibit cell proliferation and migration of SK-Mel-28 cells and migration of HT-144 cells. **T.D. Bella, D.A. Gutierrez, R. Bueno and J.G. Soto.** San Jose State Univ.

## 658. PULMONARY PATHOBIOLOGY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 11:30 AM-1:30 PM

- B217 **658.1** Disturbance of post-natal lung development in Norwich terriers. **M. Anttila, K. Dillard and K. Vainio-Siukola.** Evira, Helsinki.
- B218 **658.2** Human mesenchymal stem cell modulates the stretch-induced inflammatory response in bronchial epithelial cells. **C.Y-C. Kuo, J.Y-S. Li, O.K-S. Lee and S. Chien.** UCSD and Natl. Yang-Ming Univ., Taiwan.
- B219 **658.3** Effect of low level laser therapy on acute lung injury. **V. Cury, T. Lima-Salgado, N. Pinheiro, C.M. Prado, L. Assis, A.I. Moretti and H.P. Souza.** Fac. of Med., Univ. of São Paulo and Fed. Univ. of São Paulo.

- B220 **658.4** Action of hypertonic saline solution (NaCl 7.5%) in pulmonary fibrosis in a rodent model of endotoxemia. **R.C. Petroni, P. Biselli, M. Martins, S. Csaba and F. Soriano.** Med. Sch. of Univ. of São Paulo and Univ. of Texas Med. Branch.
- B221 **658.5** Expression of receptor activator of nuclear factor- $\kappa$ B (RANK), RANK ligand, and osteoprotegerin in the normal and *E. coli* lipopolysaccharide-treated horse lungs. **S. Channabasappa, S. Singh and B. Singh.** Western Col. of Vet. Med., Univ. of Saskatchewan and Col. of Vet. Sci., Ludhiana, India.
- B222 **658.6** Safety evaluation of MJ33 as a potential in vivo inhibitor of NADPH oxidase (NOX2) activation. **I. Lee, J. Zagorski, C. Dodia, S.I. Feinstein and A.B. Fisher.** Univ. of Pennsylvania.
- B223 **658.7** Effect of postural change on the prevalence of ventilator-associated pneumonia. **R. Sato, T. Miyagawa, T. Aruga and R. Maruyama.** Tohoku Univ. Grad. Sch. of Med., Showa Univ. Grad. Sch. of Nursing and Rehabil. Sci. and Showa Univ. Sch. of Med., Japan.
- B224 **143.3** Transgenic mice overexpressing an endothelial-targeted Fas-inducing apoptosis construct exhibit pulmonary hypertension associated with marked lung arterial remodeling. **H. Goldthorpe, S.A. Parsons, J-Y. Jiang, Y. Deng and D.J. Stewart.** Ottawa Hosp. Res. Inst. and Univ. of Ottawa.

## Pharmacology and Experimental Therapeutics

### 659. DRUGS OF ABUSE—COCAINE

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B1 **659.1** The effect of PKM $\zeta$  inhibition on cocaine-induced place preference and locomotor sensitization. **K. Howell, S.A. Carmack and S.G. Anagnostaras.** UCSD.
- B2 **659.2** Effects of 5-HT<sub>2A</sub> receptor antagonism on cocaine self-administration, cocaine-induced reinstatement, and cocaine-induced dopamine overflow in rhesus monkeys. **J.E. Winschel, K.S. Murnane, S. Stewart and L.L. Howell.** Emory Univ.
- B3 **659.3** Effects of subtype selective dopamine receptor agonists on progressive ratio responding for cocaine- and remifentanil-paired stimuli. **J.W. Bertz and J.H. Woods.** Univ. of Michigan.
- B4 **659.4** Rimcazole attenuates the cocaine-induced stimulation of mesolimbic dopamine related to its abuse and dependence. **M. Mereu, L.E. Chun, T. Hiranita, J.J. Cao, A.H. Newman, J.L. Katz and G. Tanda.** NIDA/NIH, Baltimore and Univ. of Colorado Boulder.
- B5 **659.5** Effects of chronic methylphenidate treatment on the reinforcing strength of cocaine in rhesus monkeys. **P.W. Czoty, S.E. Martelle, R.W. Gould and M.A. Nader.** Wake Forest Univ. Sch. of Med.
- B6 **659.6** Cognitive-disrupting effects of cocaine as an effect of menstrual cycle phase. **S.A. Kromrey, R.W. Gould and P.W. Czoty.** Wake Forest.
- B7 **659.7** Can the stereotypy-inducing effects of atypical dopamine uptake inhibitors account for their blockade of cocaine self-administration? **T. Hiranita, L. Li, S. Hayashi, J.J. Cao, A.H. Newman and J.L. Katz.** NIDA/NIH, Baltimore.
- B8 **659.8** In vivo study: developmental alterations in primary rat neuronal and glial cell cultures following prenatal cocaine exposure. **M.L. Johnson, T. Womble, T. Jackson and C.B. Goodman.** Florida A&M Univ.
- B9 **659.9** Effects of dopamine beta-hydroxylase inhibition on cocaine-induced reinstatement in squirrel monkeys. **D.A. Cooper, H. Kimmel and L. Howell.** Emory Univ.
- B10 **659.10** Humanizing the lambda light chain of the human/murine mixed-chain anti-cocaine monoclonal antibody 2E2. **W.J. Ball, M.R. Tabet, R. Wilton and A.B. Norman.** Univ. of Cincinnati and Argonne Natl. Lab.
- B11 **659.11** Assessment of dopaminergic involvement in cocaine-induced conditioned taste aversions. **K.M. Serafine, M.A. Briscione, K.C. Rice and A.L. Riley.** American Univ. and NIDA and NIAAA/NIH.
- B12 **659.12** Effects of cocaine self-administration on cognition in monkeys and evaluation of cognitive enhancement as a therapeutic strategy. **R.W. Gould and M.A. Nader.** Wake Forest Univ. Sch. of Med.
- B13 **659.13** Cocaine dose and self-administration history, but not initial cocaine-induced locomotor responsiveness, affect sensitization to the motivational effects of cocaine in rats. **B.H. Mandt, E. Gomez, N.L. Johnston, N.R. Zahniser and R.M. Allen.** Univ. of Colorado Denver and Univ. of Colorado Sch. of Med., Aurora.

### 660. DRUGS OF ABUSE—DEPRESSANTS/CANNABINOIDS

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B14 **660.1** Dry ethanol gas testing of personal use breathalyzers. **M. Blackburn and J.R. Lee.** West Texas A&M Univ.
- B15 **660.2** Varenicline attenuates relapse-like ethanol drinking behavior in mice. **R.K. Sajja and S. Rahman.** South Dakota State Univ.
- B16 **660.3** Age difference in behavior induced from co-administration of nicotine and alcohol. **A. Larraga, C.N. Chew, C. Gadalla, J.D. Belluzzi and F.M. Leslie.** Univ. of California, Irvine.
- B17 **660.4** Conditioned taste aversion elicited by synthetic cannabinoid JWH-018 in mice is attenuated by pretreatment with phytocannabinoid  $\delta^9$ -THC. **W.S. Hyatt, S.M. Zimmerman and W.E. Fantegrossi.** Hendrix Col., AR and Univ. of Arkansas for Med. Sci.

- B18 **660.5** Enhanced  $\Delta^9$ -THC precipitated withdrawal in desensitization-resistant S426/430A mutant mice. **A.J. Cook, D.J. Morgan and K. Mackie.** Indiana Univ.
- B19 **660.6** Tolerance and cross-tolerance produced by delta-9-tetrahydrocannabinol treatment in rhesus monkeys. **L. Hrubá, B.C. Ginsburg and L.R. McMahon.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- B20 **660.7** Antagonism of CB1-mediated discriminative-stimulus effects by CB1 neutral and inverse-agonist antagonists. **B.D. Kangas, K. Vemuri, G. Thakur, A. Makriyannis and J. Bergman.** McLean Hosp./Harvard Med. Sch. and Northeastern Univ.
- B21 **660.8** The omega and omega-1 monohydroxyl metabolites of the abused K2/Spice synthetic cannabinoids JWH-018 and JWH-073 bind with high affinity and act as agonists at human cannabinoid 2 receptors. **L.K. Brents, M. Rajasekaran, L. Franks, J.H. Moran and P.L. Prather.** Univ. of Arkansas for Med. Sci. and Arkansas Dept of Hlth.
- B22 **660.9** Benzodiazepine self-administration in rhesus monkeys: role of  $\alpha 1$  subunit-containing GABA<sub>A</sub> receptors. **B.D. Fischer, D.M. Platt, S.K. Rallapalli, O.A. Namjoshi, J.M. Cook and J.K. Rowlett.** Harvard Med. Sch./NEPRC, Southborough and Univ. of Wisconsin-Milwaukee.
- B23 **660.10** The discriminative stimulus effects of bretazenil and lorazepam in rats trained to discriminate pentobarbital from saline. **M.W. Hulin and P.J. Winsauer.** LSU Hlth. Sci. Ctr., New Orleans.
- B24 **660.11** Elucidating the neurotransmitter systems underlying the subanesthetic intoxicating effects of isoflurane vapor. **K.L. Shelton, G. Slavova-Hernandez and K.L. Nicholson.** Virginia Commonwealth Univ.
- B25 **660.12** Assessment of the abused inhalant toluene on intracranial self-stimulation in a dynamic exposure model of inhalant delivery. **M.E. Tracy, J. Younkin and K.L. Shelton.** Virginia Commonwealth Univ.
- B26 **660.13** Propofol, a short-acting general anesthetic, produces depression followed by rebound excitation overshoot of potentials evoked in the prepyriform (olfactory) cortex by stimulation of the lateral olfactory tract. **D.E. Woolley and Z. Hasan.** Univ. of California, Davis and Arabian Gulf Univ. Col. of Med. and Med. Sci., Bahrain.
- B27 **660.14** The discriminative stimulus effects of nitrous oxide. **K.J. Richardson, G. Slavova-Hernandez and K.L. Shelton.** Virginia Commonwealth Univ.

## 661. MONOAMINES/BEHAVIOR

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B28 **661.1** Characterization of dopamine D3 receptor-selective compounds on unconditioned behaviors and food/drug choice in cocaine and methamphetamine self-administering rhesus monkeys. **S.H. Nader, B.L. Blaylock, W.D. Wilson, A. Banala, A.H. Newman and M.A. Nader.** Wake Forest Sch. of Med. and NIDA/NIH, Baltimore.
- B29 **661.2** Further characterization of dopamine D2/D3 receptors and cocaine self-administration in socially housed female monkeys. **A.N. Duke, S.H. Nader, N.V. Riddick, P.W. Czoty and M.A. Nader.** Wake Forest Univ. Sch. of Med.

- B30 **661.3** Eating high fat chow enhances sensitivity, but does not impact the development of sensitization, to apomorphine-induced yawning in rats. **M.G. Baladi, Y.M. Thomas and C.P. France.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- B31 **661.4** Buspirone is a potent antagonist at D<sub>3</sub> and D<sub>4</sub> dopamine receptors and attenuates the reinforcing effects of cocaine in a primate model. **R.A. Roof, J. Bergman, C.A. Furman, J.L. Conroy, N.K. Mello, P. Skolnick and D.R. Sibley.** NINDS/NIH, Rockville, Harvard Med. Sch.-McLean Hosp., OD/NIH and NIDA/NIH, Rockville.
- B32 **661.5** Sensitivity to the rewarding and locomotor effects of amphetamine following early treatment with methotrexate and cytarabine in adolescent mice. **A.M. Myers, E.B. Bisen-Hersh and E.A. Walker.** Temple Univ.
- B33 **661.6** Pro-social effects of 3,4-methylenedioxymethamphetamine in mice. **D.W. Curry, K.S. Murnane and L.L. Howell.** Emory Univ.
- B34 **661.7** In vivo effects of "bath salt" constituent 3,4-methylenedioxypyrovalerone in mice: contribution of ambient temperature and monoamines. **W.E. Fantegrossi, S.M. Zimmerman and K.C. Rice.** Univ. of Arkansas for Med. Sci. and NIDA/NIH, Rockville.
- B35 **661.8** Cannabinoid CB1 and serotonin 5-HT1A agonists mediate lower lip retraction by independent mechanisms. **G.R. Chopda, J. Anderson, A. Makriyannis, S.P. Nikas and C.A. Paronis.** Northeastern Univ.

## 662. PHARMACOLOGY OF PAIN

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B36 **662.1** Anti-hypernociceptive property of the methanolic extract of stems of *Kielmeyera rugosa* in mice. **L.J. Quintans Junior, M. Melo, M.G.B. Oliveira, M.R.V. Santos, A.A.S. Araujo, E.V. Costa, C.S. Anjos, A.M. Jesus, P.C.L. Nogueira and V.R.S. Moraes.** Fed. Univ. of Sergipe, Brazil.
- B37 **662.2** Inhibition of neuropathic pain via dynorphin analog LYS 1044. **M.K. Faridian, A.J. Sandweiss, A. Podolsky, Y-S. Lee and T. Vanderah.** Univ. of Arizona.
- B38 **662.3** Hecogenin reduces hypernociception in mice. **J.S. Quintans, A. Antonioli, M.G.B. Oliveira, M.F. Santana, V.J. Santana-Filho, A. Branco, J.R.G.S. Almeida, A.G. Taranto, R.S.S. Barreto and L.J. Quintans Junior.** Fed. Univ. of Sergipe, Fed. Univ. of Feira de Santana, Fed. Univ. of Vale do São Francisco and UFSJ, Divinópolis-Minas Gerais, Brazil.
- B39 **662.4** Contributions of spinal noradrenergic mechanisms to duloxetine and morphine antinociception. **D. Meske, J.Y. Xie, J. Oyarzo, H. Badghisi, R.K. Kuester, M.H. Ossipov and F. Porreca.** Univ. of Arizona.
- B40 **662.5** Increased astrocyte thrombospondin-4 expression in dorsal spinal cord correlates with neuropathic pain states. **Y.P. Yu, K-W. Li, X-G. Chen and Z.D. Luo.** Univ. of California Irvine Healthcare, Orange.
- B41 **662.6** Effects of chronic stress on nitrous oxide-induced antinociceptive and anxiolytic effects in mice. **D. Emmanouil, J. Yeon and R.M. Quock.** Univ. of Athens, Greece and Washington State Univ.



- B42 **662.7** Pharmacological differences between two mechanistically similar drug effects, nitrous oxide- and hyperbaric oxygen-induced antinociception in mice. **C.M. Dupic, Y. Zhang, D.Y. Shirachi and R.M. Quock.** Washington State Univ. and Chico Hyperbaric Ctr., CA.
- B43 **662.8** Nitrous oxide increases brain L-arginine in production of its antinociceptive effect in mice. **Y. Zhang, C.L. Sayre, E. Chung, Y. Ohgami, N.M. Davies and R.M. Quock.** Washington State Univ. and Univ. of Manitoba.
- B44 **662.9** Suppression of paclitaxel-induced neuropathic pain by hyperbaric oxygen. **Y. Zhang, C.R. Gibbons, S. Howlader, M.C. Son, J. Yeon, D.Y. Shirachi and R.M. Quock.** Washington State Univ. and Chico Hyperbaric Ctr., CA.
- B45 **662.10** Newly designed and improved human soluble epoxide hydrolase inhibitors for neuropathic pain. **K.S.S. Lee, J-Y. Liu, B. Inceoglu, K. Wagner, H. Dong, T.E. Rose, J. Yang, C. Morisseau and B.D. Hammock.** Univ. of California, Davis and UCLA.
- B46 **662.11** Antinociceptive and anti-inflammatory effects of essential oil of *Nepeta pogonosperma* Jamzad et Assadi in rats. **T. Ali, M. Javan, A. Sonboli and S. Semnianian.** Bangabandhu Sheikh Mujib Med. Univ., Bangladesh and Tarbiat Modares Univ. and Shahid Beheshti Univ., Iran.
- B47 **662.12** Antinociceptive effects of novel GalR2-specific analogs. **C.S. Metcalf, B.D. Klein, D.R. McDougale, G. Bulaj and H.S. White.** Neuroadjuvants Inc., Salt Lake City and Univ. of Utah.
- B48 **662.13** Modulation of Nrf2 and NF- $\kappa$ B counteracts multiple manifestations of experimental diabetic neuropathy: potential of sulforaphane and melatonin. **G. Negi and S.S. Sharma.** Natl. Inst. of Pharmaceut. Educ. and Res., Mohall, India.
- B49 **662.14** Pain relief activates the mesolimbic dopamine reward pathway. **E. Navratilova, J. Xie, A. Okun, N. Eyde, S. Ci, M.H. Ossipov, T. King Deeny and F. Porreca.** Univ. of Arizona.
- B50 **662.15** Measuring chemotherapy-induced neuropathic pain and attenuation by cannabidiol using pain-stimulated and pain-depressed models in female C57BL/6 mice. **K. Pavlenko, H. Neelakantan, E.A. Walker and S.J. Ward.** Temple Univ.
- B51 **662.16** Effects of cannabidiol or morphine on mechanical sensitivity and place conditioning induced by chemotherapy-induced peripheral neuropathy in mice. **O. Safdar, H. Neelakantan, E.A. Walker and S.J. Ward.** Temple Univ.

## 663. GPCR SIGNALING

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B52 **663.1** Role of Rac1 in A2B adenosine receptor and Epac1 signaling to extracellular signal-regulated kinase in human endothelial cells. **M. Olah and L. Miller.** Col. of Pharm., Ohio Northern Univ.
- B53 **663.2** Interaction of protein kinase C-related kinase 1 with the TP $\alpha$  and TP $\beta$  isoforms of the human thromboxane A<sub>2</sub> receptor: implications for prostate cancer. **B.T. Kinsella, E.C. Turner, E.P. Mulvaney, D.J. Kavanagh and H.M. Reid.** University Col. Dublin Sch. of Biomolec. & Biomed. Sci.
- B54 **663.3** Biphenols block calcium entry in response to activation of the M3 muscarinic receptor. **Y-W. Huang, A.G. Martin, P-K. Chao, H-J. Wang, A.L. Martin, E.K. Shannon, R.A. Reichard, M-H. Chan and R.S. Aronstam.** Missouri Univ. of Sci. and Technol., Natl. Taiwan Normal Univ. and Tzu Chi Univ., Taiwan.
- B55 **663.4** The  $\alpha_{1A}$ -adrenergic receptor mediates cardiac hypertrophy through the G $\alpha_q$ -PI3K-Rac1 signaling pathway. **M. Mohl, X-H. Xiao, P. Balaji, S. Issmaa, M. Feneley and R. Graham.** Victor Chang Res. Inst. and St. Vincent's Hosp., Darlinghurst, Australia.
- B56 **663.5** Direct physical scaffolding of muscarinic M3 receptor signal transduction pathways. **W. Kan, S. Malik, G. Faibis and A.V. Smrcka.** Univ. of Rochester Med. Ctr.
- B57 **663.6** Serotonin 5-HT<sub>2C</sub> receptor homodimers identified by fluorescence correlation spectroscopy. **K. Herrick-Davis, E. Grinde and J.E. Mazurkiewicz.** Albany Med. Col.
- B58 **663.7** The Nurr1 transcription factor is upregulated by the EP1 prostanoid receptor in monomethylarsonous acid-treated UROtsa cells. **C.M. Sanchez, A.J. Gandolfi and J.W. Regan.** Col. of Pharm., Univ. of Arizona.
- B59 **663.8** **Withdrawn.**
- B60 **663.9** Activation of G-protein-coupled estrogen receptor inhibits coronary artery smooth muscle cell proliferation. **F. Li, G. Wang, B. Zhou, R. White, C. Heaps, J. Stallone and G. Han.** Texas A&M Univ. and Georgia Hlth. Sci. Univ.
- B61 **663.10** Role of central atypical cannabinoid receptor GPR18 in modulating cardiovascular function. **A. Penumarti and A. Abdel-Rahman.** Brody Sch. of Med., East Carolina Univ.

## 664. PROTEASE-ACTIVATED RECEPTORS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B62 **664.1** Adaptor protein complex-2 and epsin-1 mediate protease-activated receptor-1 internalization via phosphorylation- and ubiquitination-dependent sorting signals. **B. Chen, M.R. Dores, N.J. Grimsey, I. Canto, B.L. Barker and J. Trejo.** Sch. of Med., UCSD and Thomas Jefferson Univ.
- B63 **664.2** Ubiquitination of protease-activated receptor-1 reveals a new mode of signal regulation. **N.J. Grimsey, P. Le and J. Trejo.** UCSD.
- B64 **664.3** Regulation of protease-activated receptor-4 signaling and trafficking. **T.H. Smith and J. Trejo.** UCSD.
- B65 **664.4** Palmitoylation of PAR1 regulates the accessibility of C-tail YXX $\phi$  motifs to AP-2 and internalization. **I. Canto and J. Trejo.** UCSD.
- B66 **664.5** Regulation of protease-activated receptor-1 signaling and trafficking by extracellular loop 2 N-linked glycosylation. **A.G. Soto and J. Trejo.** UCSD.
- B67 **664.6** Synthetic tethering increases the potency of PAR<sub>2</sub> agonists. **A. Flynn, D.V. Tillu, J. Hoffman, Z. Zhang, J. Vagner, T.J. Price and S. Boitano.** Univ. of Arizona.
- B68 **664.7** Kallikrein site targeted ligands are potent PAR<sub>2</sub> antagonists. **A. Flynn, J. Hoffman, D.V. Tillu, R. Patek, J. Vagner, T.J. Price and S. Boitano.** Univ. of Arizona.

- B69 **664.8** Thrombin stimulated glioblastoma cell adhesion is mediated by Rap1 and integrin activation. **J. Sayyah, D. Stupack and J. Heller Brown.** UCSD and Moores Cancer Ctr.
- B70 **664.9** Protease activated receptor 2-mediated activation of protein kinase A. **S.J. Erb and Z.J. Wang.** Univ. of Illinois, Chicago.
- B71 **664.10** Allergen-derived proteinases: isolation, characterization and signaling via proteinase-activated receptors. **D. Polley, K. Mihara, M. Saifeddine, B. Renaux, H. Vliagoftis, S. Boitano, M. Daines and M.D. Hollenberg.** Univ. of Calgary, Canada, Univ. of Alberta and Univ. of Arizona.

## 665. GRKS AND ARRESTINS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B72 **665.1** Phosphorylated serine and threonine residues of PAR2 C-terminus regulate beta-arrestin 1/2 recruitment and signaling. **K. Pal and K. DeFea.** Univ. of California, Riverside.
- B73 **665.2** The antipsychotic aripiprazole is a non-competitive antagonist of dopamine-stimulated D<sub>2</sub> receptor interactions with  $\beta$ -arrestin-2. **R.B. Free, M. Dalefield, B.N. Miller, T.B. Doyle, J.L. Conroy, S. Vangveravong, L. Duan, J.A. Javitch, R.H. Mach and D.R. Sibley.** NINDS/NIH, Rockville, Washington Univ. Sch. of Med. and Columbia Univ. Col. of P&S.
- B74 **665.3** Dynamic formation of a ternary PTH receptor-arrestin-G $\beta\gamma$  complex required for sustained signaling. **V.L. Wehbi, H.P. Stevenson, T.N. Feinstein, G. Romero, G. Calero and J-P. Vilardaga.** Univ. of Pittsburgh.
- B75 **665.4**  $\beta$ -Arrestin2 and ARRDC proteins have distinct roles in  $\beta_2$ AR trafficking and signaling. **S-o. Han, R.P. Kommaddi, V. Venkataramanan and S.K. Shenoy.** Duke Univ. Med. Ctr.
- B76 **665.5** Proteolytic activation of PAR1-PAR<sub>2</sub> heterodimer by thrombin promotes beta-arrestin dependent ERK1,2 signaling. **H. Lin and J. Trejo.** UCSD.
- B77 **665.6** Reactive oxygen species are required for  $\beta_2$  adrenergic receptor-mediated  $\beta$ -arrestin signaling. **M. Singh and N.H. Moniri.** Col. of Pharm. and Hlth. Sci., Mercer Univ.
- B78 **665.7** GPCR-mediated modulation of synaptic transmission. **K. Betke, K. Rose, D. Friedman, Y. Chen, Q. Wang, R. Gilsbach, L. Hein, R. Caprioli and H. Hamm.** Vanderbilt Univ., Univ. of Alabama at Birmingham and Albert Ludwigs Univ. Freiburg.
- B79 **665.8** New therapeutics targeting heart failure: development of GRK2 selective inhibitors. **K.T. Homan, D.M. Thal, E. Wu, J. Chen, L. Sklar and J.J.G. Tesmer.** Univ. of Michigan and Univ. of New Mexico.
- B80 **665.9** G protein coupled-receptor kinase 5 is localized to centrosomes and regulates cell cycle progression. **C.H. So, A.M. Michal, N. Beeharry, H. Shankar, R. Mashayekhi, T.J. Yen and J.L. Benovic.** Thomas Jefferson Univ. and Fox Chase Cancer Ctr.

## 666. CAMP SIGNALING AND COMPARTMENTATION

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B81 **666.1** Finding novel intragenic suppressors of a constitutively active allele of Gs alpha. **D. Janevska, E. Din, R. Tobar-Rubin, R. Alvarez and F. Chaudhry.** Benedictine Univ., IL.
- B82 **666.2** Implication of reduced levels of intracellular cAMP in enhanced expression of Gi proteins and hyperproliferation of vascular smooth muscle cells from spontaneously hypertensive rats: cellular mechanisms. **S. Gusan and M. Ananad-Srivastava.** Univ. of Montreal.
- B83 **666.3** A homogenous bioluminescent, and fast assay for monitoring alteration in cAMP cellular and tissue cAMP and monitoring the modulation of Gs and Gi protein coupled receptors. **S. Goueli and K. Hsiao.** Promega Corp., Madison, WI.
- B84 **666.4** Activation of G protein-coupled estrogen receptor induces coronary artery relaxation via cAMP/PKA pathway. **X. Yu, F. Li, R. White, J. Stallone and G. Han.** Texas A&M Univ. and Georgia Hlth. Sci. Univ.
- B85 **666.5** Adenylyl cyclase 6 defines a distinct cAMP compartment that increases somatostatin expression by airway smooth muscle cells. **A.S. Bogard, J.M. Elam and R.S. Ostrom.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- B86 **666.6** Membrane microdomains and cAMP compartmentation. **S. Agarwal, K. Caldwell, A. Owens, C. Singer, V. Nikolaev, M. Lohse and R. Harvey.** Univ. of Nevada, Reno and Univ. of Wurzburg.
- B87 **666.7** Differential regulation of brown adipose tissue activation by PDE3 and PDE4. **S.M. Kraynik, T.R. Hinds and J.A. Beavo.** Univ. of Washington.
- B88 **666.8** Cardiac scaffold protein binding kinetics: a role for altered signaling during human heart disease. **A. Rababah, J. Craft, A. Guillory, C. Wijaya, S. Singh, Q. Fan, A. Diaz Diaz, X. Yin and B. McConnell.** Univ. of Houston.
- B89 **666.9** Gravin-dependent multi-kinase signaling modulates cardiac function. **A.N. Guillory, P. Tran, K. Bilal, C. Wijaya, A. Diaz Diaz and B. McConnell.** Univ. of Houston.
- B90 **666.10** Designing spatiotemporal regulators for PKA in prostate cancer. **E.J. Kennedy, M. Lewandowski, L. Hanold, N. Ton, F. Patel and V. Patel.** Univ. of Georgia Col. of Pharm.
- B91 **666.11** Lef1-mediated upregulation of Epac1 expression in chronic lymphocytic leukemic cells. **L. Brown, F. Murray, L. Zhang and P.A. Insel.** UCSD.

## 667. PHOSPHOINOSITIDE SIGNALING

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B92 **667.1** How G $\alpha_q$  regulates PIP<sub>2</sub> hydrolysis: molecular mechanisms and prospects for drug development. **A.M. Lyon, V.M. Tesmer, C.A. Boguth, V.D. Dhamsania, D.M. Thal, J. Guitierrez, S. Chowdhury, J.K. Northup and J.J.G. Tesmer.** Univ. of Michigan and NIDCD/NIH, Rockville.

- B93 **667.2** The role of phospholipase C-epsilon in COX-2 expression and inflammation. **S. Dusaban, M.K. Cho, E. Masliah, A.V. Smrcka and J.H. Brown.** UCSD and Univ. of Rochester.
- B94 **667.3** Angiotensin (1-7) antagonizes angiotensin II action in SHR hypothalamic neurons via stimulation of PTEN expression. **A. Modgil, S. O'Rourke and C. Sun.** North Dakota State Univ.
- B95 **667.4** Targeting phosphoinositide 3-kinase  $\gamma$  in airway smooth muscle cells to suppress interleukin-13-induced mouse airway hyperresponsiveness. **H. Jiang, Y. Xie, P.W. Abel, M.L. Toews, R.G. Townley, T.B. Casale and Y. Tu.** Creighton Univ. and Univ. of Nebraska Med. Ctr.
- B96 **667.5** Kinase activity of phosphoinositide 3-kinase gamma is needed for T cell development, activation and chemotaxis. **N. Ladygina and W-P. Fung-Leung.** Janssen R&D, San Diego.
- B97 **667.6** Kinase activity of phosphoinositide 3-kinase gamma is important for neutrophil infiltration in inflammation. **M. Sablad, G. Castro, N. Rozenkrants, K. Ngo, T. Rao, Y. Zhang and W-P. Fung-Leung.** Janssen R&D, San Diego.

## 668. SYSTEMS PHARMACOLOGY/TOXICOLOGY— ASTHMA AND COPD

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B98 **668.1** In vitro and in vivo studies of antiasthmatic and mast cell stabilizing activity of Yemeni Sidr honey. **A.A. Alzubier and P.N. Okechukwu.** UCSI Univ., Malaysia.
- B99 **668.2** Epinephrine is required for the IL-13 induced increase in inflammatory cells in murine airways. **V.J. Thanawala, N. Al-Sawalha, G.S. Forkuo, O. Omoluabi, B. Knoll and R. Bond.** Univ. of Houston.
- B100 **668.3** Temporal lipid mediator profiles differ between plasma and bronchoalveolar lavage in mice exposed to tobacco smoke. **M.L. Nording, J. Yang, L. Hoang, V. Zamora, D. Uyeminami, I. Espiritu, K.E. Pinkerton, B.D. Hammock and A. Luria.** Umeå Univ., Sweden and Univ. of California, Davis.
- B101 **668.4** Inhibition of soluble epoxide hydrolase in mice exposed to tobacco smoke. **M.L. Nording, J. Yang, L. Hoang, V. Zamora, D. Uyeminami, I. Espiritu, K.E. Pinkerton, B.D. Hammock and A. Luria.** Umeå Univ., Sweden and Univ. of California, Davis.
- B102 **668.5** Role of beta2-adrenoceptor signaling and mitogen activated protein kinases in IL-13 induced mucus production in human airway epithelial cells. **N. Al-Sawalha, I. Pokkunuri, O. Omoluabi, R. Bond and B. Knoll.** Univ. of Houston.

## 669. SYSTEMS PHARMACOLOGY/TOXICOLOGY— PULMONARY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B103 **669.1** Doxycycline protects against right ventricular dysfunction and dilatation caused by acute pulmonary thromboembolism. **E.M. Neto Neves, O.S. Santos, K.C. Ferraz, C.S. Ceron, M.D. Romano, L.G. Gali, B.C. Maciel and J.E. Tanus Santos.** Univ. of São Paulo and State Univ. of Campinas, Brazil.
- B104 **669.2** G protein-coupled receptor arrays identify physiologically relevant targets in pulmonary artery smooth muscle cells: mRNA to function. **D.S. McDonald, N. Aroonsakool, O. Kwon, P.A. Insel and F. Murray.** UCSD.
- B105 **669.3** Effects of diacetyl vapor exposure on human cultured airway epithelial cell ion transport. **E.J. Zacccone, W.T. Goldsmith, J.A. Thompson, M.J. Shimko and J.S. Fedan.** West Virginia Univ. and NIOSH, Morgantown.
- B106 **669.4** Identification of dysregulated microRNAs in the lungs of allergen-challenged mice. **G. Sun, S. Phillips, V. Kaimal, J. Tay, J. Xu, A. Jackson and J. Karras.** Regulus Therapeut., San Diego.
- B107 **669.5** Detecting thromboxane signaling abnormalities in experimental models of pulmonary arterial hypertension. **N.D. Detweiler, D.K. Hirenallur-S, S.T. Haworth, J.B. Gordon and N.J. Rusch.** Univ. of Arkansas for Med. Sci. and Med. Col. of Wisconsin.
- B108 **669.6** Effects of fresh and aged traffic-related particles on breathing pattern, cellular responses and oxidative stress. **E.A. Diaz, Y. Chung, D.P. Lamoureux, V. Papapostolou, J. Lawrence, M.S. Long, R. Sato, O. Joao and J.J. Godleski.** Harvard Sch. of Publ. Hlth.
- B109 **669.7** Effects of proteasome inhibition by a novel imidazoline on ovalbumin-induced airway inflammation and hyperresponsiveness. **L. Azevedo, S. Proper, K. Greenwood, D. Jackson-Humbles, L. Bramble, J. Harkema, J. Wagner and J. Tepe.** Michigan State Univ.

## 670. ENDOTHELIUM AND ION CHANNELS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B110 **670.1** Cyp-epoxygenases mediate adenosine  $A_{2A}$  receptor induced vascular relaxation via  $K_{ATP}$  channels. **D. Ponnath, M.A. Nayeem, S.S. Kunduri, S.L. Tilley, C. Ledent and S.J. Mustafa.** West Virginia Univ., Univ. of North Carolina at Chapel Hill and Univ. Libre Brussels.
- B111 **670.2** Endothelium-dependent and -independent effects of isoquercitrin in rat mesenteric bed involve nitric oxide production and direct activation of ATP-sensitive  $K^+$  channels. **A. Gasparotto Junior, R.R. Piornedo, J.E. Da Silva Santos and J. Assreuy.** Univ. Paranaense and Fed. Univ. de Santa Catarina, Brazil.

- B112 **670.3** PKC $\alpha$ -dependent opening of the oxidant-sensitive calcium channel TRPM2 induces apoptosis of lung endothelial cells. **C.M. Hecquet, A. Di, X. Gao, S.M. Vogel and A.B. Malik.** Univ. of Illinois at Chicago.
- B113 **670.4** ROS sensitive calcium channel TRPM2 regulates VEGF-induced angiogenesis. **M. Mittal and A.B. Malik.** Univ. of Illinois at Chicago.
- B114 **670.5** Opening of TRPV4 channels induce relaxation mediated by KCa3.1 channels and nitric oxide synthase in mouse pulmonary arteries. **T. Dalsgaard, V.B. Bajoriunas, R. Köhler and U. Simonsen.** Aarhus Univ., Denmark and Aragon Inst. of Hlth. Sci. I+CS, Zaragoza, Spain.
- B115 **670.6** TRPV4 sparklets—elementary Ca<sup>2+</sup> signals underlying endothelial-dependent vascular function. **S. Sonkusare, A.D. Bonev, M.I. Kotlikoff and M.T. Nelson.** Univ. of Vermont and Cornell Univ.

## 671. ENDOTHELIAL MECHANISMS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B116 **671.1** SIRT1 enhances endothelium-dependent relaxation through an eNOS-independent mechanism. **C. Xu, P.M. Vanhoutte and Y. Wang.** The Univ. of Hong Kong.
- B117 **671.2** Thyroid hormone affects both endothelial and vascular smooth muscle cells in rat arteries. **Y. Cai, G.P.H. Leung and P.M. Vanhoutte.** The Univ. of Hong Kong.
- B118 **671.3** L-Arginine recycling and endothelial vasomotor function. **R. Chennupati, M. Meens, B. Janssen, W.H. Lamers, J. De Mey and S.E. Koehler.** Maastricht Univ., Netherlands.
- B119 **671.4** Activated protein C promotes endothelial barrier protection through biased PAR1 signaling mediated by  $\beta$ -arrestin and dishevelled-2 scaffolds. **U.J.K. Soh and J. Trejo.** UCSD Sch. of Med.
- B120 **671.5** Nitric oxide synthase knockout modulates Ca<sup>2+</sup>-sensing receptor expression and signaling in mesenteric arteries. **E.M. Awumey, L.E. Bridges, C.L. Williams and D.I. Diz.** North Carolina Central Univ. and Wake Forest Univ. Sch. of Med.
- B121 **671.6** A phosphodiesterase 3B-based signaling complex integrates exchange protein activated by cAMP 1 and phosphatidylinositol 3-kinase signals in human arterial endothelial cells. **D.H. Maurice.** Queen's Univ., Canada.
- B122 **671.7** Calcium sensitization underlies endothelium-dependent hypoxic augmentation in the porcine coronary artery. **P.M. Vanhoutte and C.K. Chan.** Univ. of Hong Kong and Chonbuk Natl. Univ., South Korea.
- B123 **671.8** Kinins and kinin receptors in pulmonary vasoconstriction and vascular remodeling. **F.K. Kuhr, A.M. Zimnicka, R.A. Skidgel, J.W. Christman, J.X-J. Yuan and I. Levitan.** Univ. of Illinois at Chicago.
- B124 **671.9** Role of adaptor protein IQGAP1 in regulating endothelial permeability of lung vessels. **A.N. Garcia, Y. Komarova, S.M. Vogel, X-p. Gao and A.B. Malik.** Univ. of Illinois at Chicago.
- B125 **671.10** miR-150 prevents pulmonary inflammation by regulating interleukin-1R associated kinase-2 downstream of focal adhesion kinase. **C. Rajput, M. Tauseef, P. Yazbeck, T. Thennes and D. Mehta.** Univ. of Illinois at Chicago.

## 672. PHARMACOLOGY OF NEUROPROTECTION

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B126 **672.1** Date palm fruits grown in Oman ameliorate amyloid beta protein-induced cytotoxicity. **M.E. Musthafa, S. Al-Adawi, A. Al-Asmi, R. Vaishnav, G.J. Gilles and N. Ramachandiran.** Sultan Qaboos Univ., Oman and Univ. of New South Wales.
- B127 **672.2** Brain-derived neurotrophic factor mediates the neuro-protective effects of estrone after brain injury. **J.W. Gatson, J. Simpkins, J. Wigginton, M-M. Liu, S. Wolf and J. Minei.** Univ. of Texas Southwestern Med. Ctr. and Univ. of North Texas Hlth. Sci. Ctr.
- B128 **672.3** Protection by a transdermal patch system for the prophylaxis against soman poisoning in rhesus monkey. **Y. Cho.** Agcy. for Defense Develop., Taejon, South Korea.
- B129 **672.4** Endoplasmic reticulum stress inhibition via S-methyl-N, N-diethylthiocarbamate sulfoxide (DETC-MeSo) in focal cerebral artery occlusion in rat. **P. MohammadGharibani, J. Modi, J. Menzi, H. Prentice, R. Tao and J.Y. Wu.** Florida Atlantic Univ.
- B130 **672.5** Anti-oxidant and anti-apoptotic effects of fisetin in MPTP-induced PC12 cells. **K.E. Benzeroual and M. Patel.** Long Island Univ.
- B131 **672.6** In vitro neuroprotective activity of phenibut. **D. Huynh, C.S. Wai, A. Liang, T.J. Maher and A. Pino-Figueroa.** Massachusetts Col. of Pharm. and Hlth. Sci.
- B132 **672.7** A novel neuroprotective curcuminoid alleviates glucose intolerance and improves insulin signaling. **E. Panzhinskiy, P.A. Lapchak, J. Ren and N. Sreejayan.** Sch. of Pharm., Univ. of Wyoming and Cedars-Sinai Med. Ctr.
- B133 **672.8** Atomic force microscopy study of ECM-integrin modulation of neuroplasticity in the hippocampal dentate granule cells in epilepsy. **X. Wu, M. Muthuchamy and D.S. Reddy.** Texas A&M Hlth. Sci. Ctr. Col. of Med., Bryan.

## 673. MECHANISMS OF GENE EXPRESSION

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B134 **673.1** Selective induction of CYP3A4-dependent vitamin D catabolism via pregnane X receptor in human hepatocytes and healthy volunteers. **Z. Wang, Y.S. Lin, E-J. Poulton, L.J. Dickmann, J.W. Lampe, D.L. Eaton and K.E. Thummel.** Univ. of Washington and Amgen, Seattle.
- B135 **673.2** A major constituent from *Zanthoxylum nitidum*, compound X, is a naturally occurring antagonist of the human and rat pregnane X receptor. **C-Y. Ma and Y-P. Lim.** China Med. Univ., Taiwan.
- B136 **673.3** p38 MAPK signaling determines CAR-mediated activation of the CYP2B genes by xenobiotics. **K. Saito, R. Moore and M. Negishi.** NIEHS/NIH, Research Triangle Park.

- B137 **673.4** Selective activation of human pregnane X receptor, glucocorticoid receptor, and constitutive androstane receptor by individual ginkgolides. **A.J. Lau, G. Yang and T.K.H. Chang.** Univ. of British Columbia.
- B138 **673.5** The orphan receptor/corepressor DAX-1 modulates human CAR transcriptional activity. **E.M. Laurenzana, T. Chen, B. Sell, M. Kannuswamy, Y. Li and C.J. Omiecinski.** Penn State and Univ. of Pittsburgh.
- B139 **673.6** Silencing the estrogen receptor promoter using DIF-1, a naturally occurring differentiation molecule of the cellular slime mold *Dictyostelium discoideum*. **M. Bratton, W. Stutts, A. Pandey, M. Burow and J. McLachlan.** Tulane Univ. Sch. of Med. and Univ. of Florida.
- B140 **673.7** Selective estrogen-receptor modulators genistein, resveratrol, and catechin fail to stimulate the hepatic expression of estrogen-responsive genes encoding the avian apolipoprotein II and vitellogenin. **V.D. Bhatt, K. Chaudhary, A. Bin Ariff, R. Boggeti and W.N. Ratna.** Arnold & Marie Schwartz Col. of Pharm., Long Island Univ.
- B141 **673.8** An active extract of *Ulmus pumila* inhibits adipogenesis by inducing cell cycle arrest in 3T3L1 cells. **C. Ghosh, H-Y. Chung, R.M. Nandre, I-S. Kim, S.H. Yang and S-G. Hwang.** Hankyong Natl. Univ., Chonbuk Natl. Univ., Konkuk Univ. and Natl. Inst. of Animal Sci., South Korea.
- B142 **673.9** Retinoic acid related orphan nuclear receptor  $\alpha$  induces cholesterol 12 $\alpha$  hydroxylase (CYP8B1) gene transcription. **P.S. Pathak, T. Li and J.Y.L. Chiang.** Northeast Ohio Med. Univ.
- B143 **673.10** Downregulation of 3-hydroxy-3-methyl glutaryl coenzyme-A reductase in HEPG2 cells using shRNA. **K.J. Shah, K. Patel, V.D. Bhatt, R. Boggeti and W.N. Ratna.** Arnold & Marie Schwartz Col. of Pharm., Long Island Univ.
- B144 **673.11** Regulation of SULT1C2 expression by endogenous isoprenoids in primary cultured rat hepatocytes. **Z. Duniec-Dmuchowski, A.A. Dombkowski, T.A. Kocarek and M. Runge-Morris.** Wayne State Univ.
- B145 **673.12** Effects of T- and B-cell deficiency on regulation of hepatic P450 enzymes in mice infected with an intestinal pathogen. **E.T. Morgan, W.J. Watkins, R.D. Kinloch and B.A. Nyagode.** Emory Univ.
- B146 **673.13** Changes in liver metabolic gene expression after radiation exposure. **V.E. Wotring and C.P. Peters.** NASA Johnson Space Ctr. and Bethel Univ., MN.
- B147 **673.14** The role of p300-HAT in promoter-associated histone acetylation and regulation of FasL gene expression in ethanol treated CD4<sup>+</sup> T lymphocytes. **S. Ghare, M. Patil, S. Joshi-Barve, C. McClain and S. Barve.** Univ. of Louisville and Louisville VA Med. Ctr.
- B148 **673.15** Histone deacetylation is the primary epigenetic mechanism for silencing of tumor suppressor gene-tissue factor pathway inhibitor-2 in hepatocellular carcinoma cells. **A. Moghe, D. Barker, S. Ghare, L. Gobejishvili, S. Joshi-Barve, A. Barve, C. McClain and S. Barve.** Univ. of Louisville.
- B149 **673.16** The role of alternative polyadenylation in mediating stress-induced protein expression of Hsp70.3. **M. Tranter, M. McGuinness, R.N. Helsley, W.R. Paulding, C. Brokamp, L. Haar, X. Ren and W.K. Jones.** Univ. of Cincinnati and Xavier Univ., OH.
- B150 **673.17** *Lactobacillus rhamnosus* GG treatment potentiates intestinal hypoxia-inducible factor, promotes intestinal integrity, prevents inflammation, and ameliorates alcohol-induced liver injury. **Y. Wang, Y. Liu, I. Kirpich, C. McClain and W. Feng.** Univ. of Louisville.
- B151 **673.18** Hypoxia-induced lipid accumulation involves a HIF- $\alpha$  independent, oxidative stress-mediated regulation of FGF-21 in HepG2 cells. **Y. Liu, Y. Wang, C.J. McClain and W. Feng.** Univ. of Louisville.

## 674. DEVELOPMENTAL PHARMACOLOGY/ TOXICOLOGY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

Presentation time: 12:30 PM-2:45 PM

- B152 **674.1** The African clawed frog (*Xenopus laevis*) is sensitive to pyrene exposure during early development. **D.B. Snoko, K.E. Rosato, E.M. Richardson and S.L. Whittemore.** Keene State Col., NH.
- B153 **674.2** Dichloroacetonitrile induces protein modifications in cortical astrocyte cell line CTX-TNA2 and alterations in fetal mouse brain. **A. Esmat, A.E. Khalifa, E. El-Demerdash, A.B. Abdel-naim, M.A. El-Mahdy and J.L. Zweier.** The Ohio State Univ., Fac. of Pharm., Ain Shams Univ., Egypt.
- B154 **674.3** Distinct generation, pharmacology, and distribution of sphingosine 1-phosphate and dihydro-sphingosine 1-phosphate in human neural progenitor cells. **P. Callihan, N.C. Zitomer, M.V. Stoeling, P.C. Kennedy, K.R. Lynch, R.T. Riley and S.B. Hooks.** Univ. of Georgia, USDA, Athens and Univ. of Virginia.
- B155 **674.4** Organophosphate pesticide exposure affects zebrafish developmental physiology. **H. Garcia, N. Hole, F. Radoniqi, H. Schmidt, G. Orona and E.A. Fradinger.** Whittier Col., CA.
- B156 **674.5** Synergistic effect of cysteinyl leukotriene receptor antagonist and H-1 receptor antagonist in acute and chronic guinea pig asthma models. **R. Alluri, K.V. Routhu, M. Nadendla and H. Emandi.** Vishnu Inst. of Pharmaceut. Educ. and Res., Incozen Therapeut. pvt Ltd., Hyderabad, Shri Vishnu Col. of Pharm. and Shadan Women's Col. of Pharm., India.
- B157 **674.6** Changes in the expression and function of beta-adrenergic receptors subtypes in the rat aorta during development. **O.A. Lopez-Canales, H. Vargas-Robles, M. Arellano-Mendoza, J. Lopez-Canales, M.C. Castillo-Hernandez, G. Guevara-Balcazar and B. Escalante-Acosta.** Sch. of Med. and Cinvestav, IPN and Natl. Inst. of Perinatol., Mexico City.

# Physiology

## 675. MICROVASCULAR MOLECULAR BIOLOGY/ GENETIC APPROACHES

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D1 I **675.1** The effects of circulating angiotensin II levels on vascular gene expression in normotensive rats. **J. Priestley, K. Fredrich, A. Beyer and J.H. Lombard.** Med. Col. of Wisconsin.

## 676. MICROVASCULAR CELL SIGNALING PATHWAYS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D2 I **676.1** Decreased telomerase activity converts the mechanism of FND from NO to H<sub>2</sub>O<sub>2</sub> in human and mouse arterioles. **A.M. Beyer and D.D. Gutterman.** Med. Col. of Wisconsin.

D3 II **676.2** The impact of arterial network structure on electrical communication. **C.H.T. Tran, E.J. Vigmond, D. Goldman and D.G. Welsh.** Univ. of Calgary, Canada and Univ. of Western Ontario.

D4 I **676.3** Applicability of cable theory to vascular conducted responses. **B.O. Hald, L.J. Jensen, P.G. Sørensen, N-H. Holstein-Rathlou and J-C.B. Jacobsen.** Univ. of Copenhagen.

D5 II **676.4** Calcium sparks, BK and SK channels regulate myogenic tone in the gerbil spiral modiolar artery. **G. Krishnamoorthy, K. Reimann and P. Wangemann.** Kansas State Univ.

D6 I **676.5** Identification of voltage-activated calcium currents in renal afferent and efferent arterioles of the rat. **S.V. Smirnov, K. Loutzenhiser and R. Loutzenhiser.** Univ. of Bath, U.K. and Univ. of Calgary, Canada.

D7 II **676.6** A novel approach for imaging calcium events simultaneously in arteriolar vascular smooth muscle and endothelial cells. **P. Bagher, C.J. Garland and K.A. Dora.** Univ. of Oxford.

D8 I **676.7** A functional role for N-cadherin in mediating mechanotransduction in arteriolar vascular smooth muscle cells. **Z. Sun, Z. Li and G.A. Meininger.** Univ. of Missouri-Columbia.

D9 II **676.8** The vascular renin angiotensin system contributes to endothelial dysfunction induced by acute high pressure in human adipose microvessels. **M.J. Durand, S.A. Phillips and D.D. Gutterman.** Med. Col. of Wisconsin and Univ. of Illinois at Chicago.

D10 I **676.9** Neurovascular unit regulation by adenosine triphosphate. **H.H. Dietrich.** Washington Univ.

D11 II **676.10** Expression of pannexin isoforms in the murine arterial network. **A.W. Lohman, M. Billaud, A.C. Straub, A.K. Best, M. Lee, K. Barr, S. Penuela, D. Laird and B.E. Isakson.** Univ. of Virginia and Univ. of Western Ontario.

D12 I **676.11** Cilostazol, a phosphodiesterase 3 inhibitor, enhances prostacyclin receptor-mediated cAMP accumulation and ATP release in erythrocytes of healthy humans and humans with type 2 diabetes. **S. Knebel, E.A. Bowles, R.S. Sprague and A.H. Stephenson.** Saint Louis Univ.

D13 II **676.12** The role of protease-activated receptor-4 in vascular smooth muscle cell migration and proliferation. **T. Epperson, D. Weekes, L. Tillery, J. Mantey, A. Austin and E. Motley-Johnson.** Meharry Med. Col.

D14 I **676.13** Critical role of transglutaminase 2 in endothelial cell inflammation and lung PMN sequestration. **K.M. Bijli, B.G. Kanter, L. Xu, F. Fazal and A. Rahman.** Univ. of Rochester Med. Ctr.

D15 II **676.14** Role of endothelial Ca<sup>2+</sup> in LPS-induced ICAM-1 expression in lung microvessels. **K. Kandasamy and K. Parthasarathi.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.

D16 I **676.15** HIV Tat induces expression of ICAM-1 in human umbilical vein endothelial cells: implications for HIV-associated cardiomyopathy. **H. Yao, M. Duan, A.K. Lund and S. Buch.** Univ. of Nebraska Med. Ctr. and Lovelace Resp. Res. Inst., Albuquerque.

D17 II **676.16** Antagonism between PKA and Epac signaling is involved in the regulation of PGE<sub>2</sub>-induced ICAM-1 expression in bEnd.3 cells. **T.Y. Park, K.M. Lee, J.M. Kim, Y-S. Jung, E.J. Baik, C-H. Moon and S.H. Lee.** Sch. of Med., Ajou Univ., South Korea.

D18 I **676.17** S-nitrosylation of  $\beta$ -catenin and p-120 catenin: a novel regulatory mechanism in endothelial hyperpermeability. **P. Zamorano, N. Marin, R. Carrasco, M. Boric, W.N. Durán and F.A. Sánchez.** Southern Univ. of Chile, Valdivia, Catholic Univ. of Chile and UMDNJ-New Jersey Med. Sch.

D19 II **676.18** Modulation of S-nitrosation by thioredoxin regulates endothelial permeability. **P.E. Mujica, F.G. González and W.N. Durán.** UMDNJ-New Jersey Med. Sch. and UMDNJ- Grad. Sch. of Biomed. Sci.

D20 I **676.19** Epac/Rap1-regulated deactivation of PAF-induced hyperpermeability is independent of eNOS activation. **J. Zhang, R.J. Rana, R.G. Duran, D. Kim and W.N. Duran.** UMDNJ, Newark.

## 677. LYMPHATIC AND VENULAR FUNCTION

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D21 I **677.1** Long-term effects of indocyanine green on lymphatic pump function. **M. Weiler and J.B. Dixon.** Georgia Tech.

D22 II **677.2** Lymphatic valve lock in response to modest gravitational loads: a contributing mechanism to peripheral lymphedema? **M.J. Davis, J.E. Moore, Jr., D.C. Zawieja, A.A. Gahsev and J.P. Scallan.** Univ. of Missouri-Columbia, Texas A&M Univ. and Texas A&M Hlth. Sci. Ctr., Temple.

- D23 I 677.3 Sustained high luminal flow in vivo decreases maximal developed tension of bovine mesenteric lymphatic vessels. **T.L. Nguyen, R.M. Dongaonkar, J. Hardy, G.A. Laine, C.M. Quick and R.H. Stewart.** Texas A&M Univ.
- D24 II 677.4 Interplay between NO, prostaglandins and  $K_{ATP}$  channels in the lymphatic pumping dysfunction observed during experimental intestinal inflammation. **P-Y. von der Weid, R. Mathias and S. Rehal.** Univ. of Calgary, Canada.
- D25 I 677.5  $Ca^{2+}$ -related proteins associated with intracellular stores in rat lymphatics. **Z.V. Nepiyushchikh, E.A. Bridenbaugh, M. Muthuchamy, P-Y. von der Weid and D.C. Zawieja.** Texas A&M Hlth. Sci. Ctr. Col. of Med., Temple and Univ. of Calgary, Canada.
- D26 II 677.6 TNF- $\alpha$  mediated regulation of myosin light chain 20 phosphorylation in lymphatic muscle. **S.D. Zawieja, X. Wu, S. Chakraborty and M. Muthuchamy.** Texas A&M Hlth. Sci. Ctr., Temple and College Station.
- D27 I 677.7 Rho kinase-mediated calcium sensitization in tonic and phasic contractions of mesenteric collecting lymphatic vessels. **K.M. Kurtz, F.M. Souza-Smith and J.W. Breslin.** LSU Hlth. Sci. Ctr., New Orleans.
- D28 II 677.8 Reduced RhoA activity mediates the acute alcohol intoxication-induced reduction of lymphatic myogenic constriction independently of cytosolic  $[Ca^{2+}]$ . **F.M. Souza-Smith, K.K. Kurtz and J.W. Breslin.** LSU Hlth. Sci. Ctr., New Orleans.
- D29 I 677.9 Histological characteristics of mouse diaphragm lymphatics and their functional significance. **W. Wang, D.C. Zawieja and D. Negrini.** Texas A&M Hlth. Sci. Ctr., Temple and Univ. of Insubria, Italy.
- D30 II 677.10 Mast cells in proximity of adult and aged mesenteric lymphatic vessels. **V. Chatterjee and A.A. Gashev.** Texas A&M Hlth. Sci. Ctr., Temple.
- D31 I 677.11 Increased lymphatic permeability during shock and burn trauma alters antigen presenting cell recruitment to mesenteric lymph vessels. **W.E. Cromer, S. Zawieja, H. Stagg, F.A. Hunter, B. Tharakan, C. Meininger, E. Childs and D. Zawieja.** Texas A&M Hlth. Sci. Ctr., Temple.
- D32 II 677.12 Temporal relationship between inflammation-induced lymphangiogenesis and angiogenesis in rat mesenteric microvascular networks. **R.S. Sweat, P.C. Stapor and W.L. Murfee.** Tulane Univ.
- D33 I 677.13 Placental growth factor is a potent dilator of uterine and mesenteric veins isolated from pregnant rats. **M. Mandala, S. Kostin and G. Osol.** Univ. of Vermont and Univ. of Calabria, Italy.
- D36 I 678.3 PKC activation impairs endothelium-dependent NO-mediated dilation of coronary arterioles via enhanced superoxide production from xanthine oxidase. **N. Thengchaisri, Y. Ren, T.W. Hein and L. Kuo.** Texas A&M Hlth. Sci. Ctr., Temple and Kasetsart Univ., Thailand.
- D37 II 678.4 Diabetes induces endothelial dysfunction: role of eNOS uncoupling and arginase. **N. Thengchaisri, T.W. Hein and L. Kuo.** Texas A&M Hlth. Sci. Ctr., Temple and Kasetsart Univ., Thailand.
- D38 I 678.5 Ethanol preconditioning protects against ischemia/reperfusion-induced cardiac damage via calcitonin gene-related peptide and is initiated by a transient receptor potential vanilloid 1-dependent mechanism. **M. Wang, M.Y. Zuidema and R.J. Korthuis.** Univ. of Missouri-Columbia.
- D39 II 678.6 Ischemia-induced mobilization of lysosomal iron predisposes rat hepatocytes to ischemia-reperfusion injury. **X. Zhang, J. Schwartz and J. Lemasters.** Med. Univ. of South Carolina.
- D40 I 678.7 Effects of endogenously and exogenously elevated bilirubin on myocardial ischaemia reperfusion injury. **B. Bakrania and A. Bulmer.** Griffith Univ., Australia.
- D41 II 678.8 Effects of NADPH oxidase inhibitor apocynin on real-time blood hydrogen peroxide release in femoral artery/vein ischemia and reperfusion. **C.W. Parker, K.D. Bartol, K-A. Perkins, Q. Chen and L.H. Young.** Philadelphia Col. of Osteo. Med.
- D42 I 678.9 Exercise training during human obesity protects against impaired microvascular function after acute exertion by enhancing hydrogen peroxide-mediated flow-induced dilation. **J-T. Bian, L. Yue, N.C. Franklin, T. Mazzone and S.A. Phillips.** Univ. of Illinois at Chicago and NorthShore Univ. Hlth. Syst., Evanston.
- D43 II 678.10 Reactive oxygen species from NADPH and xanthine oxidase modulate the cutaneous local heating response in chronic fatigue syndrome. **M.S. Medow, A. Aggarwal, I. Baugham, Z. Messer and J.M. Stewart.** New York Med. Col., Hawthorne and Valhalla.
- D44 I 678.11 Resolving inflammation in stroke through FPR2/ALX. **H.K. Smith and F. Gavins.** Imperial Col. London.
- D45 II 678.12 Forty five minutes of ischemia and 24 hours of reperfusion in the Wistar rat induce an acute pre-renal injury which is not improved by 4 days of pre-ischemia treatment with spironolactone. **D.M. Montes Acuña, J.F. López-Rodríguez, M.Z. Calvo-Turrubiartes, N.L. Dávila Varela, L. LLamazares-Azuara and M. Rodríguez-Martínez.** Sch. of Med. Autonomous Univ. of San Luis Potosi, Mexico.
- D46 I 678.13 Molecular mechanisms underlying netrin-1 postconditioning induced cardioprotection against ischemia-reperfusion injury. **J.O. Bouhidel and H.L. Cai.** UCLA.
- D47 II 678.14 Effects of HBOC-201 in a porcine model of impending myocardial infarction produced by severe coronary artery stenosis. **M. te Lintel Hekkert, G. Dubé, I. Lankhuizen, E.D. van Deel, V.J. de Beer, D. Merkus, P. Serruys and D.J. Duncker.** Erasmus Med. Ctr., Rotterdam and OPK Biotech, Cambridge, MA.
- D48 I 678.15 Susceptibility of the isolated female rat heart to ischemia-induced ventricular fibrillation varies with estrous cycle stage. **H. Clements-Jewery and A.S. Hatcher.** West Virginia Sch. of Osteo. Med.

## 678. ISCHEMIA-REPERFUSION/FREE RADICAL BIOLOGY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D34 I 678.1 Resistance to multi-organ damage after hemorrhagic shock-induced ischemia/reperfusion in arctic ground squirrels. **L. Bogren, J. Olson, J. Carpluk, J. Moore and K.L. Drew.** Univ. of Alaska Fairbanks.
- D35 II 678.2 Soluble guanylate cyclase activation protects against postischemic inflammation and reduces nitrate tolerance in heme-oxygenase-1 knockout mice. **W.Z. Wang, A. Jones, M. Wang, M.Y. Zuidema, W. Durante and R.J. Korthuis.** Univ. of Missouri-Columbia.

- D49 II **678.16** Mechanism and subpopulation specificity of mitochondrial ROS release in the post-ischemic hyperthyroid myocardium. **A.B. deMooy, C.H. Le, L.V. Harcy and A.J. Chicco.** Colorado State Univ.
- D50 I **678.17** Mitochondrial handling of excess Ca<sup>2+</sup> is substrate-dependent with implications on ROS generation. **M. Aldakkak, D.F. Stowe, R.K. Dash and A.K.S. Camara.** Med. Col. of Wisconsin.
- D51 II **678.18** Resveratrol or 32°C hypothermia applied during reperfusion after cardiac ischemia reduces mitochondrial translocation of p66<sup>shc</sup>. **M. Yang, D.F. Stowe, J.S. Heisner, M. Aldakkak and A.K.S. Camara.** Med. Col. of Wisconsin and VA Med. Ctr.
- D52 I **678.19** Tyrosine nitration of voltage dependent anion channels induced by peroxynitrite alters protein structure and function in vitro. **M. Yang, A.K.S. Camara, W-M. Kwok, Y. Zhou, A.K. Gadicherla and D.F. Stowe.** Med. Col. of Wisconsin and VA Med. Ctr.
- D53 II **678.20** Diabetic genetic background does not influence the isoflurane preconditioning in human cardiomyocytes differentiated from induced pluripotent stem cells derived from a type 1 diabetes patient. **C. Kikuchi, S. Canfield, X. Bai, A. Koopmeiners, W-M. Kwok, R. Schaefer and Z. Bosnjak.** Med. Col. of Wisconsin and Stanford Univ. Sch. of Med.

## 679. INSTRUMENTATION AND LIVE CELL IMAGING

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D54 I **679.1** Nanometer precise vertical localization of single particles with standard fluorescent microscope in biological samples. **A. Marki, E. Ermilov, A. Koller, T.W. Secomb and A. Pries.** Charité Med. Univ., Berlin, Sci. Univ. of Pecs, Hungary and Univ. of Arizona.
- D55 II **679.2** Collateral artery blood flow measurements made in the mouse ischemic hindlimb model using deep laser speckle imaging. **J. Niu, S. Sumer, J.K. Meisner and R.J. Price.** Univ. of Virginia.
- D56 I **679.3** Single photon emission computed tomography imaging agents for formyl peptide receptors 1 and 2. **G.J. Stasiuk, N. Long and F. Gavins.** Imperial Col. London.
- D57 II **679.4** Superficial nephrons in BALB/c mice facilitate in vivo multiphoton imaging. **I. Schiessl and H. Castrop.** Univ. of Regensburg, Germany.
- D59 II **680.2** Novel inhibition of monocyte attachment to endothelial cells involves hypersulfated heparan sulfate. **M. Ali and S.A. Phillips.** Univ. of Illinois at Chicago.
- D60 I **680.3** Impact of the EphrinB/EphB system on pro-inflammatory monocyte-endothelial cell interaction. **H. Liu, J. Braun, M. Hecker and T. Korff.** Univ. of Heidelberg and German Cancer Res. Ctr., Heidelberg.
- D61 II **680.4** Estrogen antagonizes LPS-induced monocyte adhesion to endothelial cells. **A. Holm and B-O. Nilsson.** Lund Univ., Sweden.
- D62 I **680.5** Estrogen regulation of monocyte and endothelial cell adhesion. **N. Czapp and M.P. McGuinness.** Philadelphia Col. of Osteo. Med.
- D63 II **680.6** Novel aspects of leukocyte trafficking. **F. Gavins, E. Hughes and J. Buckingham.** Imperial Col. London.
- D64 I **680.7** Leukocyte mechanosensitivity to fluid shear stress depends on the subtypes of CD18 integrins. **X. Zhang, D. Zhan and H.Y. Shin.** Univ. of Kentucky.
- D65 II **680.8** Syndecan-1 modulates leukocyte adhesion in the murine parietal peritoneum microcirculation in response to *Staphylococcus aureus* lipoteichoic acid. **P. Kowalewska and A.E. Fox-Robichaud.** McMaster Univ., Canada.
- D66 I **680.9** Effects of fluids on the liver microcirculation and cell-free DNA in sepsis. **A.L. Patrick, D. Dwivedi, P. Liaw and A.E. Fox-Robichaud.** McMaster Univ. and Thrombosis and Atherosclerosis Res. Inst., Hamilton, Canada.
- D67 II **680.10** Neutrophil sling: a new cell-autonomous adhesive structure enabling rolling at high shear. **P. Sundd, E. Gutierrez, M.K. Pospieszalska, E. Koltsova, Y. Kuwano, S. Fukuda, A. Groisman and K. Ley.** La Jolla Inst. for Allergy and Immunol., UCSD and Univ. of Tokyo.
- D68 I **680.11** Distinct roles for talin-1 and kindlin-3 in LFA-1-dependent neutrophil rolling and arrest. **C. Lefort, J. Rossaint, M. Moser, B.G. Petrich, A. Zarbock, S.J. Monkley, D.R. Critchley, M.H. Ginsberg, R. Fassler and K. Ley.** La Jolla Inst. for Allergy and Immunol., Univ. of Muenster, Max Planck Inst. of Biochem., Martinsried, UCSD and Univ. of Leicester, U.K.
- D69 II **680.12** The effects of modulating eNOS activity and coupling on leukocyte-endothelial interactions in rat mesenteric postcapillary venules. **A. Koon, M. Kern, L.H. Young, B. Rueter, E. Iames and Q. Chen.** Philadelphia Col. of Osteo. Med.
- D70 I **680.13** Fasting glucose level differences modulate cell surface expression of CD11b and CD66b in granulocytes and monocytes in type II diabetic subjects. **P. Horvath, S.R. Oliver, G. Ganesan, F. Zaldivar, Jr., S. Radom-Aizik and P.R. Galassetti.** Univ. of California, Irvine.
- D71 II **680.14** Determination of prorenin/renin receptor expression on immune cells in an experimental model of preeclampsia in rats. **E. Sanchez-Guerrero, O. Rodriguez-Cortes, M.E. Hernandez-Campos, L. Anguiano-Robledo and P. Lopez-Sanchez.** Med. Sch.-IPN, Mexico City.
- D72 I **680.15** Blood cell-associated angiotensin II type-1 receptors and gp91<sup>phox</sup> mediate the inflammatory and thrombogenic responses elicited by chronic angiotensin II administration. **A. Yildirim and D.N. Granger.** LSU Hlth. Shreveport.
- D73 II **680.16** High fat feeding leads to inflammation and depressed markers of immune system reactivity in rats. **T. Liss, R.A. Reiss and K.L. Sweazea.** Arizona State Univ., Tempe and New Mexico Inst. of Mining and Technol.

## 680. INFLAMMATION/LEUKOCYTE-ENDOTHELIUM INTERACTIONS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D58 I **680.1** Effects of circulating C-reactive protein levels on EPC function. **B. Nissen, K. Fasing, J. Greiner, B. Stauffer and C. DeSouza.** Univ. of Colorado Boulder.



- D74 **I** **680.17** Blunting of endothelium dependent dilation in adipose tissue arteries by tumor necrosis factor alpha is lost after high fat feeding. **J.P. McCullagh, G.D. Henson, A.J. Donato and L.A. Lesniewski.** Univ. of Utah and VA Salt Lake City Hlth. Care Syst.
- D75 **II** **680.18** Thermal burn injury induced myeloperoxidase changes in murine obesity model. **R.V. Papineni, S. Orton, D. Vizard and B. Geldolph.** Carestream Hlth. Inc., Woodbridge, CT.
- D76 **I** **680.19** Mucosal repair after tissue injury requires innate immune mediated neutrophil and macrophage recruitment via IL-6 and MIP-2 induction by symbiotic commensal bacteria. **D. Meng, W. Zhu and N. Nanthakumar.** Harvard Med. Sch. and Massachusetts Gen. Hosp. for Children.
- D77 **II** **680.20** Effect of N-acetyl-seryl-aspartyl-lysyl-proline (Ac-SDKP) on intercellular adhesion molecule 1 and pro-inflammatory cytokines and chemokines in experimental autoimmune myocarditis. **P. Nakagawa, N-E. Rhaleb, X. Chen, T-D. Liao, D.M. Smolarek, X-P. Yang, Y-H. Liu and O.A. Carretero.** Henry Ford Hosp.
- D78 **I** **680.21** Stabilin-1 protects against adverse inflammation and injury during viral myocarditis. **A-P. Papageorgiou, P. Carai, W. Verhesen, S. Velthuis, E. Lutgens, N. van Rooijen, M. Swinnen, J. Kzhyshkowska, P. Carmeliet and S. Heymans.** Maastricht Univ., Netherlands, Free Univ. Amsterdam, KULeuven, Belgium, Heidelberg Univ., Germany and VIB Vesalius Res. Ctr., Leuven.
- D79 **II** **680.22** Insulin ameliorates myocardial inflammation and promotes recovery of T cell in murine experimental autoimmune myocarditis. **Y. Zhang, R. Zhuang, C. Geng, N. Tian, X. Cai, W. Lei and F. Gao.** Fourth Military Med. Univ., China.
- D80 **I** **680.23** The melanocortin receptor system in mediating anti-inflammatory protection following cerebral ischemia reperfusion injury. **P.M. Holloway, S.J. Getting and F. Gavins.** Imperial Col. London and Westminster Univ.
- D81 **II** **680.24** Long-term tissue integration of porous biopolymers as a material platform for metabolic biosensor. **T. Schroeder, N. Wisniewski, A. Boico, N. Le, E. Cho, K. Helton, R. Gant and B. Klitzman.** Duke Univ. Med. Ctr. and Profusa Inc., Cupertino, CA.

## 681. ATHEROSCLEROSIS/THROMBOSIS/PLATELETS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D82 **I** **681.1** Atherosclerosis development is differentially regulated in whole genome versus bone marrow-derived haploinsufficient NFAT5/ApoE null mice. **J.A. Halterman, H.M. Kwon and B.R. Wamhoff.** Univ. of Virginia and Univ. of Maryland Baltimore.
- D83 **II** **681.2** Reduced LDL oxidation is secondary to protection from in vivo thiol oxidation and hypocholesterolemia in Gilbert's syndrome. **A.C. Bulmer, A-C. Boon, C. Hawkins, K. Bisht, J. Coombes and K-H. Wagner.** Sch. of Med. Sci., Griffith Univ., Heart Res. Inst., Newtown and Sch. of Human Mvmt., Univ. of Queensland, Australia and Univ. of Vienna.
- D84 **I** **681.3** Enhancement of autophagy by simvastatin through inhibition of Rac1-mTOR signaling pathway. **Y-M. Wei, Y. Zhang, X-X. Li, M. Xu and P-L. Li.** Virginia Commonwealth Univ.
- D85 **II** **681.4** Enhanced membrane raft-redox signaling associated with NADPH oxidase in coronary arterial endothelium during hypercholesterolemia. **Y-M. Wei, Y. Zhang, K. Boini and P-L. Li.** Virginia Commonwealth Univ.
- D86 **I** **681.5** Simvastatin improves cardiovascular sympathetic modulation and endothelial function of resistance arteries from hypercholesterolemic mice. **I.C. Moraes-Silva, L.E. Souza, L.V. Rossoni and M.C. Irigoyen.** Univ. of São Paulo Med. Sch. and Univ. of São Paulo.
- D87 **II** **681.6** Local adiponectin production in skeletal muscle resistance arteries: effects of exercise and shear stress. **G.H. Sapp, B. Chen, A.N. Gurovich and J.M. Muller-Delp.** Univ. of Florida.
- D88 **I** **681.7** SM22 $\alpha$  phosphorylation: a novel mechanism of activation of PKC $\delta$ -p47<sup>phox</sup> axis and ROS production in VSMCs. **L. Pin and H. Mei.** Hebei Med. Univ., China.
- D89 **II** **681.8** Subendothelial pericytes in the intima of venous bypass grafts catalyze thromboembolic and atherosclerotic processes. **S. Nees, B. Gansera and G. Juchem.** Univ. of Munich and Hosp. Bogenhausen, Munich.
- D90 **I** **681.9** Effects of SOD/PEG and soy flour on insulin sensitivity of blood platelets of atherogenic dieted rabbits. **E.L. Beard, J.C. Mena and A. Van Blaricom.** Loyola Univ. New Orleans.
- D91 **II** **681.10** Normal albumin inhibits histone-induced platelet aggregation. **F.W. Lam, H-C.E. Leung, C.W. Smith and R. Rumbaut.** Baylor Col. of Med. and Michael E. DeBakey VA Med. Ctr.
- D92 **I** **681.11** Extravascular platelets in corneal microvascular inflammation: a potential determinant of recovery from wound injury. **R. Rumbaut, Z. Li, A.R. Burns and C.W. Smith.** Baylor Col. of Med., Michael E. DeBakey VA Med. Ctr. and Univ. of Houston.
- D93 **II** **681.12** Platelet-derived TLR enhances microvascular thrombosis independent of a systemic inflammatory response. **R. Stark, N. Aghakasiri and R. Rumbaut.** Baylor Col. of Med. and Michael E. DeBakey VA Med. Ctr.
- D94 **I** **681.13** Differential role of complement in microvascular thrombosis in two models of experimental sepsis. **R. Stark and R. Rumbaut.** Baylor Col. of Med. and Michael E. DeBakey VA Med. Ctr.
- D95 **II** **681.14** T-cell dependent IL-6 signaling mediates angiotensin II-enhanced microvascular thrombosis. **E.Y. Senchenkova and D.N. Granger.** LSU Hlth. Sci. Ctr., Shreveport.
- D96 **I** **681.15** Thrombotic and thrombolytic factors in human plasma with aging. **K.A. Field, E.P. Murray and M.F. Field.** Sch. of Gerontol., Univ. of Southern California and Saint Mary's Col. of California.
- D97 **II** **681.16** Seasonal variation in thrombotic and thrombolytic factors in human plasma. **E.P. Murray, K.A. Field and M.F. Field.** Saint Mary's Col. of California and Univ. of Southern California.
- D98 **I** **681.17** Mannose-binding lectin concentrations correlate with enhanced whole blood aggregation and thrombin-like activity in humans. **E. McClure, L.R. La Bonte and G.L. Stahl.** Juniata Col., PA and Brigham and Women's Hosp.
- D99 **II** **681.18** Non-thrombotic and haemocompatible amine-modified graphene is a safer alternative to graphene oxide for biomedical use. **P.P. Kulkarni, S.K. Singh, M.K. Singh, V.K. Sonkar, J.J.A. Grácio and D. Dash.** Banaras Hindu Univ., India and Univ. of Aveiro, Portugal.

## 682. ANGIOGENESIS/MICROVASCULAR REMODELING/INJURY AND REPAIR

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D100 I **682.1** Theoretical simulation of angiogenesis and structural adaptation in microvascular networks. **T.W. Secomb, J.P. Alberding, M.W. Dewhirst and A.R. Pries.** Univ. of Arizona, Duke Univ. Med. Ctr. and Charité - Med. Univ. Berlin.
- D101 II **682.2** Vascular adaptation and network efficiency. **J.A. Tyrrell, C. Kunert, G. Gruionu and L.L. Munn.** Harvard Med. Sch.
- D102 I **682.3** Novel laser microsurgery and imaging techniques for the longitudinal study of structural adaptation of microvascular networks. **G. Gruionu and L.L. Munn.** Massachusetts Gen. Hosp. and Harvard Med. Sch., Charlestown.
- D103 II **682.4** NG2 inhibition decreases endothelial cell sprouting along venules: a novel in situ angiogenesis assay to investigate multicellular interactions. **P.C. Stapor, T. Ahsan and W.L. Murfee.** Tulane Univ.
- D104 I **682.5** The importance of aquaporin 1 for vascular smooth muscle cell migration after vascular injury. **J. Stubbe, S.H. Johansen and B.L. Jensen.** Univ. of Southern Denmark.
- D105 II **682.6** Bone marrow cells are necessary for cerebral microvascular recovery following whole brain radiation therapy in mice. **J.P. Warrington, A. Csiszar, M. Mitschelen, H. Yan, S. Han, D. Sosnowska, T. Gautam, J.A. Farley, Y.W. Lee, Z. Ungvari and W.E. Sonntag.** Univ. of Oklahoma Hlth. Sci. Ctr. and Virginia Tech.
- D106 I **682.7** Chronic hindlimb ischemia induces cortical angiogenesis and increased stiffness in the tibia. **M. Govea, S. Hazelwood and T. Cardinal.** California Poly State Univ., San Luis Obispo.
- D107 II **682.8** Accelerated arteriogenesis in collateral arterial segments exposed to flow reversal after femoral arterial ligation. **J.K. Meisner, S. Sumer, J. Niu, J. Song and R.J. Price.** Univ. of Virginia.
- D108 I **682.9** Early microvessel loss in the metabolic syndrome. **A.G. Goodwill, J. Butcher, R. Brock, I.M. Ofert and J.C. Frisbee.** West Virginia Univ. Hlth. Sci. Ctr.
- D109 II **682.10** Disruption of Nrf2 signaling impairs angiogenic capacity of endothelial cells: implications for microvascular aging. **Z. Ungvari, M.N. Valcarcel-Ares, T. Gautam, J.P. Warrington, L.C. Bailey-Downs, D. Sosnowska, R. de Cabo, W.E. Sonntag and A. Csiszar.** Univ. of Oklahoma Hlth. Sci. Ctr.
- D110 I **682.11** Endothelial signaling of matrix-bound and diffusible VEGF. **E.A. Logsdon, L. Woo and F. Mac Gabhann.** Johns Hopkins Univ.
- D111 II **682.12** Expression of recombinant canine sFlt1 as an experimental anti-angiogenic agent. **L.B. Payne, I.P. Herring and W.R. Huckle.** Virginia Tech.
- D112 I **682.13** Structural microvascular changes as a consequence of cyclophosphamide induced heart failure in rabbits. **M.G.J.T.B. van Lier, D.M.J. Milstein, R. Coronel, J.A. Spaan, M. Siebes and J.P.H.M. van den Wijngaard.** Acad. Med. Ctr., Univ. of Amsterdam.

- D113 II **682.14** Suppression of vascular network formation by human cardiac endothelial cells with low concentrations of doxorubicin is due to the inhibition of endothelial cell proliferation. **E. Konorev and Z. Sun.** Univ. of Hawaii-Hilo Col. of Pharm.
- D114 I **682.15** Imaging of single fluorescent cells for 3-D quantification of neovascularization in ischemic myocardial tissue. **N. Hakimzadeh, P. van Horsen, J.P.H.M. van den Wijngaard, J.J. Piek, J.A.E. Spaan, H.J. Verberne and M. Siebes.** Acad. Med. Ctr., Amsterdam.
- D115 II **682.16** Chronic nicotine aggravates subpressor angiotensin II-induced renal hemodynamics and resistance vessel remodeling. **R.O. Maranon, K. Chandrashekar, A. Lopez-Ruiz, A. Soljancic, I. Arany, R. Liu and L.A. Juncos.** Univ. of Mississippi Med. Ctr.
- D116 I **682.17** The role of K<sub>IR</sub>6.2 in mediating NOX2-derived ROS-dependent neovascularization in response to ischemic injury. **E.A. Browning, K. Yu, N. Hong, A.B. Fisher and S. Chatterjee.** Univ. of Pennsylvania.
- D117 II **682.18** Role of p47<sup>phox</sup> and Nox2 in the promotion and impairment of collateral growth. **M. DiStasi, D. Ingram, S. Miller and J. Unthank.** Indiana Univ., Indianapolis.
- D118 I **682.19** Hypoxia-inducible factor-2 $\alpha$  regulates intestinal inflammation and colon cancer. **Y. Shah and X. Xue.** Univ. of Michigan.

## 683. ANGIOGENESIS AND VASCULAR GROWTH

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D119 I **683.1** Fetal endothelial colony forming cells from pregnancies complicated by intrauterine growth restriction have reduced vasculogenic capacity. **S.L. Bourque, P. Sipos, C. Sibley, P. Baker, S. Davidge and I. Crocker.** Univ. of Alberta and Univ. of Manchester.
- D120 II **683.2** Obesity induced collateral growth impairment: potential role of endothelial activation and leukocyte mobilization/recruitment. **M. DiStasi, G. Campana, M. Ortiz, C. Labarrere, S. Miller, D. Ingram and J. Unthank.** Indiana Univ., Indianapolis and Indiana Univ. Hlth.
- D121 I **683.3** High salt diet suppresses the angiogenic competency of bone marrow-derived mononuclear cells. **J.R. Genthe and A.S. Greene.** Med. Col. of Wisconsin.
- D122 II **683.4** Potency of endothelial progenitor cells compared to bone marrow mononuclear cells in the restoration of angiogenesis. **C.C. Kaczorowski, T.J. Stodola, D.N. Didier and A.S. Greene.** Med. Col. of Wisconsin.
- D123 I **683.5** Perivascular cell dynamics during wrapping-and-tapping anastomosis. **S. Liao, D. Bazou, G. Cheng and L.L. Munn.** Massachusetts Gen. Hosp., Boston.
- D124 II **683.6** The investigation of LPA<sub>4</sub> functions in zebrafish. **Y-n. Lin, S-Y. Kao and H. Lee.** Natl. Taiwan Univ.
- D125 I **683.7** Effect of aerobic exercise on capillary and vascular endothelial growth factor in rat soleus muscle. **S. Murakami, N. Fujita, H. Kondo, M. Tanaka, M. Sakita and H. Fujino.** Himeji Dokkyo Univ., Kobe Univ. Grad. Sch. of Hlth. Sci. and Nagoya Women's Univ., Japan.
- D126 II **683.8** Shear stress upregulates PLGF protein expression in an endothelial cell/vascular smooth muscle cell coculture system. **N.A. Rashdan and P.G. Lloyd.** Oklahoma State Univ.

- D127 I **683.9** 12/15-Lipoxygenase gene knockout severely impairs ischemia-induced angiogenesis due to lack of Rac1 farnesylation. **N.K. Singh, V. Kundumani-Sridharan and G.N. Rao.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- D128 II **683.10** Biomechanical determinants of endothelial sprouting and morphogenesis. **J.W. Song and L.L. Munn.** Massachusetts Gen. Hosp., Harvard Med. Sch., Charlestown.

## 684. BLOOD PRESSURE REGULATION

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D129 I **684.1** Disruption of soluble epoxide hydrolase modulates adenosine-induced response: role of adenosine A2A receptor and cyp-epoxygenases. **M.A. Nayeem, D.C. Zeldin, I. Pradhan, S.J. Mustafa, J.R. Falck, C. Morisseau and A. Marowsky.** West Virginia Univ., NIEHS / NIH, Univ. of Texas Southwestern Med. Ctr., Univ. of California, Davis and Univ. of Zurich.
- D130 II **684.2** Variation in kidney oxygenation: towards long-term recording by telemetry. **M. Koeners, P. Ow, A. Abdelkader, D. Papazova, M.C. Verhaar, R.G. Evans, D.M. Russell, J.A. Joles and S. Malpas.** Univ. of Auckland, Univ. Med. Ctr. Utrecht, Monash Univ., Australia and Telemetry Res. Ltd., Auckland.
- D131 I **684.3** Acute antioxidant therapy restores baroreflex sensitivity in spontaneously hypertensive rats. **D.D. Guimarães, N.M. Oliveira-Monteiro and V.A. Braga.** Fed. Univ. of Paraíba, Brazil.
- D132 II **684.4** Sex-specific effects of type 2 diabetes on autonomic function in coronary artery disease. **A. Kiviniemi, A.J. Hautala, J. Karjalainen, O-P. Piira, S. Lepojärvi, S. Tiinanen, T. Seppänen, O. Ukkola, H.V. Huikuri and M.P. Tulppo.** Verve Res. and Univ. of Oulu, Finland.
- D133 I **684.5** Baroreflex sensitivity is associated with blood pressure transients in young men but not young women. **L.J. Matzek, E.C. Hart, N. Charkoudian, M.J. Joyner, T.B. Curry and J.N. Barnes.** Mayo Clin.
- D134 II **684.6** Phosphoinositide dependent kinase 1 contributes to intermittent hypoxia-induced hypertension. **J.M. Osmond, X.A. DeLeon, B.R. Walker and N.L. Kanagy.** Univ. of New Mexico.
- D135 I **684.7** Ventral and dorsal hippocampus of rats similarly modulate autonomic responses evoked by restraint stress. **A.A. Scopinho, S.F. Lisboa, F.M.A. Corrêa, F.S. Guimarães, L.B.M. Resstel and S.R.L. Joca.** Univ. of São Paulo, Ribeirão Preto.
- D136 II **684.8** Investigating the contribution of the adrenal medulla and sympathetic nerves in the regulation of dexamethasone-induced hypertension. **A.E. Soto-Pina, S. Rani, C. Franklin, C. Hinojosa-Laborde and R. Strong.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio and South Texas Veterans Hlth. Care Syst.
- D137 I **684.9** Interactions between endothelin-1 and sympathetic nerve activity in normotensive humans. **E.C. Hart, M.J. Joyner, B.G. Wallin, T.B. Curry and N. Charkoudian.** Mayo Clin. And Sahlgrenska Acad., Univ. of Goteborg, Sweden.
- D138 II **684.10** Water drinking-induced pressor response in sinoaortic denervated rats. **C. Abe, C. Iwata and H. Morita.** Gifu Univ. Grad. Sch. of Med., Japan.
- D139 I **684.11** Vasopressin levels in patients undergoing pulmonary thromboendarterectomy. **L.C. Nguyen, D. Banks, G. Manecke, J. Shurter, J. Schilling, H. Patel and D.R. Roth.** UCSD.
- D140 II **684.12** Regional blood flow changes underlying the hypotensive action of 5-HT: studies using Doppler and microsphere technologies. **B.M. Seitz, A.M. Dorrance, G.D. Fink and S.W. Watts.** Michigan State Univ.
- D141 I **684.13** Sympathetic neural and hemodynamic responses to upright tilt in elderly African Americans versus Caucasians. **Q. Fu, Y. Okada, M.M. Galbreath, S.S. Jarvis, T.B. Bivens, R.L. Meier and W. Vongpatanasin.** IEEM and Univ. of Texas Southwestern Med. Ctr.
- D142 II **684.14** Gene silencing of HIF prolyl-hydroxylase 2 in the renal medulla attenuated sodium retention in Dahl S rats. **Q. Zhu, M. Liu, W. Han, P-L. Li and N. Li.** Virginia Commonwealth Univ.
- D143 I **684.15** Influence of 24-hour sleep deprivation on anxiety and cardiovascular reactivity in humans. **R.A. Larson, J.J. Durocher, H. Yang, J.P. DellaValla and J.R. Carter.** Michigan Technol. Univ. and Androscoggin Valley Hosp., Berlin, NH.
- D144 II **684.16** Critical cardiac and renal developmental windows for atenolol exposure in embryos of the chicken *Gallus gallus*. **J.J. Rossitto and W. Burggren.** Univ. of North Texas at Denton.
- D145 I **684.17** Hypertension development in ethanol-treated rats could involve baroreflex activity. **A. Lopes da Silva, C.C. Crestani, A.A. Scopinho, F.M.A. Correa, L.L.K. Elias, J. Antunes-Rodrigues and L.B.M. Resstel.** Fac. of Med. of Ribeirão Preto, Univ. of São Paulo.
- D146 II **684.18** Aging induced additional impairment in cardiovascular control in ovariectomized rats. **D.S. Dias, N. Bernardes, C. Barboza, I.C. Sanches, M-C. Irigoyen and K. De Angelis.** São Judas Tadeu Univ., Nove de Julho Univ. and Univ. of São Paulo, Brazil.
- D147 I **684.19** Involvement of the median preoptic nucleus in the arterial blood pressure regulation. **L.L. Silveira, E.F. Silva, R.N. Silva, D.A. Rosa and G.R. Pedrino.** Fed. Univ. of Goiás, Brazil.
- D148 II **684.20** Functional cardiovascular responses precede structural responses to enhanced blood pressure variability. **K.R. Rarick, K.M. Klepper, A.L. Nash, D.L. Rotella and H.M. Stauss.** Univ. of Iowa.
- D149 I **684.21** The role of neurohypophysis in the long-term blood pressure regulation in rats. **A. Quintanar-Stephano, M.C. Contreras-Romo, A. Rodríguez-Peralta, C.R. González-Ruiz, I.G. Reynoso-Andeola, R. Ponce-Gallegos and K. Kovacs.** Autonomous Univ. of Aguascalientes, Mexico and St. Michael's Hosp., Toronto.
- D150 II **684.22** Sensitization of rats with low dose of angiotensin II through multiple signaling pathways in lamina terminalis. **Z. Zhang, B. Xue, F. Guo, T. Beltz and A.K. Johnson.** Univ. of Iowa.
- D151 I **684.23** Impaired blood pressure compensation after hemorrhage in obesity. **L. Xiang, J. Clemmer, S. Lu, L. Lee and R. Hester.** Univ. of Mississippi Med. Ctr.

- D152 II **684.24** An afferent basis for sexual dimorphism in the aortic baroreceptor reflex of rat. **G.S.C. Chavez, B-Y. Li and J.H. Schild.** Indiana Univ.-Purdue Univ. Indianapolis.
- D153 I **684.25** Effects of fresh and aged vehicular particulate emissions on blood pressure in normal adult male rats. **D.P. Lamoureux, E.A. Diaz, B.A. Coull, V. Papapostolou, J. Lawrence, R. Sato and J.J. Godleski.** Harvard Sch. of Publ. Hlth.
- D154 II **684.26** NTS (pro)renin receptor-mediated antihypertensive effect involves NF- $\kappa$ B-cytokine signaling in the spontaneously hypertensive rats. **J. Zubcevic, J.Y. Jun, G. Lamont, T. Murca, P. Shi, J.M. Carvajal, F. Lin, Q. Li, M.K. Raizada and Z. Shan.** Univ. of Florida.
- D155 I **684.27** Impaired baroreflex sensitivity in anabolic steroid users. M.R. dos Santos, R.A. Porello, A.L.C. Sayegh, V. Hong, E. Toschi-Dias, L.A. Bortolotto, M. Yonamine, C.E. Negrao and M-J.N.N. Alves. Univ. of São Paulo Med. Sch., Col. of Pharmaceut. Sci. and Sch. of Phys. Educ. and Sport, Univ. of São Paulo.
- D156 II **684.28** A novel telemeter for chronic measurement of arterial blood pressure or ECG in mice. **M. Lim, D. Russell, B. Pauly, D. McCormick, R. Kirton, M. Kondo, S-J. Guild, S.C. Malpas and D. Budgett.** Telemetry Res. Ltd., Auckland, Univ. of Auckland and Millar Instruments Inc., Houston.
- D157 I **684.29** Exercise increases plasma AICAR (5-amino-4-imidazolecarboxamide riboside) in the horse. **M.A. Robinson, Y. Liu, C.E. Uboh and L.R. Soma.** Sch. of Vet. Med., Univ. of Pennsylvania and West Chester Univ., PA.
- D163 II **685.6** Profound decrease in myogenic tone of parenchymal arterioles in a genetic model of cerebral ischemic small vessel disease. **F. Dabertrand, A.D. Bonev, J.E. Ingalls, J.E. Brayden, A. Joutel and M.T. Nelson.** Col. of Med., Univ. of Vermont and INSERM U740, Fac. of Med. Paris 7.
- D164 I **685.7** Age- and estrogen-dependent changes in cerebrovascular reactivity are mediated by constrictor prostanoids and superoxide. **R.R. Deer, L.M. Perkins and J.N. Stallone.** Col. of Vet. Med., Texas A&M Univ.
- D165 II **685.8** Impaired dynamic cerebral autoregulation in type 2 diabetes patients is associated with elevated oxidative stress. **S.H. Deo, L.C. Vianna, A. Kim, M.C. Zimmerman and P.J. Fadel.** Univ. of Missouri-Columbia and Univ. of Nebraska Med. Ctr.
- D166 I **685.9** Mechanism of neurovascular unit regulation by glutamate. **H.H. Dietrich.** Washington Univ.
- D167 II **685.10** TRPV4 channels tune astrocytic endfoot  $Ca^{2+}$  to optimize neurovascular coupling. **K.M. Dunn, R.L. Baylie and M.T. Nelson.** Univ. of Vermont.
- D168 I **685.11** Increased sensitivity to endothelin-1 in posterior cerebral arteries from obstructive sleep apnea rats. **D.J. Durgan, R.F. Crossland, E.E. Lloyd, S.C. Phillips, S.P. Marrelli and R. Bryan, Jr.** Baylor Col. of Med.
- D169 II **685.12** Organ culture as an in vitro model for the study of dual-specificity phosphatase-5 and myogenic response in rat cerebral arterioles. **D. Gebremedhin, N.T. Wickramasekera and D.R. Harder.** Med. Col. of Wisconsin.
- D170 I **685.13** PLC $_{\gamma 1}$  is required for IP $_3$ -mediated activation of TRPM4 in cerebral artery smooth muscle cells. **A.L. Gonzales, L. Sanders, A.J. McPhaul and S. Earley.** Colorado State Univ.
- D171 II **685.14** Dihydrotestosterone suppresses oxidative stress and improves vascular function following induction of inflammation in the cerebral circulation. **R. Gonzales, R. Techapinyawat and K. Zuloaga.** Univ. of Arizona Col. of Med., Phoenix.
- D172 I **685.15** Cerebral autoregulation in humans: role of the myogenic mechanism. **J.W. Hamner, C.O. Tan and J.A. Taylor.** Spaulding Hosp. Cambridge and Harvard Med. Sch.
- D173 II **685.16** NOX4 upregulation increases superoxide and mitochondrial dysfunction in brain endothelial cells. **J.N. Horne, D.N. Krause, M.F. Kemper, S.P. Duckles and J.H. Weiss.** Univ. of California, Irvine.
- D174 I **685.17** Effect of chronic hypertension on cortical parenchymal arteriole tone and K $^+$  mediated vasodilation. **J. Iddings and J.A. Filosa.** Georgia Hlth. Sci. Univ.
- D175 II **685.18** Aerobic training improves cerebral circulation of normotensive (WKY) and spontaneously hypertensive rats. **M.T. Jordão, M.T. Cavalleri, K. Burgi, A. Ceroni and L.C. Michelini.** Univ. of São Paulo.
- D176 I **685.19** Nitric oxide mediates arachidonic acid and prostaglandin E $_2$ -induced cerebral vasodilation independent of carbon monoxide. **A.J. Kanu and C.W. Leffler.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- D177 II **685.20** The effects of melatonin and/or exercise on proliferation of neural stem cell/progenitor cell in focal cerebral ischemic rats. **M. Lee, S. Lee, Y. Lee and Y.H. Hong.** Grad. Sch. of Inje Univ. and Col. of Biomed. Sci. and Engin., Inje Univ., South Korea.

## 685. CEREBRAL CIRCULATION

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D158 I **685.1** Sympathetic perivascular nerves mediate remodeling effects of chronic hypoxia in fetal sheep cerebral arteries. **O. Adeoye, J. Silpanisong, V. Bouthors, V. Hlebowski, J.M. Williams and W.J. Pearce.** Loma Linda Univ.
- D159 II **685.2** tPA contributes to aggravation of endothelin- and thromboxane-induced cerebrovasoconstriction after hypoxia/ischemia through upregulation of ERK MAPK. **W. Armstead, H. Kaczynski, J. Riley, D. Cines and A. Higazi.** Univ. of Pennsylvania.
- D160 I **685.3** The effects of a 5 second bend over maneuver on cerebral perfusion and autoregulation upon standing from squat. **R.F. Bentley, J.J. Walsh, J.M. Kellawan and M.E. Tschakovsky.** Sch. of Kinesiol. and Hlth. Studies, Queen's Univ., Canada.
- D161 II **685.4** Cerebral vascular blood flow changes during 'brain freeze'. **M.M. Blatt, M. Falvo, J. Jasien, B.M. Deegan, G. ÓLaighin and J. Serrador.** DVA New Jersey Hlth. Care Syst., East Orange, Natl. Univ. of Ireland Galway and Harvard Med. Sch.
- D162 I **685.5** Cerebrovascular oxidative stress and endothelial dysfunction in response to aldosterone is Nox2-mediated. **S. Chrissobolis, F.M. Faraci and C.G. Sobey.** Monash Univ., Australia and Univ. of Iowa.

- D178 I **685.21** The effects of melatonin and/or forced exercise on reorganization of corticospinal tract after focal cerebral ischemia in rats. **S. Lee, M. Lee and Y. Hong.** Grad. Sch. of Inje Univ. and Col. of Biomed. Sci. and Engin., Inje Univ., South Korea.
- D179 II **685.22** Beneficial effects of melatonin combined with exercise on endogenous neural stem/progenitor cells regeneration after spinal cord injury. **Y. Lee, K. Park, S-R. Lee, K-T. Chang and Y. Hong.** Grad. Sch. of Inje Univ., Korea Res. Inst. of Biosci. and Biotechnol., Ochang and Col. of Biomed. Sci. & Engin., Inje Univ., South Korea.
- D180 I **685.23** Role for  $\alpha_v\beta_3$  in the regulation of  $Ca^{2+}$  dynamics and myogenic tone development in rat cerebral arteries. **R. Mufti, S.E. Brett and D.G. Welsh.** Univ. of Calgary, Canada.
- D181 II **685.24** Antioxidant roles of heme oxygenase, carbon monoxide and bilirubin in cerebral circulation during epileptic seizures. **H. Parfenova, C.W. Leffler, S. Basuroy and A.L. Fedinec.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- D182 I **685.25** Smooth muscle cells specific mineralocorticoid deletion does not alter middle cerebral artery structure in mice. **P.W. Pires, A. McCurley, I.Z. Jaffe and A.M. Dorrance.** Michigan State Univ. and Tufts Med. Ctr.
- D183 II **685.26** White matter hyperintensities are associated with surrogate markers of cerebrovascular risk. **L. Raz, K. Kantarci and V.M. Miller.** Mayo Clin.
- D184 I **685.27** Chronic hypoxia differentially modulates age-dependent responses of ovine middle cerebral arteries to VEGF. **J. Silpanisong, M.C. Hubbell and W.J. Pearce.** Loma Linda Univ.
- D185 II **685.28** Defining cerebral autoregulation: is dynamic simply faster static? **C.O. Tan.** Harvard Med. Sch., Cambridge.
- D186 I **685.29** Cerebral autoregulation in humans: role of the cholinergic mechanisms. **C.O. Tan, J.A. Taylor and J.W. Hamner.** Harvard Med. Sch. and Spaulding Hosp., Cambridge.
- D187 II **685.30** High fat diet-induced obesity promotes cerebrovascular autoregulatory dysfunction in aged mice. **P. Toth, Z. Tucsek, L. Bailey-Downs, D. Sosnowska, T. Gautam, W.E. Sonntag, Z. Ungvari and A. Csiszar.** Univ. of Oklahoma Hlth. Sci. Ctr.
- D188 I **685.31** Smaller cerebrovascular arteries have a greater age-related endothelial dysfunction and a blunted response to life-long caloric restriction. **A.E. Walker, J.P. McCullagh, L.A. Lesniewski and A.J. Donato.** Univ. of Utah and VA Med. Ctr.
- D189 II **685.32** Lower body muscle tensing is an effective countermeasure to initial orthostatic hypotension-induced cerebral hypo-perfusion upon standing from a squatted position. **J.J. Walsh, R.F. Bentley, J.M. Kellawan and M.E. Tschakovsky.** Sch. of Kinesiol. and Hlth. Studies, Queen's Univ., Canada.
- D190 I **685.33** Cerebral compliance changes with sympathetic activation during cold pressor test. **J. Witkowski, M. Falvo, M.M. Blatt, J. Jasien, B.M. Deegan, G. ÓLaighin and J. Serrador.** DVA New Jersey Hlth. Care Syst., East Orange, Natl. Univ. of Ireland Galway and Harvard Med. Sch.
- D191 II **685.34** Subarachnoid hemorrhage-linked brain inflammation contributes to arteriolar dilating dysfunction and neuropathology in rats. **H-I. Xu, C. Paisansathan, F. Vetri and D. Pelligrino.** Univ. of Illinois at Chicago.
- D192 I **685.35** Membrane stretch-induced activation of TRPM4 in cerebral artery smooth muscle cells. **Y. Yang, A.L. Gonzales, L. Sanders and S. Earley.** Colorado State Univ.
- D193 II **685.36** Acute effects of conjugate equine estrogen and selective estrogen receptor- $\alpha$  agonist PPT on postischemic pial arteriole response in rats. **E. Zeynalov, L. Ma, N. Rezvani and M.T. Littleton-Kearney.** Grad. Sch. of Nursing, Uniformed Svcs. Univ. of Hlth. Sci.

## 686. DIABETES AND INSULIN RESISTANCE I

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D194 I **686.1** SLC2A2 gene is upregulated in diabetes and downregulated in insulin treatment: participation of HNFs ( $1\alpha$ ,  $3\beta$  and  $4\alpha$ ). **A.D. Silva, H.S. Freitas, D.T. Furuya, A.C. Poletto, R.S. Silva, M.M. Okamoto and U.F. Machado.** Univ. of São Paulo and Fed. Univ. of Alagoas, Brazil.
- D195 II **686.2** SUR2a gene is upregulated in skeletal muscle insulin resistance of obese rats: possible correlation with GLUT4 gene. **M.F. dos Santos Ferreira Marques, R.C. Tiekko Mori, M.M. Okamoto and U.F. Machado.** Univ. of São Paulo.
- D196 I **686.3** Myostatin deletion improves insulin resistance and vascular function in obese mice. **S. Qiu, J. Mintz, C. Salet, E. Belin de Chantemele and D.W. Stepp.** Georgia Hlth. Sci. Univ.
- D197 II **686.4** Soluble epoxide hydrolase deficiency alters pancreatic islet size and improves glucose homeostasis in a model of insulin resistance. **A.R. Luria, A. Bettaieb, Y. Xi, H. Inoue, H-J. Tsai, J.D. Imig, F.G. Haj and B.D. Hammock.** Univ. of California, Davis, Sacramento and Davis and Med. Col. of Wisconsin.
- D198 I **686.5** Roles of a macrophage molecule M-mod in type 2 diabetes. **H. Kitamura, M. Ito, S. Kimura, Y. Shimamoto, T. Miyamoto, H. Watarai, J. Okabe, T. Iwanaga, O. Ohara and I. Miyoshi.** Grad. Sch. of Med. Sci., Nagoya City Univ., RIKEN, Yokohama, Grad. Sch. of Med. Sci., Hokkaido Univ., Sch. of Vet. Med., Kitasato Univ., Japan and Baker IDI Heart and Diabetes Inst., Australia.
- D199 II **686.6** IRE1-alpha signaling can be related to palmitate-induced insulin resistance in I6 myotubes. **P.E. Silva, A.C. Poletto, G.F. Anhe and U.F. Machado.** Univ. of São Paulo.
- D200 I **686.7** In vitro evaluation of anti-diabetic potential of *Piper sarmentosum* Roxb. extract. **C. Krisanapun, Y. Wongkrajang, R. Temsiririkkul, S. Phornchirasilp and P. Peungvicha.** Fac. of Pharm., Srinakharinwirot Univ. and Fac. of Pharm. and Mahidol Univ., Thailand.
- D201 II **686.8** Anti-diabetic effect and acute toxicity of the water extract of *Cyperus rotundus* L. in rats. **C. Krisanapun, Y. Wongkrajang, R. Temsiririkkul, B. Kongsaktragoon and P. Peungvicha.** Srinakharinwirot Univ. and Mahidol Univ., Thailand.
- D202 I **686.9** Antenatal maternal protein deprivation and sexually dimorphic programming of the pancreatic renin-angiotensin system. **R. Goyal, C. Wong and L.D. Longo.** Loma Linda Univ.

- D203 II **686.10** Insulin-induced hypertension in streptozotocin-induced diabetic mice involves  $\alpha_{1D}$ -adrenaline receptor-mediated over-contraction of the aorta and interlobar arteries. **K. Nobe, T. Hashimoto and K. Honda.** Showa Univ., Japan.
- D204 I **686.11** The features of psycho-emotional parent's state with 1 type diabetes mellitus. **M. Zhushhasarova, B. Igenbaeva and R. Baikanova.** Med. Univ. of Astana, Kazakhstan.
- D205 II **686.12** Interactive changes between macrophages and adipocytes. **L. Xie, T.M. Ortega, S. Mora and S.K. Chapes.** Univ. of North Dakota, Kansas State Univ. and Univ. of Liverpool Sch. of Biomed. Sci.
- D206 I **686.13** Modifying a high saturated fat diet with omega-3 (n-3) poly-unsaturated fat improves vascular dysfunction and glucose intolerance. **K.G. Lamping, D.W. Nuno, L.J. Coppey, S. Hu, C.L. Oltman, A.W. Norris, W.I. Sivitz and M.A. Yorek.** Iowa City VA Hlth. Care Syst. and Univ. of Iowa.
- D207 II **686.14** Ang (1-7) reduces ANG II-induced insulin resistance by increasing Akt phosphorylation via a Mas receptor-dependent mechanism in rat skeletal muscle. **E.J. Henriksen, M. Prasannarong and F.R. Santos.** Univ. of Arizona and Mahidol Univ., Thailand.
- D208 I **686.15** Interactions between sorbitol pathway of glucose metabolism and 12/15-lipoxygenase activation in diabetic peripheral neuropathy. **R. Stavniichuk and I.G. Obrosova.** Pennington Biomed. Res. Ctr., LSU.
- D209 II **686.16** Endoplasmic reticulum stress and diabetic nephropathy. **H. Shevalye, P. Watcho, S. Lupachyk and I.G. Obrosova.** Pennington Biomed. Res. Ctr., LSU.
- D210 I **686.17** Chronic administration of kudzu isoflavones ameliorates impaired glucose and lipid metabolisms in obese mice. **J. Prasain, N. Peng, R. Rajbhandri and J.M. Wyss.** Univ. of Alabama at Birmingham.
- D211 II **686.18** Enhanced external counterpulsation increases GLUT-4 protein expression, capillary density and glucose tolerance in patients with abnormal glucose tolerance. **J.S. Martin, D.T. Beck, J.M. Aranda, Jr. and R.W. Braith.** Col. of Med., Univ. of Florida.
- D212 I **686.19**  $\text{Na}^+/\text{H}^+$ -exchanger-1 inhibition delays diabetic cataract formation and prevents retinal apoptosis and oxidative stress. **S. Lupachyk, V.R. Drel, R. Stavniichuk, A.B. El-Remessy and I.G. Obrosova.** Pennington Biomed. Res. Ctr., LSU and Univ. of Georgia Col. of Pharm.
- D213 II **686.20** Pancreatic triglyceride levels: implications for type 2 diabetes development in ethnic minorities. **L.S. Szczepaniak, R. Mathur, E. Szczepaniak, M.D. Nelson, I. Chen, R.G. Victor and I. Lingvay.** Cedars-Sinai Med. Ctr. and Univ. of Texas Southwestern Med. Ctr.
- D214 I **686.21** Estimation of an optimum intake level of epigallocatechin gallate for suppression of inflammation in type 2 diabetic GK rats. **T. Goda, Y. Uchiyama, Y. Tan and K. Mochizuki.** Sch. of food and Nutr. Sci., Univ. of Shizuoka, Japan.
- D215 II **686.22** Pathogenesis of insulin resistance syndrome in Western-style diet-induced obese and non-obese experimental animal models. **J-P. Huang and L-M. Hung.** Chang Gung Univ., Taiwan.
- D216 I **686.23** Insulin resistance is associated with reduced levels of the age-related protein SIRT2. **V. Lemos, R. Machado Oliveira, T.F. Outeiro and P. Gomes.** Fac. of Med., Porto and Inst. for Molec. Med., Lisbon, Portugal and Med. Univ. Goettingen.
- D217 II **686.24** Effects of acute moderate- and high-intensity exercise on glucose disposal and beta-cell function. **C.A. Rynders, A. Chan, J.Y. Weltman, E.J. Barrett and A. Weltman.** Univ. of Virginia.
- D218 I **686.25** Moderate increases in dietary fat impair microvascular but not myocyte actions of insulin in skeletal muscle of Sprague Dawley rats. **S.M. Richards, D. Premilovac, H. Ng, E.A. Bradley, S. Rattigan and M.A. Keske.** Menzies Res. Inst. Tasmania, Australia.
- D219 II **686.26** Acute dietary nitrate consumption improves glucose tolerance. **R.L. Scalzo, G.L. Peltonen, M.M. Schweder, S.E. Szaller, S.E. Binns, L.M. Wood, A.L. Klochak and C. Bell.** Colorado State Univ.

## 687. DIABETIC RENAL DISEASE

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D220 I **687.1** Mammalian target of rapamycin regulate kidney oxygen consumption by controlling mitochondrial function via regulation of uncoupling protein 2. **E. Sivertsson, M. Friederich and F. Palm.** Med. Cell Biol., Uppsala.
- D221 II **687.2** Nuclear transcription factor kappa B (NF- $\kappa$ B) mediates ROS and PKC-induced decrease in TRPC6 protein expression in human glomerular mesangial cells. **R. Ma, Y. Wang and M. Ding.** Univ. of North Texas Hlth. Sci. Ctr.
- D222 I **687.3** The reduction of renal injury in diabetic Dahl salt-sensitive rats with insulin is associated with decreased MMP activity. **T.N. Slaughter, D. Spires, C. Rucker, A. Wells, P. Kyle, R.J. Roman and J.M. Williams.** Univ. of Mississippi Med. Ctr., Tougaloo Col. and Murrah H.S., Jackson, MS.
- D223 II **687.4** Increased MMP-9 activity during the progression of renal injury in type-2 diabetic nephropathy rats. **J.M. Williams, T.N. Slaughter, A. Wells, C. Rucker, D. Spires, P.B. Kyle and R.J. Roman.** Univ. of Mississippi Med. Ctr., Murrah H.S. and Tougaloo Col.
- D224 I **687.5** Hydrogen sulfide mitigates diabetic nephropathy through NMDA receptor-mediated renal remodeling. **S. Kundu, A. Tyagi, D.M. Coley, P. Sathnur and U. Sen.** Univ. of Louisville.
- D225 II **687.6** Regulation of Nox4 by calcineurin in the diabetic kidney. **C.R. Williams, R.N. Reddy and J.L. Gooch.** Atlanta VA Med. Ctr. and Emory Univ. Sch. of Med.
- D226 I **687.7** Mitochondrial function and superoxide production is reduced in the diabetic kidney and restored by AMPK activation. **Y.H. You, L.L. Dugan, R.K. Naviaux and K. Sharma.** UCSD.

**688. HORMONE AND AUTACOID EFFECTS ON THE KIDNEY****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D227 **I**      **688.1**    Salt-deficient diet does not attenuate the development of slowly progressive ANG II-dependent hypertension in Cyp1a1-Ren2 transgenic rats. **A.E. Collins, C.G. Howard and K.D. Mitchell.** Tulane Univ.
- D228 **II**      **688.2**    Renal vascular relaxation response to glucagon-like peptide-1 is impaired in spontaneously hypertensive rats. **R.O. Crajoinas, F.A. Savignano, J.S. Nakamuta and A.C. Girardi.** Univ. of São Paulo.
- D229 **I**      **688.3**    Cellular localization of P0 (adenine) receptor in rat kidney. **B.K. Kishore, Y. Zhang, I.L. Pop, H. Gevorgyan, C.E. Müller and J. Peti-Peterdi.** Univ. of Utah and VA Med. Ctr., Univ. of Southern California and Univ. of Bonn.
- D230 **II**      **688.4**    Expression of gastrin in the thin descending limb of Henle's loop in the mouse kidney: a molecular, localization, and functional study. **Y. Yang, S. Evans, C. Escano, L. Asico, Y. Zhang, S. Cuevas Gonzalez, V.A. Villar, X. Wang, J.R. Pisegna, S.A. Wank, I. Armando and P.A. Jose.** Children's Natl. Med. Ctr., George Washington Univ., UCLA Sch. of Med., NIDDK/NIH.
- D231 **I**      **688.5**    Prostaglandin E2 activates basal EP4 receptors to stimulate chloride secretion via both cAMP and calcium-mediated pathways. **M. Rajagopal, P.P. Kathalia and A.C. Pao.** Stanford Univ. and VA Palo Alto Hlth. Care Syst.
- D232 **II**      **688.6**    Endothelin-1-induced inhibition of NKCC2 activity is blunted in thick ascending limbs from angiotensin II-hypertensive rats. **V.D. Ramseyer and J.L. Garvin.** Wayne State Univ. and Henry Ford Hlth. Syst.
- D233 **I**      **688.7**    Tumor necrosis factor alpha activates RhoA and decreases NO synthase type 3 expression in rat thick ascending limbs. **V.D. Ramseyer, N. Hong and J.L. Garvin.** Wayne State Univ. and Henry Ford Hlth. Syst.

**689. RENAL EPITHELIAL ACID-BASE MECHANISMS****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D234 **I**      **689.1**    Subunit-specific regulation of V-ATPase expression in purified intercalated cells from B1-deficient mice. **L. Vedovelli, J.T. Rothermel, K.E. Finberg, C.A. Wagner, D. Brown and T.G. Paunescu.** Massachusetts Gen. Hosp. and Harvard Med. Sch., Duke Univ. Sch. of Med. and Inst. of Physiol. and Zurich Ctr. for Integrative Human Physiol.
- D235 **II**      **689.2**    The influence of extracellular calcium sensing receptor on H<sup>+</sup>-ATPases activity in mice kidney. **R. Fernandez and F. Casare.** Fed. Univ. of Parana, Brazil.
- D236 **I**      **689.3**    Insight into the structural differences in transmembrane segment 1 between NBCe1-A and AE1. **Q. Zhu, D. Newman, L. Kao, W. Liu, R. Azimov and I. Kurtz.** UCLA.

D237 **II**      **689.4**    The cysteines in NBCe1-A extracellular loop 3 form intra-molecular disulfide bonds that determines the transporter surface topography. **Q. Zhu, L. Kao, R. Azimov, W. Liu, D. Newman and I. Kurtz.** UCLA.

D238 **I**      **689.5**    Differential responses of proximal tubule Na<sup>+</sup>/H<sup>+</sup> exchanger NHE3 to low pH: comparison between metabolic and respiratory acidosis. **P.H.I. Silva, A.C.C. Girardi and N.A. Rebouças.** Univ. of São Paulo.

D239 **II**      **689.6**    Characterization of glucose and SGLT mediated effect on NHE3 in renal proximal tubule. **T.D. Pessoa and G. Malnic.** Univ. of São Paulo.

**690. RENAL HEMODYNAMICS AND GLOMERULAR FILTRATION RATE****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D240 **I**      **690.1**    Tubular fluid oscillations mediated by tubuloglomerular feedback in a short loop of Henle. **H. Ryu and A.T. Layton.** Duke Univ.
- D241 **II**      **690.2**    Interactions between tubuloglomerular feedback and the myogenic mechanism of the afferent arteriole. **I. Sgouralis and A.T. Layton.** Duke Univ.
- D242 **I**      **690.3**    Role of adenosine A1 receptors in regulation of arteriolar responses to adenosine and angiotensin II. **X. Gao, M. Carlström, B. Fredholm and E. Persson.** Uppsala Univ., Sweden and Karolinska Inst.
- D243 **II**      **690.4**    Angiotensin II, renal perfusion pressure and synchronization of cortical blood flow studied using laser speckle perfusion imaging. **N. Mitrou, C. Scully, M. Dymond, F. Zheng, J. Waring, B. Braam, K.H. Chon and W.A. Cupples.** Simon Fraser Univ., Canada, Worcester Polytech Inst., Univ of Alberta and Shandong Univ., China.
- D244 **I**      **690.5**    PDGF receptor antagonism with imatinib mesylate improves renal hemodynamics independent of changes in blood pressure in Cyp1a1-Ren2 transgenic rats with ANG II-dependent malignant hypertension. **M-Y. Kwak, C.G. Howard and K.D. Mitchell.** Tulane Univ.
- D245 **II**      **690.6**    Telemetry-based oxygen sensor to continuously monitor kidney oxygenation in conscious rats. **M. Koeners, P. Ow, A. Abdelkader, M.C. Verhaar, R.G. Evans, D.M. Russell, J.A. Joles and S. Malpas.** Univ. of Auckland, Univ. Med. Ctr. Utrecht, Monash Univ., Australia and Telemetry Res. Ltd., Auckland.
- D246 **I**      **690.7**    Instigation of NALP3 inflammasome activation and glomerular injury in mice on the high fat diet: role of acid sphingomyelinase gene. **K.M. Boini, M. Xia, J.A. Abais and P-L. Li.** Virginia Commonwealth Univ.
- D247 **II**      **690.8**    Imaging intracellular calcium signals in intact kidney tissue. **C. Crawford, A.M. Hall and C.M. Peppiatt-Wildman.** Royal Vet. Col. and UCL Ctr. for Nephrol., London.
- D248 **I**      **690.9**    Inhibition of medullary prostaglandin E2 by non-steroidal anti-inflammatory drugs adversely affects medullary blood flow. **T.M. Kennedy-Lydon, C. Crawford, L. Sawbridge, R.J. Unwin, S.S.P. Wildman and C.M. Peppiatt-Wildman.** Royal Vet. Col., London, UCL Ctr. for Nephrol. and London Metro. Univ.

- D249 II **690.10** Role of purinoceptors in regulating afferent arteriolar diameter in DOCA-salt hypertensive rats. **Z. Guan, S.T. Singletary, A.K. Cook and E.W. Inscho.** Georgia Hlth. Sci. Univ.
- D250 I **690.11** Renal arterial blood flow in conscious, freely-moving animals via wireless telemetry. **C.M. Adreani, S. Pettinger, W. Mills, T. Trinh, P. Cunningham, S-Y. Sun and M. Forrest.** Merck & Co., Rahway, NJ, RMISS Consulting, Wilmington, DE and Konigsberg Inc., Pasadena.
- D251 II **690.12** Consequences of the laser speckle imaging computation method on analysis of renal autoregulation dynamics. **C. Scully, N. Mitrou, J. Waring, B. Braam, W.A. Cupples and K.H. Chon.** Worcester Polytech Inst., Simon Fraser Univ., Canada and Univ. of Alberta Hosp.
- D252 I **690.13** Inhibition of K<sub>v</sub>7 channels causes rat renal vasoconstriction in vivo. **C.M. Sorensen, N-H. Holstein-Rathlou and M. Salomonsson.** Univ. of Copenhagen.
- D253 II **690.14** Autophagy maturation controlled by cd38-lysosome signaling in glomerular podocytes of mice. **J. Xiong, M. Xia, M. Xu, X-X. Li, J. Abais, K. Boini and P-L. Li.** Virginia Commonwealth Univ.
- D254 I **690.15** Nebivolol-induced vasodilation of renal afferent arterioles involves  $\beta$ 3 adrenergic receptor activation. **M-G. Feng and L.G. Navar.** Tulane Univ.
- D255 II **690.16** Renal responses to severe haemorrhage in conscious lambs. **F.G. Smith, M. Samhan and W. Qi.** Univ. of Calgary, Canada.
- D256 I **690.17** Blood pressure and renal hemodynamics in hypertensive Cyp1a1-Ren2 transgenic rats fed a sodium-deficient diet. **A.E. Collins, C.G. Howard and K.D. Mitchell.** Tulane Univ.
- D257 II **690.18** Renal function in T-type voltage-gated calcium channel knockout mice. **P.B.L. Hansen, H. Andersen, M. Cardel, H-S. Shin, O. Skott, B.L. Jensen and P. Bie.** Univ. of Southern Denmark and Korea Inst. of Sci. and Technol., Seoul.
- D258 I **690.19** Chronic direct renin inhibition with aliskiren normalizes blood pressure and improves renal hemodynamics in Cyp1a1-Ren2 transgenic rats with ANG II-dependent malignant hypertension. **C.G. Howard and K.D. Mitchell.** Tulane Univ.
- D259 II **690.20** Enhanced renin release and content in juxtaglomerular cells from VAMP8 knockout mice. **M. Mendez.** Henry Ford Hosp.
- D260 I **690.21** Renin production and release associated with cyclic ADP-ribose-mediated signaling: evidence from CD38 gene knockout mice. **J. Xiong, M. Xia, K. Boini and P-L. Li.** Virginia Commonwealth Univ.
- D261 II **690.22** The classic renovascular (Goldblatt) hypertension is mediated by succinate/GPR91 signaling. **A.D.M. Riquier-Brison, H.A. Gevorgyan and J. Peti-Peterdi.** Univ. of Southern California.
- D262 I **690.23** [Nle3, D-Phe6]-gamma melanocyte stimulating hormone, increases glomerular filtration rate in high-salt-fed rats. **V. Healy, E.T. Flanagan, G. Cope and E.J. Johns.** University Col. Cork.

**691. OXIDATIVE STRESS AND THE KIDNEY****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D263 I **691.1** Pravastatin decreases superoxide production by thick ascending limbs. **R. Soca and J. Garvin.** Henry Ford Hosp.
- D264 II **691.2** Effects of nitrosonifedipine, a photodegradation product of nifedipine, on diabetic nephropathy in type II diabetic mice. **T. Sakurada, K. Ishizawa, S. Fujii, Y. Izawa-Ishizawa, M. Imanishi, A. Nuno, Y. Kihira, Y. Ikeda, S. Tomita, K. Tsuchiya and T. Tamaki.** Univ. of Tokushima Grad. Sch., Japan.
- D265 I **691.3** Boldine treatment ameliorates kidney damage in rats with 5/6 nephrectomy chronic renal failure. **V. Velarde, G. Gomez, C. Cespedes and C.P. Vio.** Pontifical Catholic Univ. of Chile.
- D266 II **691.4** COX-2 inhibition exacerbates SOD1 downregulation and the progression renal of oxidative stress in response to UUO. **L. Nilsson, J. Frøkiær and R. Nørregaard.** Aarhus Univ., Denmark.
- D267 I **691.5** Activation of Nrf-2 enhances the function of human renal glomerular endothelial cells. **Z. Luo, J. Bhupatkar, W.J. Welch and C.S. Wilcox.** Georgetown Univ.
- D268 II **691.6** Acid sphingomyelinase gene knockout ameliorates hyperhomocysteinemic glomerular injury in mice lacking cystathionine  $\beta$ -synthase. **K.M. Boini, M. Xia, C-X. Li, J. Xiong and P-L. Li.** Virginia Commonwealth Univ.
- D269 I **691.7** HSP27 regulation in acute unilateral obstructed kidney, along with RMIC and collecting duct cells subjected to mechanical, oxidative, and inflammatory stress. **I.G. Carlsen, L. Nilsson, J. Frøkiær and R. Nørregaard.** Aarhus Univ., Denmark.
- D270 II **691.8** Disordered oxygen metabolism in early chronic kidney disease. **P. Singh, H. Pham, M. Sharik, A. Murphy, S. Petrosyan, S. Thomson and R. Blantz.** UCSD.
- D271 I **691.9** Role of different reactive oxygen species in homocysteine-induced NALP3 inflammasome activation in mouse podocytes. **J. Abais, K. Boini, M. Xia and P-L. Li.** Virginia Commonwealth Univ.
- D272 II **691.10** Inhibition of NADPH oxidase attenuates hyperhomocysteinemia-induced NALP3 inflammasome activation in mouse glomeruli. **J. Abais, K. Boini, M. Xia and P-L. Li.** Virginia Commonwealth Univ.
- D273 I **691.11** Determining how 4-phenylbutyrate inhibits tunicamycin-induced acute kidney injury. **R.E. Carlisle, E. Brimble, A.J. Ingram, R.C. Austin and J.G. Dickhout.** McMaster Univ., Canada.
- D274 II **691.12** Role of glyoxalase system on methylglyoxal induced peritoneal thickening in glyoxalase transgenic rats. **I. Ooba, T. Mori, E. Sato, Y. Yoneki, K. Akao, M. Ishikawa, K. Kisu, H. Ito, M. Saito, T. Nakamichi, H. Kiyomoto, M. Miyazaki, T. Miyata, H. Sato and S. Ito.** Tohoku Univ. Grad. Sch. of Med. and United Ctrs. for Adv. Res. and Translational Med., Sendai.



## 692. OXIDATIVE STRESS

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D275 I **692.1** Genotoxic stress results in selective P-body formation in *S. cerevisiae*. **S.P. Segal, B. Rathmann, A. Koch, C. Sutter, C. Michelson and T. Wilson.** Winona State Univ., MN.
- D276 II **692.2** Glyceollins induce cytoprotective effect by enhancing glutathione synthesis through Nrf2 in hepatoma cells. **J-S. Kim, H.J. Kim, C. Jung, I-S. Park and J.S. Lim.** Sch. of Applied Biosci., Kyungpook Natl. Univ., South Korea.
- D277 I **692.3** Alteration of GSSG/GSH ratio modulates expression of phase 2 detoxifying enzymes through Nrf2 signaling pathway. **J-S. Kim, J-H. Han, J. Seo, J.S. Lim, C. Jung, I-S. Park, H-r. Kang, S.S. Kim, H.J. Kim and J.H. Park Yoon.** Sch. of Applied Biosci., Kyungpook Natl. Univ. and Hallym Univ., South Korea.
- D278 II **692.4** Functional characterization of the interaction between oxidative and xenobiotic stress response proteins SKN-1/Nrf and WDR-23 in *C. elegans*. **C.K. Leung and K.P. Choe.** Univ. of Florida.
- D279 I **692.5** Roles of BCL-2/BCL-XL in regulation of BCR-ABL-induced mitochondrial oxidative stress. **H. Zhang, G. Chen, W. Lu, T. Liu, Z. Chen, D. Trachootham, R.B. Arlinghaus and P. Huang.** Univ. of Texas MD Anderson Cancer Ctr.
- D280 II **692.6** Oxidation of SNAP25-syntaxin complex reduce its stability and prevents refolding. **N. Ogawa, T. Baba, R. Taylor, J.T. Prince and D.J. Woodbury.** Brigham Young Univ.
- D281 I **692.7** Potential role of NADPH oxidase in radiation-induced pro-oxidative and pro-inflammatory pathways in mouse brain. **H.J. Cho, W.E. Sonntag and Y.W. Lee.** Sch. of Biomed. Engin. and Sci., Virginia Tech and Univ. of Oklahoma Hlth. Sci. Ctr.
- D282 II **692.8** NADPH oxidase 4 induces cardiac arrhythmia in zebrafish through ROS. **Y. Zhang, H. Shimizu, K.L. Siu, J-N. Chen and H.L. Cai.** UCLA.
- D283 I **692.9** NADPH oxidase activation in equine palmar digital arteries and veins. **D.D. Schwartz, A.A. Wooldridge and R.W. Waguespack.** Auburn Univ.
- D284 II **692.10** Moderate hyperoxia treatment increases glutathione levels during direct LPS-induced lung injury in mice. **R.D. Britt, M. Velten and L.K. Rogers.** The Ohio State Univ. and Nationwide Children's Hosp.
- D285 I **692.11** Apurinic/aprimidinic endonuclease 1 inhibits oxidative stress in gastric epithelial cells during *H. pylori* infection through binding and inhibition of Rac1. **R. Chattopadhyay, S. Das, E. Hall, A. Ablack, P. Ernst and S. Crowe.** UCSD and Univ. of Virginia.
- D286 II **692.12** DGC protects neuronal cells against glutamate-induced oxidative injury through the induction of HO-1 expression. **J-S. Kim, I-S. Park, H.J. Kim, C. Jung, J.S. Lim and S.S. Lim.** Sch. of Applied Biosci., Kyungpook Natl. Univ. and Hallym Univ., South Korea.

D287 I **692.13** Protection of hippocampal neuronal cells from buthionine sulfoximine-induced oxidative stress by food-derived phase 2 detoxifying enzyme inducers. **J-S. Kim, J.S. Lim, J. Seo, C. Jung, J-H. Han, I-S. Park, H-r. Kang and S.S. Kim.** Sch. of Applied Biosci., Kyungpook Natl. Univ., South Korea.

D288 II **692.14** Effect of some antioxidant vitamins on some enzymes of ocular tissues exposed to potassium bromate. **V.E. Osagie and P.N. Okolie.** Ambrose Alli Univ. and Univ. of Benin, Nigeria.

D289 I **692.15** Antioxidant function of polyamines in human colon cancer cells demonstrated by fluorescence. **J.M. Thornton and D.L. Osborne.** Paul Foster Sch. of Med., Texas Tech Univ. Hlth. Sci. Ctr.

D290 II **692.16** Protective effects of *Plantago asiatica* L. extract against ferric-nitrosyltriacetate induced liver oxidative stress in Wistar rats. **C-O. Hong, S-T. Hong, Y-H. Lee and K-W. Lee.** Korea Univ.

## 693. STEM CELLS AND CELL GROWTH, DEVELOPMENT AND DIFFERENTIATION

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D291 I **693.1** Protein O-GlcNAcylation – a novel cell survival signal in cardiac stem cells. **A. Zafir, Q. Li, R. Bolli and S.P. Jones.** Univ. of Louisville.
- D292 II **693.2** Eph and ephrin expression during C2C12 myogenesis. **X. Fu and M. Du.** Washington State Univ.
- D293 I **693.3** Sca-1 positive cells are more sensitive than adult rat cardiomyocytes to doxorubicin-induced changes. **A. Ludke, A.K. Sharma, A.K. Bagchi and P.K. Singal.** St. Boniface Hosp. Res. Ctr., Univ. of Manitoba.
- D294 II **693.4** Pravastatin stimulates proliferation of endogenous cardiac progenitor cells in the heart. **G. Suzuki, B.A. Palka and J.M. Canty, Jr.** Univ. at Buffalo and VA Med. Ctr.
- D295 I **693.5** M-cadherin modulates phosphorylation of beta-catenin N-terminus and promotes myogenic differentiation in a TCF/LEF-independent manner. **Y. Wang and S.E. Alway.** West Virginia Univ. Sch. of Med.
- D296 II **693.6** Use of human platelet lysates in stem cell-based alternative testing strategies. **G. Gstraunthaler, C. Rauch and E. Feifel.** Innsbruck Med. Univ.
- D297 I **693.7** Adiponectin receptor 1 involves regulating bone formation and osteoblast differentiation. **Y-Y. Lin, S-C. Wu, B-H. Liu, C-Y. Chen, H.J. Mersmann and S-T. Ding.** Natl. Taiwan Univ., Taiwan and Baylor Col. of Med., Palm Harbor, FL.
- D298 II **693.8** Endoplasmic reticulum stress transducer oas1 promotes terminal differentiation of goblet cells in large intestine. **R. Asada, A. Saito and K. Imaizumi.** Grad. Sch. of Biomed. Sci., Univ. of Hiroshima.
- D299 I **693.9** Liquid medium culture effect on *Eucalyptus* shoots: growth and development in bioreactor. **V.C.C.C. Hyodo and D.C.S. Runho.** Univ. Paulista, Brazil.
- D300 II **693.10** In vivo modulation of stem cell recruitment and proliferation via bi-phasic electrical stimulation. **B.M. Franklin, G.R. Todd, J.A. Collett and J.L. Osborn.** Univ. of Kentucky Sch. of Biol. Sci.

D301 I **693.11** Endothelium differentiation and regeneration from human adipose-derived stem cell by shear stress. **Y-J. Chang, S-C. Lin, S. Chien and C-C. Wu.** Natl. Cheng Kung Univ. and Hosp., Taiwan and UCSD.

## 694. TRANSPORTERS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D302 I **694.1** K-Cl cotransporter-2 expression in chicken cardiomyocytes. **J.A. Payne, S.P. Antrobus and C. Lytle.** Univ. of California, Davis and Univ. of California, Riverside.
- D303 II **694.2** Analysis and expression pattern of *slc12a* genes. **M. Di Fulvio.** Wright State Univ.
- D304 I **694.3** Evidence for K-Cl cotransporter heterodimerization. **J. Ponce-Coria, J. Ding and E. Delpire.** Vanderbilt Univ. Sch. of Med.
- D305 II **694.4** Novel KCC3 mouse models to study ACCPN, a degenerative neuropathy disorder. **J. Ding, J. Ponce-Coria and E. Delpire.** Vanderbilt Univ. Sch. of Med.
- D306 I **694.5** Functional insights into the activation mechanism of Ste20-related kinases. **K.B. Gagnon, K. Rios and E. Delpire.** Vanderbilt Univ. Sch. of Med.
- D307 II **694.6** Unraveling ammonia transport: role of NHE2/3 and cH/K-ATPase. **M.A. Engevik, R.T. Worrell and G.E. Shull.** Univ. of Cincinnati.
- D308 I **694.7** Acoustic trauma reduces SLC4A11 expression in the mouse cochlea. **H. Yamamoto, T. Wilson, I. Omelchenko, Y. Zhang, T. Nakashima, X. Shi and A.L. Nuttall.** Nagoya Univ., Japan and Oregon Hlth. & Sci. Univ.
- D309 II **694.8** Structural determination of OATP transporters utilizing homology models and cell-based assays. **J.C. Taylor-Wells, D. Meredith and S. Kelly.** Oxford Brookes Univ., U.K.
- D310 I **694.9** Transport of organic cations across human bronchial and bronchiolar epithelial barriers in vitro. **J.J. Salomon and C. Ehrhardt.** Sch. of Pharm. and Pharmaceut. Sci., Trinity Col. Dublin.
- D311 II **694.10** Functional expression of MRP4 in the ciliary epithelium of the eye. **R.M. Pelis and M. Coca-Prados.** Dalhousie Univ., Canada and Yale Univ.
- D312 I **694.11** Drug transporter expression and function in primary cultures of human renal epithelial cells. **S.E. Jenkinson and C. Brown.** Newcastle Univ., U.K.
- D313 II **694.12** Probing the structure of the hSGLT1 sugar binding site. **E. Gorraitz, D.D.F. Loo, B.A. Hirayama, X. Jiang and E.M. Wright.** The Geffen Sch. of Med. at UCLA.
- D314 I **694.13** Searching for the Na<sup>1</sup> site of hSGLT1. **D.D.F. Loo, B.A. Hirayama, X. Jiang and E.M. Wright.** David Geffen Sch. of Med. at UCLA.
- D315 II **694.14** Inner gate residues contribute to sugar and Na<sup>+</sup> binding in SGLT1. **X. Jiang, D.D.F. Loo, B.A. Hirayama and E.M. Wright.** UCLA.
- D316 I **694.15** Reconstitution of transepithelial amino acid transport in MDCK epithelia. **A. Guetg, M. Torrente, L. Mariotta, S.M.R. Camargo and F. Verrey.** Univ. of Zurich.

## 695. HYPOXIA: ION CHANNELS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D317 I **695.1** CFTR-dependent HCO<sub>3</sub><sup>-</sup> defect, cause of viscous mucus in distal intestinal obstruction syndrome? **N. Yang and P.M. Quinton.** Rady Children's Hosp., UCSD and Univ. of California, Riverside.
- D318 II **695.2** Ano6 functions as a positive modulator of volume-regulated anion channels. **G. Owsianik, J. Prenen, D. Hermans, J. Eggermont, T. Voets and B. Nilius.** KU Leuven, Belgium.
- D319 I **695.3** Differential regulation of CLC anion channel by SPAK kinase ortholog mediated multisite phosphorylation. **H. Miyazaki and K. Strange.** Mount Desert Island Biol. Lab., ME.
- D320 II **695.4** L-type Ca<sup>2+</sup> channel current from on-cell patch is augmented by H<sub>2</sub>O<sub>2</sub> in rat aortic smooth muscle-derived A7r5 cells. **R. Ochi and S.A. Gupte.** Univ. of South Alabama.
- D321 I **695.5** Direct interaction of bestrophin 3 channels with Hrc calcium-handling protein. **K.E. O'Driscoll, W.J. Hatton, S. John, M. Baring and F.C. Britton.** Univ. of Nevada Sch. of Med., Reno.
- D322 II **695.6** N-type Ca<sup>2+</sup> channel regulation by the light chain 1 of the microtubule associated protein B (MAP1B). **M.A. Gandini, D.R. Henriquez, A. Sandoval, C. González-Billault and R. Felix.** Cinvestav-IPN, Mexico City, Univ. of Chile and Natl. Autonomous Univ. of Mexico, Tlalnepanla.
- D323 I **695.7** Acid induces TRPV4-mediated calcium influx in mouse esophageal keratinocytes. **J. Berrou, J. Luo, H. Hu and R.G. O'Neil.** Univ of Texas Hlth. Sci. Ctr., Houston.
- D324 II **695.8** Identification, localization, and electrophysiologic characterization of small Ca<sup>2+</sup>-sensitive K<sup>+</sup> channels in cardiac mitochondria. **A.K. Gadicherla, A.K.S. Camara, W-M. Kwok, Y. Zhou and D.F. Stowe.** Med. Col. of Wisconsin.
- D325 I **695.9** Calcium-activated potassium channels expressed in retinal pigment epithelial cell. **N-H. Kim, J-S. Chang, S-K. Cha and I.D. Kong.** Keimyung Univ. and Yonsei Univ., South Korea.
- D326 II **695.10** Amino acid sequence of the calcium activated potassium channel (BK) in the skate, *Leucoraja erinacea*. **B. King, W.T. Clusin and P. Kao.** Mount Desert Island Biol. Lab., ME and Stanford Univ. Sch. of Med.
- D327 I **695.11** Role of BKCa channels in regulating uterine vascular contractility: effect of high altitude hypoxia. **R. Zhu, D. Xiao and L. Zhang.** Loma Linda Univ.
- D328 II **695.12** NS6180, a new KCa3.1 blocker, inhibits T-cell activation and dampens inflammation in a rat model of inflammatory bowel disease. **D.P. Jenkins, D. Strobaek, D.T. Brown, P. Chiu, S. Jorgensen, J. Demnitz, H. Wulff and P. Christophersen.** Univ. of California, Davis, NeuroSearch A/S, Ballerup, Denmark and Ricerca, Bothell, WA.
- D329 I **695.13** Blood brain barrier KCa3.1 channels: evidence for a role in brain Na uptake and edema during ischemic stroke. **Y-J. Chen, N. Yuen, B.K. Wallace, H. Wulff and M.E. O'Donnell.** Univ. of California, Davis.

- D330 II **695.14** Discovery of an inward rectifying potassium channel inhibitor with preference for Kir2.3, Kir3.X and Kir7.1. R. Raphemot, D. Lonergan, T.T. Nguyen, T.J. Utley, R. Gogliotti, C.R. Hopkins, M. Lewis, C.W. Lindsley, C.D. Weaver and J.S. Denton. Vanderbilt Univ. Med. Ctr.
- D331 I **695.15** Caveolin-3 regulates subcellular targeting of Kir2.1 channels. **Z. Yang and K. Hu.** The Ohio State Univ.
- D332 II **695.16** Microglial Kv1.3 channels as a potential target for Alzheimer's disease. **D.P. Jenkins, I. Maezawa, H. Wulff and L-W. Jin.** Univ. of California, Davis, Davis and Sacramento.
- D333 I **695.17** Anti-obesity effect of ShK-186, a K<sup>+</sup> channel blocker. S.K. Upadhyay, K.E. Mahan, M. Mirbolooki, I.W. Tjong, J. Mukharjee, S.P. Iadonato, P. Sassoni-Corsi, P.H. Wang and K.G. Chandy. Univ. of California, Irvine and Kineta Inc., Seattle.
- D334 II **695.18** Disease causing mutations affect ENaC gating. **V. Kucher, N. Boiko and J.D. Stockand.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- D335 I **695.19** Pickpocket1 is a *Drosophila* acid-sensing Na<sup>+</sup> channel necessary for proprioception. **N. Boiko, V. Kucher, B.A. Eaton and J.D. Stockand.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.

## 696. LUNG ION CHANNELS AND FLUID HOMEOSTASIS (POSTERS)

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D336 I **696.1** Studies on the functional expression of epithelial sodium channel delta subunit in human respiratory epithelial cells in vitro. **E. Schwagerus, B. Illek, H. Fischer and C. Ehrhardt.** Sch. of Pharm. and Pharmaceut. Sci., Trinity Col. Dublin and Children's Hosp. Oakland Res. Inst.
- D337 II **696.2** Comparison of two types of  $\delta$ ENaC channels cloned from human lungs. **H. Ji, R. Zhao, H. Nie and S. Matalon.** Univ. of Texas Hlth. Sci. Ctr. at Tyler, China Med. Univ. and Univ. of Alabama at Birmingham.
- D338 I **696.3** 1,25-Dihydroxyvitamin D enhances alveolar fluid clearance by upregulating the expression of epithelial sodium channels. **H. Nie, T. Yu, Z. Nie, H. Ji and Y.C. Li.** China Med. Univ., Univ. of Texas Hlth. Sci. Ctr. at Tyler and Univ. of Chicago.
- D339 II **696.4** NADPH oxidase regulates alveolar epithelial sodium channel activity and lung fluid balance in vivo via O<sub>2</sub>-signaling. **M.N. Helms, P. Goodson, L. Jain and M. Koval.** Emory Univ.
- D340 I **696.5** Inhibition of epithelial sodium channel activity by inter- $\alpha$ -trypsin inhibitor. **E.C. Ness, A. Lazrak, J.M. Jackson, S. Garantziotis and S. Matalon.** Univ. of Alabama at Birmingham and NIEHS/NIH, Research Triangle Park.
- D341 II **696.6** The gasotransmitter hydrogen sulfide decreases Na<sup>+</sup> transport across lung epithelial cells. **M. Althaus, K.D. Urness, W. Clauss, D.L. Baines and M. Fronius.** Justus Liebig Univ. Giessen and St George's Univ. of London.
- D342 I **696.7** Modulation of Calu-3 anion channels by H1N1 infection. **T.A. Waugh, J.C.H. Ching, A.P. Carr, H. Townsend and M.E. Loewen.** Univ. of Saskatchewan.

- D343 II **696.8** Influenza M2 inhibits CFTR activity through its ion channel function. **J.D. Londino, C. Atkins, J. Noah, A. Lazrak and S. Matalon.** Univ. of Alabama at Birmingham and Southern Res. Inst.
- D344 I **696.9** Regulation of ion transport and ASL height by the anti-inflammatory mediator, lipoxin A4 in normal and cystic fibrosis bronchial epithelium. **V. Urbach, G. Higgins, M. Al-Alawai, R.W. Costello, P. McNally, V. Verriere and B.J. Harvey.** Natl. Children Res. Ctr., Dublin and Royal Col. of Surgeons, Ireland.
- D345 II **696.10** Active transepithelial Cl<sup>-</sup> secretion promotes hydrostatic lung edema. **E.A. Solymosi, S.M. Kaestle, I. Vadász, L. Wang, R. Morty and W.M. Kuebler.** Charité, Berlin, St. Michael's Hosp., Toronto, Univ. of Giessen Lung Ctr., German Heart Inst., Berlin and MPI Heart and Lung Res., Bad Nauheim.
- D346 I **696.11** The selective TRPV4 antagonist GSK2263095A attenuates high venous pressure-induced lung injury in murine and canine lung. **M.I. Townsley, M-Y. Jian, M. Cheung, R.N. Willette and K.S. Thorneloe.** Univ. of South Alabama and GlaxoSmithKline.
- D347 II **696.12** Role of matrix metalloproteinases 2 and 9 in TRPV4-induced lung injury. **P.C. Villalta, P. Rocic and M.I. Townsley.** Univ. of South Alabama.
- D348 I **696.13** Mechanosensing by K<sub>ATP</sub> channels and PECAM-1 contributes to superoxide generation in mouse model of lung ischemia. **J. Noel, N. Hong, K. DeBolt, A.B. Fisher and S. Chatterjee.** Univ. of Pennsylvania.

## 697. LUNG PHYSIOLOGY: AIRWAY EPITHELIAL CELL BIOLOGY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D349 I **697.1** Modulation of ciliary beat frequency, not bend angle, by phosphodiesterase 1 during  $\beta$ 2-agonist stimulation in mouse bronchiolar ciliary cells. **T. Nakahari.** Osaka Med. Col.
- D350 II **697.2** Activation of ciliary beating by a mucolytic agent, ambroxol, in bronchioles of mice. **C. Suzuki, H. Matsumura, C. Shimamoto and T. Nakahari.** Osaka Univ. of Pharmaceut. Sci. and Osaka Med. Col.
- D351 I **697.3** Downregulation of dysferlin and myoferlin in human airway epithelium: differential effects on cell morphology and adhesion. **C. Leung, F. Shaheen, T. Hackett and P. Bernatchez.** Univ. of British Columbia and St. Paul's Hosp.
- D352 II **697.4** Neonatal inhalation of hyperoxic gas and altered postnatal growth: effects on the pulmonary airways in adulthood. **R. Harding, M. O'Reilly and F. Sozo.** Monash Univ., Australia.
- D353 I **697.5** The role of macrophages in lung inflammation in a mouse model of chronic bronchitis. **Y. Saini, K. Terrell, W.K. O'Neal and R.C. Boucher.** Univ. of North Carolina at Chapel Hill.
- D354 II **697.6** Diesel exhaust particulate matter has both direct and indirect effects on cardiomyocyte function. **M.W. Gorr, J.D. Rodeman, E. Cormet-Boyaka and L.E. Wold.** Nationwide Children's Hosp. and The Ohio State Univ.

**698. LUNG PHYSIOLOGY: ALVEOLAR EPITHELIAL CELL BIOLOGY****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D355 **I** **698.1** The role of the 2-pore domain potassium channel *Trek-1* in regulation of cytokine secretion from alveolar epithelial cells. **A. Schwingshackl, B. Teng, M. Ghosh, P. Makena and C.M. Waters.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- D356 **II** **698.2** Claudin-4 interacts with the small GTPase Rap1 and accelerates epithelial repair. **K.M. Sutherland, T. Bentley, M. LaFemina, G. Ho, J. Hirsch and J. Frank.** UCSF, San Francisco VA Med. Ctr. and Northern California Inst. for Res. and Educ.
- D357 **I** **698.3** Insulin-like growth factor-1 $\alpha$  stimulates differentiation of ATII cells to ATI-like cells through Wnt5a. **M.C. Ghosh, V. Gorantla, P.S. Makena, C. Luellen, S.E. Sinclair and C.M. Waters.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- D358 **II** **698.4** Mechanical stress activates ATP-sensitive K<sup>+</sup> channels in native pulmonary epithelium (*Xenopus laevis*). **K. Richter, W. Clauss and M. Fronius.** Justus Liebig Univ. Giessen, Germany.
- D359 **I** **698.5** Annexin A7 interactions with SNARE protein SNAP23 are regulated by calcium and protein phosphorylation during surfactant secretion in alveolar type II cells. **A. Chander, T. Gerelsaikhani and P.K. Vasa.** Stony Brook Univ. Med. Ctr.
- D360 **II** **698.6** Proliferation of human alveolar epithelial cells downregulates ACE-2 activity. **V.X. Dang and B.D. Uhal.** Michigan State Univ.
- D361 **I** **698.7** Cigarette smoke extract-induced injury in alveolar cells in cell culture model systems. **C.A. Downs, D.W. Montgomery and C.J. Merkle.** Emory Univ. and Univ. of Arizona.
- D362 **II** **698.8** Quantitative live cell imaging of nanoparticle translocation into/across lung alveolar epithelial cells. **A. Sipos, F. Fazlollahi, Y.H. Kim, R.H. Chow, Z. Borok, K-J. Kim and E.D. Crandall.** Univ. of Southern California.
- D363 **I** **698.9** Pulmonary abnormalities due to Niemann-Pick type C2 gene-targeted deficiency in mice. **S.R. Bates, J-Q. Tao, Y. Ning, K.J. Yu, L. Gao, C. Styer, S. Huang, S.I. Feinstein and B.R. Roszell.** Univ. of Pennsylvania Sch. of Med.
- D364 **II** **698.10** Antenatal nicotine exposure results in programming of aberrant alveolar development and interstitial pulmonary fibrosis in adult male rats. **C. Dasgupta, D. Xiao, Z. Xu, S. Yang and L. Zhang.** Loma Linda Univ. Sch. of Med. and California State Univ., San Bernardino.
- D365 **I** **698.11** Reduction of alveolar type II cell volume in *Klotho*-deficient mice with premature aging. **P. Ravikumar, D.J. Bellotto, M. Kuro-o, O.W. Moe and C.C.W. Hsia.** Univ. of Texas Southwestern Med. Ctr.
- D366 **II** **698.12** *Klotho* protects against oxidative damage via amelioration of phosphotoxicity. **P. Ravikumar, K.L. Flaherty, V. Esser, C.C.W. Hsia and O.W. Moe.** Univ. of Texas Southwestern Med. Ctr.

- D367 **I** **698.13** Inflammatory gene expression in BMDM macrophages in response to fungal metabolites. **A. Stallworth, D. Osei-Bonsu and A.C. Azim.** Chicago State Univ.

**699. HYPOXIA-INDUCED GENE EXPRESSION****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D368 **I** **699.1** Hypoxia induced subunit switching on cytochrome *c* oxidase in sleep apnoea patients. **T.A. Schiffer, F.J. Larsen, J.O. Lundberg and E. Weitzberg.** Karolinska Inst., Solna.
- D369 **II** **699.2** Hypoxia modulates pregnancy-mediated transcriptional regulation of BKCa  $\beta$ 1 subunit expression in ovine uterine arteries. **M. Chen, C. Dasgupta, R. Zhu, X. Huang and L. Zhang.** Loma Linda Univ.
- D370 **I** **699.3** Hypothalamic global gene expression in response to hypoxia in late-gestation fetal sheep. **C.E. Wood, E. Chang and M.B. Rabaglino.** Univ. of Florida.
- D371 **II** **699.4** *Egr1* plays a key role in fetal programming of gender-dependent PKC $\epsilon$  gene expression patterns in the developing heart. **M. Chen and L. Zhang.** Loma Linda Univ.
- D372 **I** **699.5** Direct inhibitory effect of hypoxia on cardiomyocyte proliferation in fetal rat hearts. **W. Tong, F. Xiong, Y. Li and L. Zhang.** Loma Linda Univ.
- D373 **II** **699.6** Impact of postnatal hypoxia on microRNA expression in heart and muscle of adult rats. **S. Radom-Aizik, M. Kunde, D.M. Nance, F. Zaldivar, Jr., D.M. Cooper and G.R. Adams.** Univ. of California, Irvine.
- D374 **I** **699.7** Hypoxia affects muscle cell differentiation: the translational repressor 4E-BP plays a key role. **M. Hidalgo, R. Le Bouffant, V. Bello, N. Buisson, P. Cormier, T. Darribère and M. Beaudry.** Univ. Paris 13, Bobigny, UPMC Sorbonne Univ., Paris and Roscoff.
- D375 **II** **699.8** The DNA glycosylase *Ogg1* is required for hypoxia-induced activation of VEGF transcription in pulmonary artery endothelial cells. **V.M. Pastukh, G.C. Bardwell, M. Patel, A-B. Al-Mehdi and M.N. Gillespie.** Univ. of South Alabama.
- D376 **I** **699.9** Mitochondrial biogenesis in hypoxic rat pulmonary artery endothelial cells: possible involvement of DNA oxidation. **M.V. Ruchko, O.M. Gorodnya and V.M. Pastukh.** Univ. of South Alabama Col. of Med.
- D377 **II** **699.10** Metabolomics reveals the role of hypoxia-inducible factors in hypoxia-induced liver metabolic shift. **A. Qu, F. Li, K. Krausz, Y.M. Shah and F.J. Gonzalez.** NCI/NIH and Univ. of Michigan Sch. of Med.
- D378 **I** **699.11** Inhibition of hypoxia inducible factor 1  $\alpha$  improves the metabolic phenotype in C57BL/6J mice with diet-induced obesity. **M-K. Shin, L. Drager, S. Bevans-Fonti, D.Y. Yoo, S. Aja, S. Bhanot and V. Polotsky.** Johns Hopkins Univ., Univ. of São Paulo and Isis Pharmaceut., Carlsbad, CA.
- D379 **II** **699.12** Differential anoxia and hypoxia tolerance in two color morphs of the green crab, *Carcinus maenas*. **C.A. Toombs, J.A. Jost and M. Frederich.** Univ. of New England and Bradley Univ., IL.

**700. HYPOXIC PULMONARY VASOCONSTRICTION****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D380 **I**      **700.1**    Cytochrome P450 2J epoxygenase gene function in murine hypoxic pulmonary vasoconstriction. **A. Beloiartsev, G.L. Zhou, K.D. Bloch, B. Seed and W.M. Zapol.** Massachusetts Gen. Hosp.
- D381 **II**      **700.2**    Novel role for copper transport protein CTR1 in hypoxia induced pulmonary hypertension. **A.M. Zimnicka, J. Chen and J.X-J. Yuan.** Univ. of Illinois at Chicago.
- D382 **I**      **700.3**    Role of CFTR and sphingolipids in hypoxic pulmonary vasoconstriction. **H. Yu, L. Wang, A. Kapus and W.M. Kuebler.** St. Michael's Hosp., Toronto, German Heart Inst. Berlin and Univ. of Toronto.
- D383 **II**      **700.4**    Upregulation of TMEM16A underlies chronic hypoxia-induced increase of Ca<sup>2+</sup>-activated Cl<sup>-</sup> current in pulmonary arterial smooth muscle. **H. Sun, Y. Xia, O. Paudel, X-R. Yang and J.S.K. Sham.** Johns Hopkins Univ.
- D384 **I**      **700.5**    TRPC1 and Orai1 interact with STIM1 and mediate capacitative calcium entry activated by acute hypoxia in mouse pulmonary arterial smooth muscle cells. **L.C. Ng, K.G. O'Neill, D. French, J.A. Airey, C.A. Singer, H. Tian, X-M. Shen and J.R. Hume.** Univ. of Nevada Sch. of Med., Reno.

**701. AUTONOMIC CONTROL OF VISCERAL FUNCTIONS (POSTERS)****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D385 **I**      **701.1**    Evidence that activation of both vagal and glossopharyngeal afferents cause the release of 5-HT in the NTS. **P.S. Hosford, J. Millar and A.G. Ramage.** University Col. London and Barts and The London Sch. of Med. and Dent.
- D386 **II**      **701.2**    Selective effects of inhaled methacholine on 3rd generation bronchial blood flow and airway dimensions in awake sheep. **S.W. White, D. McLeod, G. Parsons, R. Gunther, D. Cottee and A. Quail.** Univ. of Newcastle, Australia, Univ. of California, Davis, Sacramento and John Hunter Hosp., New Lambton, Australia.
- D387 **I**      **701.3**    Multiple factors working in concert regulate blood pressure over a hibernation bout in the Syrian hamster. **M. Saenz, J.S. Hamilton, S. Chau, J. Horowitz, C. Chen and B. Horwitz.** Univ. of California, Davis.
- D388 **II**      **701.4**    Calcium permeability in NMDA receptors in NTS baroreceptive neurons is not decreased at low temperature in Syrian hamsters, a hibernating species. **S-i. Sekizawa, J. Horowitz, B. Horwitz and C. Chen.** Univ. of California, Davis.
- D389 **I**      **701.5**    Central TRPV1 signaling regulates systemic blood glucose levels and hepatic PEPCK protein expression. **J.D. O'Hare, K. Miyata, T.L. Fourier, A.M. Krantz, A.V. Derbenev and A. Zsombok.** Tulane Univ.

- D390 **II**      **701.6**    Prolonged TRPV1 activation increases frequency and amplitudes of glutamatergic events in NTS neurons. **M.E. Hofmann, J.A. Fawley and M.C. Andresen.** Oregon Hlth. & Sci. Univ.
- D391 **I**      **701.7**    Hydrogen peroxide modulates membrane properties in second-order nucleus tractus solitarii neurons. **T.D. Ostrowski, E.M. Hasser, C.M. Heesch and D.D. Kline.** Univ. of Missouri-Columbia.
- D392 **II**      **701.8**    Experimental spinal cord injury alters the dose response of vagal motoneurons to TRH. **G.M. Holmes and E.M. Swartz.** Penn State Col. of Med.
- D393 **I**      **701.9**    Perivagal capsaicin alters the response of vagal motoneurons to thyrotropin releasing hormone. **G.M. Holmes, E.M. Swartz and R.A. Travagli.** Penn State, Hershey.
- D394 **II**      **701.10**    The effects of oxytocin on gastric motility are mediated by different neuronal pathways in an iodoacetamide model of functional dyspepsia. **G.M. Holmes and R.A. Travagli.** Penn State, Hershey.
- D395 **I**      **701.11**    Effects of oxytocin on gastric-projecting neurons in a rat model of functional dyspepsia. **T. Babic, K.N. Browning and R.A. Travagli.** Penn State Col. of Med.
- D396 **II**      **701.12**    Group III metabotropic glutamate receptors activate selectively pancreas-projecting neurons in the dorsal motor nucleus of the vagus that control endocrine secretions. **T. Babic and R.A. Travagli.** Penn State Col. of Med.
- D397 **I**      **701.13**    Trk moves on track: retrograde transport of TrkA mediates sensory neuroplasticity in experimental colitis. **L. Qiao, S. Yu, M. Gulick and C. Xia.** Virginia Commonwealth Univ.
- D398 **II**      **701.14**    p22<sup>phox</sup> in the paraventricular nucleus of the brain contributes to diet-induced obesity. **H.E. Lob, D.G. Harrison, A.L. Mark and R.L. Davisson.** Cornell Univ. Col. of Vet. Med., Vanderbilt Univ., Univ. of Iowa and Weill Cornell Med. Col.
- D399 **I**      **701.15**    Sympathovagal imbalance in type 2 diabetic Goto-Kakizaki rats associates with abnormal hypothalamic and brainstem gene expressions relevant to food intake. **H. Yang, K-W. Zhao and A. Chen.** UCLA and VA Greater Los Angeles Healthcare Syst.
- D400 **II**      **701.16**    POMC-GLP-2R signaling and action in the control of feeding behavior and gastric motility. **X. Guan, X. Shi, D. Li, X. Li, Y. Wang, B. Chang and L. Chan.** Baylor Col. of Med. and Univ. of Texas MD Anderson Cancer Ctr.
- D401 **I**      **701.17**    Epigenetic reprogramming of mitochondrial dysfunction in hyperhomocysteinemia. **N. Tyagi, N. Narayanan, P.K. Mishra, N. Qipshidze, S. Givvimani and S.C. Tyagi.** Univ. of Louisville.

**702. NEURAL CONTROL OF CARDIORESPIRATORY FUNCTION****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D402 **I**      **702.1**    Respiration drives phase synchroni- zation between blood pressure and R-R interval following loss of cardiovagal baroreflex during vasovagal syncope. **J.M. Stewart, A.J. Ocon and M.S. Medow.** New York Med. Col.

- D403 II 702.2 Central processing by electroacupuncture of cardiovascular reflex vasodepression. **S.C. Tjen-A-Looi, P. Li, A-F. Hsiao and J.C. Longhurst.** Univ. of California, Irvine and VA Hosp., Long Beach.
- D404 I 702.3 Aeroallergen-induced hypoxic bradycardia in spontaneously breathing house dust mite-sensitive nonhuman primates. **R.L. Wardle, S.R. Ellis, J.L. Gaddis, S.G. Olmstead III, B.D. Putnam, S.P. Reece, R.B. Fick, Jr. and M.R. Van Scott.** Brody Sch. of Med. at East Carolina Univ. and Merck Res. Labs., Palo Alto.
- D405 II 702.4 Expression of ROS catabolic enzymes in the medial nucleus tractus solitarii of rats and upregulation during acute hypoxia. **T.D. Ostrowski, S.L. Barr, H.A. Dantzer, E.M. Hasser, D.D. Kline and C.M. Heesch.** Univ. of Missouri-Columbia.
- D406 I 702.5 A theoretical study of the physiological significance of respiratory sinus arrhythmia. **A. Ben-Tal, S.S. Shamailov and J.F.R. Paton.** Massey Univ., New Zealand and Univ. of Bristol.
- D407 II 702.6 Caudal ventrolateral medulla activation by acute hypoxia is independent of changes in arterial blood pressure. **T.L. King, C.M. Heesch, S. Friskey, B. Ruyle, D.D. Kline and E.M. Hasser.** Univ. of Missouri-Columbia.
- D408 I 702.7 The ventilatory response to muscle metaboreflex stimulation during concurrent hypercapnia. **R.M. Bruce and M.J. White.** Sch. of Sport and Exer. Sci., Univ. of Birmingham, U.K.
- D409 II 702.8 Blockade of P2X purinergic receptors of the lateral parabrachial nucleus reduces hypoxia-induced tachypnea. **M.F. Menezes, J.V. Menani and P.M. De Paula.** UNESP, Araraquara, Brazil.
- D410 I 702.9 Ventilatory chemoreflex enhancement in cigarette smokers is reversed by ascorbic acid. **U.A. Leuenberger, R. Vazquez, R.C. Drew, M.D. Muller, C.L. Sauder, C. Blaha and J. Mast.** Penn State Hershey Heart and Vasc. Inst.
- D411 II 702.10 Arterial pressure and ventilation in sodium-depleted rats. **P.M. De Paula, M.T. Favero and J.V. Menani.** FOAR-UNESP, Araraquara, Brazil.
- D412 I 702.11 Control of sympathetic and phrenic nerve activity by cholinergic mechanisms in the nucleus of the solitary tract. **W.I. Furuya, M. Bassi, J.V. Menani, E. Colombari, D.B. Zoccal and D.S.A. Colombari.** FOAr, UNESP, Araraquara and Fed. Univ. of Santa Catarina, Brazil.
- D413 II 702.12 The role of melanin concentrating hormone in central chemoreception: a knockdown study by siRNAs in the lateral hypothalamus. **N. Li, A. Li and E.E. Nattie.** Dartmouth Col.
- D414 I 702.13 Apyrase (apy) inhibits mechanical activation of nodose C-fibers in guinea pig lung. **L.A. Weigand and B.J. Udem.** Johns Hopkins Bloomberg Sch. of Publ. Hlth. and Johns Hopkins Univ.
- D415 II 702.14 Cardiovascular deconditioning augments baseline breathing as well as peripheral and central chemoreflex responses. **Z. Zhou, T.L. King, D.D. Kline, C.M. Heesch and E.M. Hasser.** Univ. of Missouri-Columbia.
- D416 I 702.15 Activation of nucleus tractus solitarii neurons that project to the rostral ventrolateral medulla or hypothalamic paraventricular nucleus: role of acute hypoxia. **B.C. Ruyle, C.M. Heesch, T.L. King, D.D. Kline and E.M. Hasser.** Univ. of Missouri-Columbia.
- D417 II 702.16 Central mechanisms activated by leptin to modify hypercapnia-induced ventilatory responses. **M. Bassi, W.I. Furuya, N.B. Nakamura, D.S. Colombari, J.V. Menani, M.L. Glass, J.E. Hall and E. Colombari.** State Univ. of São Paulo, Araraquara, Univ. of São Paulo, Ribeirão Preto and Univ. of Mississippi Med. Ctr.
- D418 I 702.17 Serotonin 2A receptors augment synaptic transmission in the nucleus tractus solitarii. **J.R. Austgen and D.D. Kline.** Univ. of Missouri-Columbia.

### 703. NEURAL MECHANISMS IN CARDIOVASCULAR DISEASE

#### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D419 I 703.1 Exercise training suppresses central command-evoked sympathoexcitation in rats with heart failure. **S. Koba, Y. Inoue, I. Hisatome and T. Watanabe.** Tottori Univ. Fac. of Med. and Grad. Sch. of Med. Sci., Japan.
- D420 II 703.2 Role of nuclear factor-kappa B in mitochondria-derived superoxide-lowered protein expression of voltage-gated sodium channels in nodose neurons from heart failure rats. **H. Tu, J. Liu and Y-I. Li.** Univ. of Nebraska Med. Ctr.
- D421 I 703.3 Blockade of brain angiotensin II type 1 receptor attenuates angiotensin II-induced left ventricular end-diastolic pressure elevation and myocardial hypertrophy via sympathoinhibition. **K. Shinohara, Y. Hirooka, T. Kishi and K. Sunagawa.** Kyushu Univ. Grad. Sch. of Med. Sci., Japan.
- D422 II 703.4 Effect of acetylcholinesterase blockade with pyridostigmine on baroreflex and cardiovascular autonomic control in heart failure rats, six to seven weeks after coronary artery ligation. **J.P.J. Sabino, C.A.A. da Silva, R. Fazan, Jr. and H.C. Salgado.** Sch. of Med. of Ribeirão Preto and Univ. of São Paulo, Ribeirão Preto.
- D423 I 703.5 Effect of acetylcholinesterase inhibition with pyridostigmine on cardiovascular parameters in mice with myocardial infarction. **M.T. Durand, J.M. do Carmo, W.G. Corrêa, M. Oliveira, R. Fazan, Jr. and H.C. Salgado.** Sch. of Med. of Ribeirão Preto, Univ. of São Paulo and Univ. of Mississippi Med. Ctr.
- D424 II 703.6 Effect of pyridostigmine on hemodynamics and arrhythmias acutely after myocardial infarction in anesthetized rats. **F.M. Santos, C.A. Silva, H.C. Salgado and R. Fazan, Jr.** Sch. of Med. of Ribeirão Preto, Univ. of São Paulo.
- D425 I 703.7 Rho kinase inhibition lowers sympathetic nerve activity in conscious rabbits with chronic heart failure. **K.K.V. Haack, L. Gao, P. Curry and I.H. Zucker.** Univ. of Nebraska Med. Ctr.
- D426 II 703.8 Autonomic boundary conditions for ventricular fibrillation. **I. Naggar, S. Uchida, H. Kamran, J. Lazar and M. Stewart.** SUNY Downstate Med. Ctr. and Tokyo Metro. Inst. of Gerontol.
- D427 I 703.9 Nonclassical G protein coupled receptor kinase 5 regulation of angiotensin II type 1 receptor in CATH.a neurons. **C.W. Engler, K.K.V. Haack and I. Zucker.** Univ. of Nebraska Med. Ctr.

- D428 **II** **703.10** Angiotensin type 1a receptors and reactive oxygen species mediate nuclear factor- $\kappa$ B activation in the subfornical organ during slow-pressor angiotensin-II hypertension. **A. Li, C.N. Young and R.L. Davisson.** Cornell Univ. and Weill Cornell Med. Col.
- D429 **I** **703.11** Physical (in)activity leads to neuroplastic changes in the rostral ventrolateral medulla. **S.L. Speirs, N.A. Mischel and P.J. Mueller.** Wayne State Univ.
- D430 **II** **703.12** Intermittent activation of peripheral renin-angiotensin system elicits sympathetic long-term facilitation. **A.Y. Fong, T. Xing, T.G. Bautista, B. Zogovic and P.M. Pilowsky.** Australian Sch. of Adv. Med., Macquarie Univ.
- D431 **I** **703.13** Intrarenal and sympathetic premotor neuron changes in response to denervation of ischemic kidney in renovascular hypertension. **E.E. Nishi, C.T. Bergamaschi, G.N. Gomes, J.C. Perry, M.G. Naffah-Mazzacoratti, E.F. Castro and R.R. Campos.** Fed. Univ. of São Paulo.
- D432 **II** **703.14** A cafeteria-style diet induces obesity and increases lumbar sympathetic nerve activity in rats. **M.S. Muntzel and O.A. Al-Naimi.** Lehman Col., CUNY.
- D433 **I** **703.15** Peripheral chemoreceptors contribute significantly to hypertension in spontaneously hypertensive rats. **C.A. Whiteis, C.E. Post, D.A. Morgan, K. Rahmouni, M.W. Chapleau and F.M. Abboud.** Univ. of Iowa and VA Med. Ctr.
- D434 **II** **703.16** Activated subfornical organ contributes to enhanced sympathoexcitation during chronic heart failure. **T.L. Llewellyn, N.M. Sharma, H. Zheng and K.P. Patel.** Univ. of Nebraska Med. Ctr.
- D435 **I** **703.17** Contribution of PIN in the regulation of neuronal nitric oxide synthase in the PVN of rats with chronic heart failure. **N.M. Sharma, T.L. Llewellyn, H. Zheng and K.P. Patel.** Univ. of Nebraska Med. Ctr.
- D436 **II** **703.18** Changes in cardiovascular variability in response to stress in rats with two different forms of hypertension. **L.F. Hayward, M. Hernandez and M. Castellanos.** Univ. of Florida.
- D437 **I** **703.19** Rats with ischemic heart failure exhibit exaggerated conditioned fear and altered  $\beta$ -adrenergic receptor expression in forebrain regions that govern autonomic responses to fear. **J. Glasgow, J. Cunha, R. Tiniakov, A. Samarel, Y. Koshman, E.J. Neafsey, G. Battaglia and K. Scrogin.** Loyola Univ. Chicago, Maywood.
- D438 **II** **703.20** Progression of heart failure after myocardial infarction in the conscious rat. **C.J. Barrett, S. Pyner, S.C. Malpas and S-J. Guild.** Univ. of Auckland, Durham Univ. Sch. of Biol. & Biomed. Sci., U.K. and Telemetry Res. Ltd., Auckland.
- D439 **I** **703.21** Angiotensin converting enzyme 2 attenuates angiotensin II-mediated phosphorylation of MAP kinase and Akt in neurons. **S. Sriramula, K.B. Pedersen and E. Lazartigues.** LSU Hlth. Sci. Ctr., New Orleans.
- D440 **II** **703.22** Endoplasmic reticulum stress in cardiovascular and metabolic control during DOCA-salt treatment. **J.L. Grobe, A.M. Hilzendeger, R.B. Siel, D.R. Davis, R.L. Davisson, A.L. Mark and C.D. Sigmund.** Univ. of Iowa and Weill Cornell Med. Col.
- D441 **I** **703.23** Regulation of tyrosine hydroxylase by ET<sub>A</sub> receptors in the olfactory bulb of DOCA-salt hypertensive rats. **M.J. Guil, V.P. Morales, C.V. Soria, S.I. Hope, L.G. Bianciotti and M.S. Vatta.** Sch. of Pharm. and Biochem. and Univ. of Buenos Aires.
- 704. CONTROL OF BREATHING: INTEGRATED RESPONSES**
- Poster**
- SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D
- Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)*
- D442 **I** **704.1** Effects of thyroid hormone supplementation on ventilation and metabolism in a rat model of type 2 diabetes. **E.H. Schlenker, S. Bollinger, N. Weltman and A.M. Gerdes.** Univ. of South Dakota Sanford Sch. of Med. and New York Col. of Osteo. Med.
- D443 **II** **704.2** Poikilocapnic hyperoxic hyperventilation precedes onset of CNS oxygen toxicity: evidence for the hypothesis that hyperbaric hyperoxia stimulates medullary CO<sub>2</sub>-chemoreceptors and respiration prior to seizure. **R. Pilla, M. Matott, C.S. Landon and J.B. Dean.** Univ. of South Florida.
- D444 **I** **704.3** Sex-specific pattern of respiratory control persist in adult mice KO for nuclear progesterone receptors. **V. Joseph, A. Dallongeville and V.D. Doan.** Laval Univ., Canada.
- D445 **II** **704.4** Localization of nuclear and membrane progesterone receptors in the brainstem of adult mice. **V. Joseph, K. Habbal and R. Goulemetova.** Laval Univ., Canada.
- D446 **I** **704.5** Ventilatory long-term facilitation is altered in tryptophan hydroxylase 2 knockout mice. **S.J. Hickner, M. Angoa-Perez, D.M. Kuhn and J.H. Mateika.** Wayne State Univ. Sch. of Med. and John D. Dingell VA Med. Ctr.
- D447 **II** **704.6** Phrenic motoneuron rate-coding and recruitment during long-term facilitation. **K-Z. Lee and D.D. Fuller.** Natl. Sun Yat-sen Univ., Taiwan and Univ. of Florida.
- D448 **I** **704.7** Cervical spinal demyelination with ethidium bromide reversibly impairs phrenic nerve activity in adult rats. **R.A. Johnson, N.L. Nichols, I.D. Duncan, A.M. Punzo and G.S. Mitchell.** Univ. of Wisconsin-Madison.
- D449 **II** **704.8** Severe sustained hypoxia elicits long-lasting phrenic motor facilitation by an adenosinergic mechanism. **N.L. Nichols, M.J. Devinney and G.S. Mitchell.** Univ. of Wisconsin-Madison.
- D450 **I** **704.9** Spinal A2A receptor inhibition reveals phrenic motor facilitation following moderate sustained hypoxia. **M.J. Devinney, N.L. Nichols and G.S. Mitchell.** Univ. of Wisconsin-Madison.
- D451 **II** **704.10** Spinal VEGF-induced phrenic motor facilitation is unaffected by pretreatment with repetitive acute intermittent hypoxia. **E.A. Dale, I. Satriotomo and G.S. Mitchell.** Univ. of Wisconsin-Madison.
- D452 **I** **704.11** Spinal respiratory plasticity is impaired by two models of systemic inflammation, lipopolysaccharide and severe intermittent hypoxia. **A.G. Huxtable, T. Peterson, S.M. Smith, J.J. Watters and G.S. Mitchell.** Univ. of Wisconsin-Madison.
- D453 **II** **704.12** Local reductions in synaptic inputs to the phrenic motor pool elicits atypical protein kinase C and tumor necrosis factor alpha dependent inactivity-induced phrenic motor facilitation. **K.A. Strey and T.L. Baker-Herman.** Univ. of Wisconsin-Madison.

- D454 I **704.13** Inactivity-induced phrenic motor facilitation following intermittent neural inactivity is dependent on spinal atypical PKC. **N.A. Baertsch and T.L. Baker-Herman.** Univ. of Wisconsin-Madison.
- D455 II **704.14** Impact of sleep disordered breathing and arousal state on the hypoxic ventilatory response and ventilatory long-term facilitation. **Z. Syed, H-S. Lin and J.H. Mateika.** Wayne State Univ. and John D. Dingell VA Med. Ctr.
- D456 I **704.15** HIF-1a gene deletion in the nucleus tractus solitarius blunts ventilatory acclimatization to hypoxia. **A.D. Go, Z. Fu, R.S. Johnson and F.L. Powell.** UCSD.
- D457 II **704.16** Arousal in rat pups habituates in response to repeated bouts of hypercapnia: implications for the sudden infant death syndrome. **R.A. Darnall, R. Schneider, C. Webster and C. Tobia.** Dartmouth Med. Sch. and Dartmouth-Hitchcock Med. Ctr.
- D458 I **704.17** Modulation of tracheobronchial cough by sensory input: in vivo experiments and model simulations. **D.C. Bolser, I. Poliacek, T.E. Pitts, B.G. Lindsey, L.S. Segers, M.J. Rose, P.W. Davenport and K.F. Morris.** Univ. of Florida, Comenius Univ., Slovakia and Univ. of South Florida.
- D459 II **704.18** Microinjection of kynurenic acid into the medial reticular formation elicits behavior-dependent effects on cough and swallow motor patterns in the anesthetized cat. **T.E. Pitts, I. Poliacek, M.J. Rose, A.N. Mortensen, P.W. Davenport, K.F. Morris and D.C. Bolser.** Univ. of Florida, Comenius Univ., Slovakia and Univ. of South Florida.
- D460 I **704.19** Relationship between total expired air, peak airflow, and cough number in reflex cough. **K.W. Hegland and P.W. Davenport.** Univ. of Florida.
- D461 II **704.20** Electromyographic chewing pattern following a MCA photothrombotic stroke. **J.A. Condrey, S. Adams and P.W. Davenport.** Univ. of Florida.
- D462 I **704.21** The opioid-induced suppression of augmented ('sigh') breaths is dose-dependent and prevented by co-administration of naloxone. **H.J. Bell and G. Pankuch.** Penn State Col. of Med.
- D463 II **704.22** The effects of two common injectable laboratory anesthetics on the regulation of augmented ('sigh') breaths. **H.J. Bell, J. Moore, P. Haouzi and A. Van De Louw.** Penn State Col. of Med.
- D464 I **704.23** Anoxia-induced respiratory arrest and autoresuscitation in rat pups exposed to dietary tryptophan deficiency. **A.E. Corcoran, H.C. Kinney and E.E. Nattie.** Dartmouth Med. Sch. and Children's Hosp. Boston.
- D465 II **704.24** Characterization of the relationship between inspiratory neural discharges and the micturition reflex in decerebrate and urethane-anesthetized adult in vivo rat. **T. Shen, W.F. Collins III and I.C. Solomon.** Stony Brook Univ. SUNY.
- D466 I **704.25** Breathlessness descriptors during constant load cycling in obese men with and without dyspnea on exertion. **V. Bernhardt, S.F. Haller, R.B. Moran and T.G. Babb.** Texas Hlth. Presbyterian Hosp. Dallas and Univ. of Texas Southwestern Med. Ctr.
- D467 II **704.26** Reversal of opioid-induced respiratory depression by the (+)-enantiomer, GAL-054, but not the (-)-enantiomer, GAL-053, of doxapram. **F.J. Golder, R.B. Gruber, V. Puskovic, S. Peng, S.L. Dax, D.E. MacIntyre and J.C. Mannion.** Galleon Pharmaceut., Horsham, PA.
- D468 I **704.27** GAL-021 acts as a novel respiratory stimulant in non-human primates. **F.J. Golder, R.L. Wardle, M.R. Van Scott, P.A. Hoskins, S.L. Dax, S. Peng, D.E. MacIntyre and J.C. Mannion.** Galleon Pharmaceut., Horsham, PA and East Carolina Univ.
- D469 II **704.28** GAL-021, a novel respiratory stimulant, attenuates opioid-induced respiratory depression without compromising analgesia. **S.M. Baby, R.B. Gruber, V. Puskovic, S. Peng, S.L. Dax, F.J. Golder, D.E. MacIntyre and J.C. Mannion.** Galleon Pharmaceut., Horsham, PA.
- D470 I **704.29** GAL-021-induced respiratory stimulation is associated with increases in carotid sinus nerve and phrenic motoneuron activity in rats. **S.M. Baby, F.J. Golder, S. Peng, S.L. Dax, D.E. MacIntyre and J.C. Mannion.** Galleon Pharmaceut., Horsham, PA.
- D471 II **704.30** Comparison of the respiratory effects of GAL-021 in BK  $\alpha$  subunit knockout (*Slo1<sup>-/-</sup>*) and wild-type mice. **S.M. Baby, T. Hoshi, S. Peng, S.L. Dax, F.J. Golder, D.E. MacIntyre and J.C. Mannion.** Galleon Pharmaceut., Horsham, PA and Univ. of Pennsylvania.

## 705. SYMPATHETIC DYSREGULATION IN OBESITY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D472 I **705.1** Inhibition of brain endoplasmic reticulum stress attenuates hypertension in diet-induced obesity. **A.L. Mark, C.N. Young, S.D. Butler, M. Guraju and R.L. Davisson.** Weill Cornell Med. Col., Univ. of Iowa and Cornell Univ.
- D473 II **705.2** Central leptin-glutamate signaling contributes to the exaggerated sympatho-excitation in rats with type 2 diabetes. **H. Zheng, X. Liu and K.P. Patel.** Univ. of Nebraska Med. Ctr.
- D474 I **705.3** Enhanced activation of sympathetic nerve activity and arterial pressure by the hypothalamic paraventricular nucleus in obese Zucker rats. **D.A. Huber and A.M. Schreihofner.** Univ. of North Texas Hlth. Sci. Ctr.
- D475 II **705.4** Angiotensin type 1a receptors in the subfornical organ are involved in leptin-induced sympathetically-mediated brown adipose tissue thermogenesis. **C.N. Young, D.A. Morgan, S.D. Butler, A.L. Mark and R.L. Davisson.** Cornell Univ., Univ. of Iowa and Weill Cornell Med. Col.
- D476 I **705.5** Arcuate nucleus injection of anti-insulin affibody prevents sympathetic response to circulating insulin. **B. Luckett, J. Friele, L. Wolfgang and S.D. Stocker.** Penn State Col. of Med. and Gettysburg Col.
- D477 II **705.6** Role of leptin and insulin on renal sympathetic nerve activity in high fat fed rabbits. **K. Lim, S.L. Burke, B. Barzel, J.A. Armitage and G.A. Head.** Baker IDI Heart & Diabetes Inst., Melbourne and Monash Univ., Australia.
- D478 I **705.7** Positive correlation between cyber leisure time and sympathetic activity in high school students. **N-H. Kim, I.D. Kong and M.E. Son.** Keimyung Univ., Yonsei Univ. and Dongsan Med. Ctr., South Korea.
- D479 II **705.8** Comparative effects of fatty acid synthase inhibitors, C75 and cerulenin, on brown adipose tissue thermogenesis in Wistar rats. **P. Cassolla, M.A.R. Garófalo, I.C. Kettelhut and L.C.C. Navegantes.** Univ. of São Paulo, Ribeirão Preto.



D480 **I** **705.9** Upregulation of orexin receptor 1 contributes to increased sympathetic output in obese Zucker rats. **D-P. Li and H-L. Pan.** Univ. of Texas MD Anderson Cancer Ctr.

## 706. CENTRAL REGULATORY SYSTEMS

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D481 **I** **706.1** Integrative responses of neurons in nucleus tractus solitarius to stimulation of visceral and vestibular afferents. **Y. Sugiyama, T. Suzuki, V.J. Destefino and B.J. Yates.** Univ. of Pittsburgh.

D482 **II** **706.2** Effects of intragastric infusion of copper sulfate on the responses of parabrachial nucleus neurons to whole-body rotations in decerebrate felines. **T. Suzuki, Y. Sugiyama and B.J. Yates.** Univ. of Pittsburgh.

D483 **I** **706.3** Effects of central orexin 1 receptor blockade on locus coeruleus neurons with lateral hypothalamic input. **A.J. Verberne.** Univ. of Melbourne.

D484 **II** **706.4** Central chemoreflex activation resets the setpoint pressure of baroreflex without compromising its function. **K. Saku, K. Hosokawa, T. Sakamoto, K. Onitsuka, K. Sakamoto, T. Tobushi, T. Fujino, T. Ide, T. Miyamoto and K. Sunagawa.** Kyushu Univ. and Grad. Sch. of Hlth. Sci., Morinomiya Univ. of Med. Sci., Japan.

D485 **I** **706.5** Cardiovascular effects after glutamate microinjection into the RVLM of MSG obese conscious rats. **M.C. Martins-Pinge and N.V. Cunha.** State Univ. of Londrina, Brazil.

D486 **II** **706.6** Brain 11 $\beta$ -hydroxysteroid dehydrogenase activity: which enzyme? **S. Formenti, C.E. Gomez-Sanchez, E. Colombari and E.P. Gomez-Sanchez.** Fed. Univ. of São Paulo, Univ. Mississippi Med. Ctr. and Jackson VA Med. Ctr.

D487 **I** **706.7** Adeno-associated virus labeling of catecholaminergic neurons in nucleus of solitary tract of rats. **C. Bathina and S. Mifflin.** Univ. of North Texas Hlth. Sci. Ctr.

D488 **II** **706.8** Increased group I metabotropic glutamate receptor activity contributes to hyperactivity of presympathetic paraventricular neurons in hypertension. **D-P. Li and H-L. Pan.** Univ. of Texas MD Anderson Cancer Ctr.

## 707. BLOOD-BRAIN BARRIER, BRAIN BLOOD FLOW, AND METABOLISM

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D489 **I** **707.1** Ischemia accentuates the transfer of interleukin-1 $\beta$  across the blood-brain barrier in the ovine fetus. **G.B. Sadowska, X. Chen, J. Zhang, E.E. Cummings, J.F. Padbury, W.A. Banks and B.S. Stonestreet.** Women & Infants Hosp. of Rhode Island and Univ. of Washington.

D490 **II** **707.2** Effect of inhibiting interleukin-1 $\beta$  with neutralizing antibody on tight junction protein expression after brain ischemia in ovine fetus. **X. Chen, G.B. Sadowska, J. Zhang, E.E. Cummings, Y.P. Lim and B.S. Stonestreet.** Women & Infants Hosp. of Rhode Island and ProThera Biologics, East Providence, RI.

D491 **I** **707.3** Perivascular blood induces substantial constrictions of isolated basilar artery, which can be reversed by high pCO<sub>2</sub>. **P. Cseplo, O. Torok, Z. Vamos, D. Kosa, Z. Springo, J. Hamar and A. Koller.** Univ. of Pecs Med. Sch., Hungary and New York Med. Col.

D492 **II** **707.4** The involvement of hypoglycemia in brain glycogen decrease during exhaustive exercise. **T. Matsui and H. Soya.** Univ. of Tsukuba, Japan.

D493 **I** **707.5** ABC transporter expression, function and regulation at the blood-spinal cord barrier. **D.S. Miller, C. Schroeter, X. Wang and C.R. Campos.** NIEHS/NIH, Research Triangle Park and Univ. of Heidelberg, Germany.

D494 **II** **707.6** Protective role of antioxidant supplementation in tobacco smoke toxicity at the blood-brain barrier. **P.S. Naik, Q. Smith and L. Cucullo.** Texas Tech Univ. Hlth. Sci. Ctr., Amarillo.

D495 **I** **707.7** The effect of hemorrhagic shock and resuscitation on blood-brain barrier integrity. **Q. Hao, B. Miyazawa, M. Kutcher, R. Vilardi, M.A. Matthay and M.J. Cohen.** UCSF.

D496 **II** **707.8** Differential involvement of tight junction associated proteins in regulating blood-brain barrier endothelial cell permeability. **B. Tharakan, D. Sawant, F.A. Hunter and E.W. Childs.** Texas A&M Hlth. Sci. Ctr. Col. of Med. and Scott & White Hosp., Temple.

## 708. BRAIN DEVELOPMENT AND AGING

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D497 **I** **708.1** The role of exercise on oxidative stress and inflammation in the aging brain. **E.N. Chirico, D. Patsouris, A. Geloan, J. Rieusset, R. Abidi, E. Canet-Soulas and V. Pialoux.** INSERM U1060, Univ. Lyon 1, Oullins and Ctr. of Res. and Innovation in Sports EA647, Villeurbanne.

D498 **II** **708.2** Novel effects of folinic acid supplementation in embryonic zebrafish, *Danio rerio*. **B. Slavnic, S. Miller, J. Sacks, S. Kosmin, T.K. Puryear and S. Saszik.** Northeastern Illinois Univ.

D499 **I** **708.3** The effects of melatonin on endoplasmic reticulum stress during brain development in rat. **D. Jung, Y. Hong and Y. Hong.** Grad. Sch. and Col. of Biomed. Sci. & Engin., Inje Univ., South Korea.

## 709. COGNITION AND BEHAVIOR

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D500 I **709.1** EEG brain wave band differentiation during a eustress state of humor associated mirthful laughter compared to a distress state. **L. Berk, P. Cavalcanti and G. Bains.** Loma Linda Univ.
- D501 II **709.2** The tragedy of taste and smell dysfunction in the United States – it affects millions. **R.I. Henkin.** The Taste and Smell Clin., Washington, DC.
- D502 I **709.3** Behavior and memory evaluation in Wistar rats with hypothalamus arcuate nucleus lesion. **E.S.G. Guimarães, L.C. Caires Júnior, C.M. Musso, R. Vasconcellos, D. Assis, A.E. Andreazzi, C.A. Mourão-Júnior and R.M.G. Garcia.** Fed. Univ. of Juiz de Fora, Brazil.
- D503 II **709.4** The role of muscarinic receptors in prefrontal excitability and fear extinction. **E. Santini, M.T. Sepulveda-Orengo and J.T. Porter.** Nova Southeastern Univ. and Ponce Sch. of Med., PR.
- D504 I **709.5** Behavioral, physiological, and morphological outcomes under dynamic oxygen environments in zebrafish. **C. Marks, F.B.G. Moore, K.P. Kaut and B. Bagatto.** Univ. of Akron.
- D505 II **709.6** Alpha1A adrenergic receptor stimulation improves mood in mice. **B.A. Davis, E.J. Luger, A.H. Fossen, K.M. Collette, L.N. Wilkie, S.L. Poitra, J.R. Haselton, D.M. Perez and V.A. Doze.** Univ. of North Dakota, Turtle Mountain Community Col., ND and Cleveland Clin.

## 710. NEURODEGENERATIVE AND NEUROTOXIC DISORDERS

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D506 I **710.1** Adenylyl cyclase inhibitors reverse the neurotoxic effects of manganese on post-synaptic dopamine D2 receptors. **M. Nelson, C. Ojo, T. Adams, M.A. Carroll and E.J. Catapane.** Medgar Evers Col., NY.
- D507 II **710.2** A new model for studying focal and generalized chronic seizures in anesthetized rats. **I. Naggar and M. Stewart.** SUNY Downstate Med. Ctr.
- D508 I **710.3** EETs pre-treatment improves mitochondrial dynamics against A $\beta$ -induced damage in cultured hippocampal astrocytes. **P. Sarkar, I. Zaja, M. Bienengraeber, S. Canfield and D.R. Harder.** Med. Col. of Wisconsin.
- D509 II **710.4** Cold acclimation and central administration of homocysteic acid in rats: a potential model for schizophrenia. **C. Barney, L. Chase, C. Davis, G. Flores, J. Kemink, J. Logan, M. McMurray, L. Reif, A. Sayfie, C. Strahle and A. Wagner.** Hope Col., MI.
- D510 I **710.5** Evidence of age-related neuronal aberrations and dysfunction of sensory neurons in a polyglutamine model of Huntington's disease. **E. Vayndorf, M. Driscoll and B. Taylor.** Univ. of Alaska Fairbanks and Rutgers Univ., Piscataway.

- D511 II **710.6** Role of endosomal sodium/hydrogen exchangers NHE6 and NHE9 in a neurobiological model of disease. **A. Hack, K.C. Kondapalli and R. Rao.** Johns Hopkins Sch. of Med.

## 711. NEUROINFLAMMATION/NEUROPROTECTION/ISCHEMIA

## Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D512 I **711.1** Perinatal nicotine exposure increases hypoxic-ischemic brain injury in neonatal rats. **Y. Li, W. Tong, D. Xiao and L. Zhang.** Loma Linda Univ.
- D513 II **711.2** Anoxia-tolerant Western painted turtle cortex is also ischemia-tolerant. **M.E. Pamenter, D.W. Hogg, X.Q. Gu, L.T. Buck and G.G. Haddad.** UCSD, Univ. of Toronto and Rady's Children's Hosp. San Diego.
- D514 I **711.3** Neutrophil depletion reduces edema formation and tissue loss following traumatic brain injury in mice. **E. Kenne, A. Erlandsson, L. Lindbom, L. Hillered and F. Clausen.** Karolinska Inst., Uppsala Univ. and Uppsala Univ. Hosp., Sweden.
- D515 II **711.4** Role of 20-HETE in neuronal signaling and contribution to neonatal hypoxic-ischemic encephalopathy. **R.C. Koehler, Z.-J. Yang, E.L. Carter, K.K. Kibler, H. Kwansa, R.J. Roman and D.R. Harder.** Johns Hopkins Univ., Univ. of Mississippi Med. Ctr. and Med. Col. of Wisconsin.
- D516 I **711.5** Neuronal pentraxin 1: a molecular determinant of hypoxic-ischemic brain injury. **M.A. Hossain.** Kennedy Krieger Inst. and Johns Hopkins Univ. Sch. of Med.
- D517 II **711.6** Characterization of TLR4 signaling and function in two brain endothelial cell lines. **O.K. Nilsson and H. Hellqvist.** Umeå Univ., Sweden.
- D518 I **711.7** Effect of human amnion epithelial cells on stroke outcome in mice. **C. Sobey, K. Taylor, R. Lim, E. Wallace, G. Drummond and B. Broughton.** Monash Univ., Australia.
- D519 II **711.8** Brain inflammatory mediators induced by high fat diet are significantly blunted with the deletion of MCP-1. **B.T. Gordon, J. McClellan, E.A. Murphy, M.D. Carmichael and J.M. Davis.** Univ. of South Carolina Sch. of Med.
- D520 I **711.9** Exercise and neuroprotection in an animal model of multiple sclerosis. **B. Pryor and L. White.** Univ. of Georgia.
- D521 II **711.10** Development, testing and therapeutic applications of ketone esters for CNS oxygen toxicity; i.e., hyperbaric oxygen-induced seizures. **D. D'Agostino, R. Pilla, H. Held, C. Landon, C. Ari, P. Arnold and J.B. Dean.** Univ. of South Florida, Byrd Alzheimer's Inst., Tampa and Savind Inc., Seymour, IL.
- D522 I **711.11** Resveratrol improves cerebrospinal fluid neuroprotective biomarkers in monkeys fed with a high-fat high-sugar diet. **K. Sankavaram, J. Mattison, R. de Cabo, K. Pearson and J.S. Allard.** Howard Univ., NIA/NIH, Baltimore and Univ. of Kentucky.

- D523 II 711.12 Plasma aldosterone levels increase after cerebral ischemia and mineralocorticoid receptor antagonism at the time of reperfusion reduces the size of the infarct. **C.M. Dams, E.B. Sinclair and A.M. Dorrance.** Michigan State Univ.
- D524 I 711.13 Histamine enhances excitability and may augment neuroprotection in the Syrian hamster hippocampus. **G.G. Ibanez, R. Chau, J.S. Hamilton, J. Horowitz and B. Horwitz.** Univ. of California, Davis.
- D525 II 711.14 Effects of nordihydroguaiaretic acid and dimethylsulfoxide on experimental cerebral ischemia. **C. Villanueva, J. Aguilar, G. Guevara-Balcazar, A. Alva, R. Medina-Santillan and R.D. Kross.** Higher Sch. of Med.- IPN, Mexico City and Kross Link Labs., Bellmore, NY.
- D526 I 711.15 Mitochondrial fission blocker protects brain endothelial cells but not neurons following oxygen-glucose deprivation. **E.A. Wappler, P.S. Katz, P.V.G. Katakam and D.W. Busija.** Tulane Univ. Sch. of Med.
- D527 II 711.16 Melatonin affects the expression of mitochondrial fission-fusion proteins in cultured neurons. **E.A. Wappler, P.S. Katz, P.V.G. Katakam and D.W. Busija.** Tulane Univ. Sch. of Med.

## 712. GESTATION, FETAL, AND NEONATAL BIOLOGY, INCLUDING MAMMARY GLAND AND LACTATION

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D528 I 712.1 Hypoxia modulates lipopolysaccharide-induced fractalkine (CX3CL1) production by human trophoblast. **D. Szukiewicz and T.K. Mittal.** Med. Univ. of Warsaw.
- D529 II 712.2 Exposure to air pollution during pregnancy influences placental growth. **S. Soto, L.P. dos Santos, M.M. Veras and J.C. Heimann.** Univ. de São Paulo.
- D530 I 712.3 Physiological basis of poorer respiratory outcomes for males following preterm birth. **R. Harding, N. Ishak, T. Hanita, F. Sozo and R. De Matteo.** Monash Univ., Australia.
- D531 II 712.4 Low sodium intake is associated with low birth weight and size only when given in the second half of gestation. **F.R. Siqueira, R.M. Souza, I.B. Oliveira, L.N.S. Furukawa and J.C. Heimann.** Univ. of São Paulo Sch. of Med.
- D532 I 712.5 Differential vascular reactivity of fetal and maternal placental arteries from melatonin-treated nutrient-restricted sheep to endothelium-dependent and -independent vasodilators. **P. Shukla, C.O. Lemley, S. O'Rourke, A.M. Meyer and K. Vonnahme.** North Dakota State Univ. and Univ. of Wyoming.
- D533 II 712.6 Acute hypoxic hypoxia decreases active caspase-3 in fetal ovine hippocampus. **E.I.-L. Chang and C.E. Wood.** Univ. of Florida Col. of Med.

## 713. INSULIN, GLUCAGON, AND OTHER PANCREATIC HORMONES

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D534 I 713.1 Inhibition of dipeptidyl peptidase IV by sitagliptin increases GLUT4 expression in insulin-sensitive tissues of SHR. **V. Valentini, G. Giannocco, K.C. Oliveira, T.A. Salles, R.O. Crajoinas and A.C. Girardi.** Univ. of São Paulo.
- D535 II 713.2 Low RIP140 expression rescues basal FA uptake via differential expression of FATP1 and CD36 in skeletal muscle cells exposed to high palmitate. **S. Constantinescu and L.P. Turcotte.** Univ. of Southern California.
- D536 I 713.3 Hepatocyte nuclear factors 1 $\alpha$  and 1 $\beta$  are powerful inducers of the enzymatic activity of angiotensin-converting enzyme 2 in insulin-secreting cells. **K.B. Pedersen and E. Lazartigues.** LSU Hlth. Sci. Ctr., New Orleans.
- D537 II 713.4 Klotho enhances glucose-induced insulin secretion by upregulating plasma membrane retention of TRPV2. **Y. Lin and Z. Sun.** Univ. of Oklahoma Hlth. Sci. Ctr.
- D538 I 713.5 Decreased pancreatic insulin secretion is associated with increased AT1 activation during glucose supplementation in a model of metabolic syndrome. **R. Rodriguez, J.A. Viscarra, J.N. Minas, A. Lee, D. Nakano, A. Nishiyama and R.M. Ortiz.** Sch. of Nat. Sci., Univ. of California Merced and Kagawa Univ. Med. Sch., Japan.
- D539 II 713.6 Specific targeting of pancreatic  $\beta$ -cells by simultaneous binding of GLP-1 and  $\alpha$ 2-adrenergic receptors with a multivalent ligand. **K. Ananthkrishnan, C. Weber, N. Hart, J. Vagner, S. Limesand and R. Lynch.** Univ. of Arizona.

## 714. LIPID, LIPOPROTEIN AND CHOLESTEROL METABOLISM

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D540 I 714.1 Dietary fat-induced release of diamine oxidase into intestinal lymph is mediated by histamine H4 receptor. **Y. Sakata, Y. Ji, Q. Yang and P. Tso.** Univ. of Cincinnati.
- D541 II 714.2 SIK3 is a new regulator of lipid homeostasis in the mouse liver. **Y. Ito, T. Uebi, A. Kumagai, M. Sanosaka and H. Takemori.** Natl. Inst. of Biomed. Innovation, Ibaraki, Japan.
- D542 I 714.3 The effects of passive heating and subsequent exercise in the heat on lipid metabolism. **K.J. O'Hearn, B.M. Pinet, J-F. Mauger and F. Haman.** Sch. of Human Kinetics, Univ. of Ottawa.
- D543 II 714.4 A novel signaling pathway for regulation of ATP-binding cassette transporter A1 expression. **H. Yang, X. Chen, H. Zhang, X. Lin, E.U. Okoro, L. Zhou and Z. Guo.** Meharry Med. Col.

D544 I 714.5 Lipophilic and hydrophilic statins differentially modulate endoplasmic reticulum stress response in cardiac myocytes. **J.C. Godoy, E.K. Asfaw, E.A. Alvarez, N.D. Dalton, I. Niesman, H.H. Patel and A.E. Zemljic-Harph.** UCSD.

D545 II 714.6 Non-peptide agonist of the receptor MAS, AVE 0991, increases PPAR $\alpha$  expression in muscle of rats fed fructose-rich diet. **É.G. Mario, R.A.S. Santos and L.M. Botion.** Fed. Univ. of Minas Gerais, Brazil.

D546 I 714.7 Critical role of MCP-1 in n-6 polyunsaturated fatty acids-induced cardiac ER stress in diet-induced obesity. **S. Ghosh, S. Halder and R. Bahniwal.** Univ. of British Columbia-Okanagan, Canada.

D547 II 714.8 High dietary glucose intake increases hepatic triglyceride content and oxidative stress: contributions of angiotensin receptor. **P. Montez, T.A. Max, R. Rodriguez, J. Viscarra, J.P. Vázquez-Medina, D. Nakano, A. Nishiyama and R.M. Ortiz.** Univ. of California, Merced and Kagawa Univ. Med. Sch., Japan.

## 715. PROTEIN, AMINO ACID, AND CARBOHYDRATE METABOLISM, GROWTH, CONNECTIVE TISSUE, BONE, IMMUNOENDOCRINOLOGY

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D548 I 715.1 Delayed recovery of skeletal muscle mass following hindlimb immobilization in mTOR heterozygous mice. **S.M. Lang, A.A. Kazi, L. Hong-Brown and C.H. Lang.** Penn State Col. of Med.

D549 II 715.2 Short-term bed rest increases inflammation as evidenced by elevated TLR4, Nf $\kappa$ B1 and IL6 expression in skeletal muscle of older adults. **M.J. Drummond, K.L. Timmerman, M.M. Markofski, D.K. Walker, J.M. Dickinson, M. Jamaluddin, B.B. Rasmussen and E. Volpi.** Univ. of Utah and Univ. of Texas Med. Branch.

D550 I 715.3 Reduced lung glutamate production is the cause of decreased systemic glutamate availability in hyperdynamic sepsis. **G.A. Ten Have, M.P. Engelen, R.R. Wolfe and N.E. Deutz.** Donald W. Reynolds Inst. on Aging, Little Rock.

D551 II 715.4 Large molecule delivery to the growth plate increases with limb temperature measured by in vivo multiphoton imaging. **M.A. Serrat and R.M. Williams.** Marshall Univ. Sch. of Med. and Cornell Univ.

D552 I 715.5 Characterization of Toll-like receptors and beta-defensin expression in porcine glandular epithelial cells. **C. Deachapunya, S. Poonyachoti, P. Kiatprasert, Y. Srisomboon and N. Bauthong.** Srinakharinwirot Univ. and Chulalongkorn Univ., Thailand.

D553 II 715.6 Macrophage differentiation and functional polarization: role of thyroid hormones. **D. Cervia, M. Buldorini, C. Perrotta and E. Clementi.** Univ. of Tuscia, Italy and L. Sacco Univ. Hosp., Univ. of Milan.

## 716. PHYSIOLOGICAL GENOMICS OF EXERCISE, RESPIRATION, SKELETAL MUSCLES, NUTRITION, ENDOCRINE METABOLISM, AND THE GI SYSTEM

### Poster

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D554 I 716.1 Age-related changes in the skeletal muscle DNA methylome and transcriptome. **A.E. Thalacker-Mercer, K. Day, X. Cui, L. Waite, D. Absher, E. Merritt and M. Bamman.** Univ. of Alabama at Birmingham and HudsonAlpha Inst. for Biotechnol., Huntsville, AL.

D555 II 716.2 Age-dependent differences in whole-genome gene expression response to contraction-induced muscle injury. **J. Ensey, S. Li, M.L. Kashon, M.S. Hollander, R.G. Cutlip and B.A. Baker.** NIOSH, Morgantown, West Virginia Univ. and West Virginia Univ. Sch. of Med.

D556 I 716.3 Combined analysis of gene and microRNA expression in natural killer cells in response to exercise. **S. Radom-Aizik, F. Zaldivar, Jr. and D.M. Cooper.** Univ. of California, Irvine.

D557 II 716.4 SIRT1-independent epigenetic effects of resveratrol mediated through the estrogen receptor. **L.A. Wakeling, F. Alatawi, L.J. Ions, J. Hesketh and D. Ford.** Newcastle Univ., U.K.

D558 I 716.5 Hepatocyte nuclear factor 4 $\alpha$  in coordination with retinoic acid receptors increases all-trans-retinoic acid-dependent CYP26A1 gene expression in hepatocytes. **R. Zolfaghari, Y. Zhang and A.C. Ross.** Penn State.

D559 II 716.6 Glucose and lipid metabolism are modified by short-term alterations to milking frequency in grazing dairy cows. **T.M. Grala, C.V.C. Phyn, J.K. Kay, A.G. Rius, M.D. Littlejohn, R.G. Snell and J.R. Roche.** DairyNZ, Hamilton and Sch. of Biol. Sci., Univ. of Auckland.

D560 I 716.7 Feedbacks in sonic hedgehog circuits with cytokines in *H. pylori* mediated gastritis. **S. Marwaha, M. Schumacher, Y. Zavros and H. Eghbalnia.** Univ. of Cincinnati.

D561 II 716.8 The effect of vivo-morpholino targeting Vmat2 on daily physical activity in mouse soleus compared to scrambled-morpholino control. **D.P. Ferguson, E.E. Schmitt and J.T. Lightfoot.** Texas A&M Univ.

D562 I 716.9 Gender-specific pulmonary hypertension and altered skeletal muscle function in lung-specific TNF $\alpha$  overexpressing mice. **K. Tang, Y. Gu, N.D. Dalton, K. Peterson, P.D. Wagner and E.C. Breen.** UCSD.

**717. SYSTEMS BIOLOGY AND BIOINFORMATICS****Poster**

SUN. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D563 I **717.1** PhenoMiner: an interactive tool for physiologists integrating phenotype data using multiple ontologies. **M. Dwinell, M. Shimoyama, R. Nigam, W. Liu, M. Tutaj, J. De Pons, S-J. Wang, J. Smith, T. Lowry, G.T. Hayman, S. Laudederkind, V. Petri, P. Jayaraman, E. Worthey, D.H. Munzenmaier and H.J. Jacob.** Med. Col. of Wisconsin.

D564 II **717.2** Physiological Pathways tool allows intuitive linking of genotype and phenotype data to biological processes in a graphical format. **D.H. Munzenmaier, W. Liu and H.J. Jacob.** Med. Col. of Wisconsin.

D565 I **717.3** CREAL: a language for describing biological systems from a macro to a molecular scale. **S.A. Garan, A. Sarcon, A. Chen, E. Lu, H.K. Gurm, S. Gunther, B.C. Zheng, J. Zhu, N. Banerjee, A. Govinthasamy, R. Neumann, W. Freitag and G.A. Brooks.** Univ. of California, Berkeley.

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## Experimental Biology 2013

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# MONDAY, APRIL 23

## Across Societies – Experimental Biology

### 718. COMPUTERS IN RESEARCH AND TEACHING

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

#### Education

*Presentation time:* 11:30 AM-1:30 PM

Recognizing that techniques and issues related to teaching and the use of computers in research and teaching crosses all biomedical disciplines, EB 2012 has combined education posters from all participating societies. Please note: Posters are on display Sunday through Tuesday. Presentation time is for **Monday** only.

- T29 **718.1** University student evaluation of e-mail communication for academic purposes. **F. El-Sabban**. Col. for Women, Kuwait Univ.
- T30 **718.2** Teaching dental histology: using traditional versus virtual microscopy. **P.S. Klinkhachorn, B. Palmer, K. Martin and H. Ressetar**. West Virginia Univ. Hlth.Sci. Ctr.
- T31 **718.3** Influence of prior online course experience on the perceived benefit of an online professional development course. **M. Byse and M. Lakes Matyas**. The American Physiol. Soc., Bethesda.
- T32 **718.4** Binding of flavones to protein kinase C: a molecular modeling study for college undergraduates. **M.E. Peek, A.M. Duraj-Thatte and A. Bhatnagar**. Sch. of Chem. & Biochem., Georgia Tech and Col. of Dent. Med., Midwestern Univ., AZ.

### 719. TEACHING, LEARNING AND TESTING IN THE BIOLOGICAL AND BIOMEDICAL SCIENCES III

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

#### Education

*Presentation time:* 12:30 PM-2:30 PM

Recognizing that techniques and issues related to teaching and the use of computers in research and teaching crosses all biomedical disciplines, EB 2012 has combined education posters from all participating societies. Please note: Posters are on display Sunday through Tuesday. Presentation time is for **Monday** only.

- T33 **719.1** Web-delivered program to demonstrate a pedagogy promoting meaningful learning. **H.I. Modell, J.A. Michael and C. Knoche**. Physiol. Educ. Res. Consortium, Seattle, Rush Univ. and Physiosim.org, Mammoth Lakes, CA.
- T34 **719.2** Classic experimentation and working models for engaging and inspiring students. **M. Giuliadori, H. Lujan and S. DiCarlo**. Natl. Univ. of La Plata, Argentina and Wayne State Univ. Sch. of Med.
- T35 **719.3** Perceptions of second year medical students to interactive tools, games, and audience response systems incorporated to teach pharmacology. **A.L. Gorman and A. Berry**. Univ. of Central Florida Col. of Med.

- T36 **719.4** Prerecorded lecture content: does this enhance student performance? **D.L. Osborne and H.F. Janssen**. Paul L. Foster Sch. of Med., Texas Tech Univ. Hlth. Sci. Ctr.
- T37 **719.5** Learning the cardiac cycle with a puzzle. **F.K. Marcondes**. Piracicaba Dent. Sch., Brazil.
- T38 **719.6** A virtual pharmacology course in a PBL curriculum. **K. Karpa**. Penn State Col. of Med.
- T39 **719.7** Establishing core competencies in respiratory physiology when educating both physicians and physicians-in-training. **A.J. Lechner, G.M. Matuschak and D.S. Brink**. Saint Louis Univ. Sch. of Med. and Mercy Med. Ctr., St. Louis.
- T40 **719.8** Implementation of competencies for anatomy in the first year of medical training. **P.M. Herrera, T. Cortes, I. Petra, M. Aburto, J. Reynaga and A. Soto**. UNAM, Mexico City.
- T41 **719.9** A new pedagogy for ion channels: they're permeases, not pores!. **P.H. Nelson**. Benedictine Univ., IL.
- T42 **719.10** First steps taken for introducing science advocacy into the curriculum at the University of South Florida: teaching tomorrow's researchers how to translate science for the public and policymakers. **J.B. Dean and K.D. Liller**. Univ. of South Florida.
- T43 **719.11** Safety Pharmacology Master of Science program: design and implementation. **M.A. Matlib, R.W. Millard, J.E. Maggio, W.J. Ball and R.M. Rapoport**. Univ. of Cincinnati.
- T44 **719.12** A curriculum for teaching scientific presentation skills to graduate students. **D. Paul**. LSU Hlth. Sci. Ctr., New Orleans.
- T45 **719.13** Rethinking the postdoctoral training experience: fellowships in research and science teaching. **J. Mercante, E. Ricks, Jr., A. Eisen, J.K. Haynes and D.C. Eaton**. Emory Univ. and Morehouse Col.
- T46 **719.14** Cell transplantation and biotherapeutics? a course linking bio-therapies with survival surgery and experimental assessment. **T. Cardinal**. California Poly State Univ., San Luis Obispo.

### 720. TEACHING, LEARNING AND TESTING IN THE BIOLOGICAL AND BIOMEDICAL SCIENCES IV

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

#### Education

*Presentation time:* 1:30 PM-3:30 PM

Recognizing that techniques and issues related to teaching and the use of computers in research and teaching crosses all biomedical disciplines, EB 2012 has combined education posters from all participating societies. Please note: Posters are on display Sunday through Tuesday. Presentation time is for **Monday** only.

- T47 **720.1** The effect of expanding versus uniform retrieval practice on the retention of selected physiology concepts. **J. Dobson**. Georgia Southern Univ.

- T48 **720.2** Nontraditional case-based instruction in physiology: deconstructing the cryptophysiology of zombies. **M.B. Harris.** Univ. of Alaska Fairbanks.
- T49 **720.3** Backward design helps faculty develop case studies. **W. Cliff.** Niagara Univ., NY.
- T50 **720.4** Conceptual frameworks and misconceptions associated with core principles of physiology, including homeostasis. **J. McFarland, J. Michael, M. Wenderoth, H. Modell, A. Wright and W. Cliff.** Edmonds Community Col., Lynnwood, WA, Rush Med. Col., Univ. of Washington, Physiol. Educ. Res. Consortium, Seattle, Canisius Col., NY and Niagara Univ., NY.
- T51 **720.5** Breaking the tyranny of the textbook: a new approach to introductory biology. **R.P. Rylaarsdam, M.L. Tischler and K. Kandra.** Benedictine Univ., IL.
- T52 **720.6** Higher order concept activities enhances non-science student performance in biology course. **K.G. Yamazaki, M. Combs and R. Pozos.** California State Univ., Los Angeles and San Diego State Univ.
- T53 **720.7** Protein portfolios: active learning exercises integrated into a one-semester biochemistry course that examine protein structure and function. **R.N. Dutnall, S.A. Mills and L.A. Plesniak.** Univ. of San Diego.
- T54 **720.8** Matters of taste: blending molecular physiology and the humanities. **P.K. Rangachari and U. Rangachari.** McMaster Univ., Canada.
- T55 **720.9** An exercise to transfer learning to novel situations: the student perspective. **L.E. Salci, F.N. Naji and G.S. Hoit.** McMaster Univ., Canada.
- T56 **720.10** Building and sustaining interdisciplinary STEM: what works from the Keck/PKAL facilitating interdisciplinary learning in science and mathematics project. **W.M. Schlegel, M.T. Stewart, J.S. Ridgway, M.J.S. Roth and S. Elrod.** Indiana Univ., Willamette Univ., The Ohio State Univ., Lafayette Col. and PKAL and AAC&U, Washington, DC.
- T57 **720.11** A comparative study for advancing understanding of interdisciplinary learning in STEM. **J.L. Eastwood and W.M. Schlegel.** Oakland Univ. William Beaumont Sch. of Med., MI and Indiana Univ.
- T58 **720.12** Pedagogy affects final student learning outcomes for non-majors' science courses. **H.F. Parzer and W.M. Schlegel.** Indiana Univ.

## Anatomy

### 721. BIOLOGICAL ANTHROPOLOGY

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B233 **721.1** Can a single anthropometric feature of the lumbar vertebra result in a correct identification of sex? **M. Jelaca-Tavakoli.** Southwestern Col., CA.
- B234 **721.2** Biological sex and tympanic dehiscence. **A.S. Bilal and M. Jelaca-Tavakoli.** Grossmont Col., CA and Southwestern Col., CA.
- B235 **721.3** Bilateral directional assymetry in the human clavicle. **E.E. Abdel Fatah, N.R. Shirley, B. Auerbach and M. Mahfouz.** Univ. of Tennessee, Knoxville and Lincoln Mem. Univ.-DeBusk Col. of Osteo. Med.
- B236 **721.4** Are they really just big boned? How increased body mass in human juveniles affects bone joint morphology in the lower limb. **R.K. Scopa Kelso.** Univ. of Tennessee, Knoxville.

### 722. ANATOMY: FORM AND VARIATION

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B237 **722.1** Exploring the anatomical spatial relationships affecting the anterior and posterior ethmoid foramina using 3-D geometric morphometric technique. **J. Fisher, A. Masters, Y. Golubovskaya, A.S. Pagano, N. Caceres and S. Marquez.** SUNY Downstate Med. Ctr. and Mount Sinai Sch. of Med.
- B238 **722.2** Midline angular relationships between the hard palate and cribriform plate: implications for surgical access to the pituitary fossa. **Y. Golubovskaya, W. Lawson, J. Fisher, A.S. Pagano, N. Caceres and S. Marquez.** SUNY Downstate Med. Ctr. and Mount Sinai Sch. of Med.
- B239 **722.3** Embryology of the anomalous left vertebral artery and its implications in neck surgery. **N. Vasan, C. Vasan, P. Varricchio and D. DeFouw.** UMDNJ-New Jersey Med. Sch.
- B240 **722.4** External laryngeal morphology: gender differences. **M.T. Bee, A. Diven, K. Kalnasy, E. Koettters and M. Ottenbreit.** Oakland Univ. William Beaumont Sch. of Med. and Univ. of Detroit Mercy.
- B241 **722.5** Various types of branching patterns of celiac trunk. **A.K. Srivastava, G. Sehgal, P.K. Sharma, N. Kumar, R. Singh, A. Parihar and P. Aga.** CSM Med. Univ., India.
- B242 **722.6** Duplex ultrasound measuring hemodynamic variations of the superior mesenteric artery in pre- and postprandial subjects: understanding mesenteric ischemia. **B.M. Elnekaveh, T. Adar, S. Baral, A.S. Pagano, I. Belyayeva and S. Marquez.** SUNY Downstate Med. Ctr. and Mount Sinai Sch. of Med.
- B243 **722.7** Segmentation of renal parenchyma in the case of presence of additional renal arteries. **P. Matusz, P. Bordei, E. Sapte, D. Iliescu and I. Bulbuc.** Victor Babes Univ. of Med. and Pharm. and Ovidius Univ. Fac. of Med., Romania.
- B244 **722.8** Sex and racial population differences in the arthro-kinematics of the carrying angle: potential clinical implications. **S. Baral, B.M. Elnekaveh, T. Adar, A.S. Pagano and S. Marquez.** SUNY Downstate Med. Ctr. and Mount Sinai Sch. of Med.
- B245 **722.9** Musculocutaneous nerve transit through a supernumerary head of the biceps brachii: implications for lateral antebrachial cutaneous and musculocutaneous nerve entrapments, diagnosis, and treatment. **J.M.A. Miller and R. Trelease.** Geffen Sch. of Med. at UCLA.

- B246 **722.10** Vascular variation in the triangular interval of the axilla. **E.J. Feldman, A. Shukla and S. Marquez.** SUNY Downstate Med. Ctr.
- B247 **722.11** A rare pattern of brachial artery variation. **A.L. Jacomo, F. Akamatsu, S. Saleh and M. Andrade.** Univ. of São Paulo.
- B248 **722.12** Tracking branching variation of the axillary artery. **B.R. Hartley and S. Marquez.** SUNY Downstate Col. of Med.
- B249 **722.13** Bifid median nerve variations: a cadaveric study. **K. Warren and J. Norbury.** East Carolina Univ.
- B250 **722.14** A cat among the wolves: an attempt to reveal the identity of a felid-like humerus misidentified as *Canis dirus* from Rancho La Brea. **L. Koper.** Northern Illinois Univ.
- B251 **722.15** Study of the vascular morphology of the lower limb nerves used as grafts. **R.E. Elizondo Omaña, S. Guzmán Lopez, J.J. Bazaldua Cruz and A. Quiroga Garza.** Med. Sch., Autonomous Univ. of Nuevo León, Mexico.
- B252 **722.16** Validity and reliability of a novel 3D measurement approach of the acetabulum. **C.M. Martin, J.G. Turgeon, C.L. Rice and T.D. Wilson.** Univ. of Western Ontario.
- B253 **722.17** Variant fibulocalcaneus muscles of the ankle: photographic evidence and clinical significance. **H.W. Lambert, S. Atsas, J.N. Fox, S.C. Dodson and B.T. Daney.** West Virginia Univ.
- B254 **722.18** Positive selection on mitochondrial M7 lineages among the Gelong people in Hainan. **D. Li, K. Yang, L. Jin, H. Li and Genographic Consortium.** Hainan Med. Col. and Sch. of Life Sci., Fudan Univ. China.
- B255 **722.19** The Japanese macaque is an endemic species consisting of two subspecies: *Macaca fuscata fuscata* and *Macaca fuscata yakui*. **I. Sato, Y. Miwa, M. Sunohara, K. Mine and K. Shimada.** Nippon Dent. Univ. and Kagoshima Univ. Grad. Sch. of Med. and Dent. Sci., Japan.
- B256 **722.20** To assess and compare the standing lumbar curve in relation to the two chair designs used at the School of Physiotherapy in Jamaica. **K. Singh, C. Myrie and S.R. Martin.** Univ. of West Indies, Barbados and Jamaica.
- B257 **722.21** Two-system theory and fasciology. **C. Yang, J-x. Dai and L. Yuan.** Southern Med. Univ., China.
- B258 **722.22** Comparative functional morphology of the avian integument: implications for the evolutionary history of feathers. **E.R. Orellana, B.H. Dubansky and D.G. Homberger.** LSU.
- B259 **722.23** Possible convergent evolution of yellow psittacofulvin colors in the feathers of cockatoos (Cacatuidae) and parrots (Psittacidae). **J. Bonin and D.G. Homberger.** LSU.
- B260 **722.24** Comparative analysis of masticatory apparatus features in neonatal common marmosets (*Callithrix jacchus*) and cotton-top tamarins (*Saguinus oedipus*). **A.L. Mork, A.B. Taylor and C.J. Vinyard.** Northeast Ohio Med. Univ. and Duke Univ. Sch. of Med.

## 723. ANATOMY: FUNCTIONAL ANATOMY AND BIOMECHANICS

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:00 PM

- B261 **723.1** Mechanical properties of incisors in rodents. **R.E. Druzinsky, G. Naveh, S. Weiner, V. Brumfeld, O.D. Klein and C. Charles.** Univ. of Illinois at Chicago, Weizmann Inst. of Sci., Israel, UCSF and IGFL - ENS Lyon, France.
- B262 **723.2** The expansion and recoil mechanism of the skin of alligators and its implications for their feeding mechanism. **B.H. Dubansky and D.G. Homberger.** LSU.
- B263 **723.3** The dirk-tooth *Smilodon* and the cookie-cutter *Xenosmilus*, both saber-tooth ambush predators, show differences in killing bite strategy, forelimb musculoskeletal proportions and shoulder and elbow joint ranges of movement, demonstrating there **V.L. Naples.** Northern Illinois Univ.
- B264 **723.4** The biomechanical effect of the bipartite zygoma: a finite element analysis of the impact of an auxiliary facial suture in the midface. **E. Unger and Q. Wang.** Mercer Univ. Sch. of Med.
- B265 **723.5** **Withdrawn.**
- B266 **723.6** Vertebral dimensions vary among prehensile and nonprehensile primate tails. **J.M. Organ and H.L. King.** Saint Louis Univ. Sch. of Med.
- B267 **723.7** Load-carrying lumbar spine kinematics in active-duty marines. **A.E. Rodriguez-Soto, A. Jensen, J. Mayfield, R. Jaworski, L. Frank, S.R. Ward and K. Kelly.** UCSD, San Diego State Univ., Naval Hlth. Res. Ctr., San Diego and VA San Diego.
- B268 **723.8** Analysis of the forelimb of *Felis catus* in comparison to *Smilodon fatalis*. **K. Ostrom and V.L. Naples.** Northern Illinois Univ.
- B269 **723.9** Quantifying the ellipticalness of the lateral femoral condyle in Gorilla, Pan and Homo. **A.D. Sylvester.** Max Planck Inst. for Evol. Anthropol., Leipzig.
- B270 **723.10** Early anatomical identification markers for Duchenne muscular dystrophy in a subadult subject. **J.H. Harris, E. Godwin and S. Marquez.** SUNY Downstate Med. Ctr.
- B271 **723.11** Cross sectional anatomy of the femoral diaphysis in mice bred for high levels of voluntary wheel running. **B.R. Coats, K.M. Middleton, S.A. Kelley and T. Garland, Jr.** California State Univ., San Bernardino, Ohio Wesleyan Univ. and Univ. of California, Riverside.
- B272 **723.12** The surgical importance of the blood supply of the tibia. **H.S. Shaibah and F.A.M. Altaf.** Umm Alqura Univ., Saudi Arabia.
- B273 **723.13** Study of structural failure of the blood-gas barrier and the epithelial-epithelial cell contacts in rested and exercised chicken, *Gallus domesticus*. **J.N. Maina and A.S. Jimoh.** Univ. of Johannesburg and Univ. of Witwatersrand, South Africa.
- B274 **723.14** How does parkinson disease severity influence kinetics and kinematics during a rapid force production task? **R. Willis, L.E. Dibble, W.T. Rockwell, R.L. Marcus, P.C. LaStayo and K.B. Foreman.** Univ. of Utah.



## 724. ANATOMY: MUSCLE

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:00 PM

- B275 **724.1** The shoulder musculature of *Rhynchocyon cirnei*. **A. Grossman, P.A. Holroyd and F. Rovero**. Midwestern Univ., AZ, Univ. of California, Berkeley and Tridentino Museum of Nat. Sci., Italy.
- B276 **724.2** Hypertrophy of the subclavius muscle accompanied by atrophy of the pectoralis muscles post-mastectomy. **F. Carey and B.M. Jones**. Univ. of New Mexico.
- B277 **724.3** Bilateral abductor pollicis longus muscle duplication. **J.C. Byiringiro, J. Gashegu and M. Nyundo**. Natl. Univ. of Rwanda.
- B278 **724.4** A novel structure potentially associated with greater trochanteric pain syndrome. **V. Taylor II, T. Crofford, H. Seidel and R. Reeves**. Univ. of North Texas Hlth. Sci. Ctr. and Plaza Med. Ctr. of Fort Worth.
- B279 **724.5** The fabellofibular and arcuate ligaments of the knee joint: attachments, functional and clinical implications for the posterolateral aspect of the knee joint. **T. Ghosh**. Indian Inst. of Morphol., Kolkata.
- B280 **724.6** Anatomical and radiographic characterization of the lateral patellofemoral ligament of the knee. **K. Marberry, K.E. Boehm, F. Korpi and P. Kondrashov**. A. T. Still Univ., MO.
- B281 **724.7** Radiofrequency reduces fibrosis in experimental tendon lesions. **F. Akamatsu, W. Teodoro, S. Saleh, M. Andrade and A.L. Jacomo**. Univ. of São Paulo.

## 725. ANATOMY: NEURAL

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:00 PM

- B282 **725.1** Brain volume of the newly-discovered species *Rhynchocyon udzugwensis* (Mammalia: Afrotheria: Macroscelidea): implications for brain-body allometry within Afrotheria. **J.A. Kaufman, G.H. Turner, P.A. Holroyd, F. Rovero and A. Grossman**. Midwestern Univ., AZ, Barrow Neurol. Inst., Phoenix, Univ. of California, Berkeley and Tridentino Museum of Nat. Sci., Trento, Italy.
- B283 **725.2** Sensory contributions to the spinal accessory nerve in humans. **K.E. Boehm**. A. T. Still Univ., MO.
- B284 **725.3** The morphology and clinical significance of the meningovertebra ligaments in the lumbosacral epidural space. **Z. Ding and B. Shi**. Southern Med. Univ., China.
- B285 **725.4** Do anatomical axes and physiologic activity correlate in rat endopiriform nucleus and claustrum? **R. Orman, I. Rozenberg and F. Scalia**. SUNY Downstate Med. Ctr.
- B286 **725.5** Neurovue as a tracer for human nervous tissue. **M. Pendola, N. Caceres, M.P. McGillicuddy and S. Marquez**. SUNY Downstate Med. Ctr.
- B287 **725.6** Ultrastructural investigation of the aortic depressor nerve in Wistar and Wistar-Kyoto rats. **M.M. de Amorim, L.O.N. da Silva, V.A.A. Mendes, H.C. Salgado and V.P.S. Fazan**. Sch. of Med. of Ribeirão Preto, Brazil.
- B288 **725.7** Aortic depressor nerve differences between Wistar and Wistar-Kyoto rats. **V.A.A. Mendes, M.M. de Amorim, L.O.N. da Silva, H.C. Salgado and V.P.S. Fazan**. Sch. of Med. of Ribeirão Preto, Brazil.
- B289 **725.8** Influence of painful procedures in the neonatal period in motor and sensory functions of Wistar rats during development. **E.C. do Carmo, N.L.B. Machado, L.S. Sanada and V.P.S. Fazan**. Sch. of Med. of Ribeirão Preto, Brazil.
- B290 **725.9** Neuronal counting in the spinal cord dorsal horn of male adult Wistar rats after noxious stimuli during neonatal period. **N.L.B. Machado, L.S. Sanada, E.C. do Carmo, A.L.R. de Oliveira and V.P.S. Fazan**. Sch. of Med. of Ribeirão Preto and UNICAMP, Campinas, Brazil.
- B291 **725.10** Longitudinal morphometric study of the cervical vagus nerve in young Wistar-Kyoto rats. **L.B. Fontanesi, M.C.L. Schiavoni, H.C. Salgado and V.P.S. Fazan**. Sch. of Med. of Ribeirão Preto, Brazil.
- B292 **725.11** Comparison between morphological and morphometric parameters of recurrent laryngeal nerve in developing spontaneously hypertensive rats. **G.A.R. da Silva, A.B. Genari, H.C. Salgado and V.P.S. Fazan**. Sch. of Med. of Ribeirão Preto, Brazil.
- B293 **725.12** Lateral and longitudinal ultrastructural study of the recurrent laryngeal nerve in adult rats. **R.S. Ferreira, M.C.D. Oliveti and V.P.S. Fazan**. Sch. of Med. of Ribeirão Preto, Brazil.
- B294 **725.13** Is the phrenic nerve myelinated fiber distribution affected in short term experimental diabetes? **A.C.L. Alcântara, N.M. Tanaka and V.P.S. Fazan**. Sch. of Med. of Ribeirão Preto, Brazil.
- B295 **725.14** Does hypertension affect morphometric parameters of phrenic nerves? **A.R. Rodrigues, R.S. Ferreira, H.C. Salgado and V.P.S. Fazan**. Sch. of Med. of Ribeirão Preto, Brazil.
- B296 **725.15** A bilateral pudendal nerve injury model in male rats. **P.J. Shalhoub, S.J. Brancato, E.M. Foecking and K.N. Fargo**. Loyola Univ. Chicago Stritch Sch. of Med. and Edward Hines, Jr. VA Hosp.
- B297 **725.16** The structure of a phaloid organ of buffalo weaver (*Bubalornis niger*) and its sensory nerve endings? a light- and electron microscopic study. **Z. Halata and T.R. Birkhead**. 1st Med. Fac., Charles Univ., Czech Republic and Univ. of Sheffield.
- B298 **725.17** Morphometry of nerves responsible for sensory innervation of the hind limbs in rats. **L.O.N. da Silva, V.A.A. Mendes, M.M. de Amorim, L.S. Sanada and V.P.S. Fazan**. Sch. of Med. of Ribeirão Preto, Brazil.
- B299 **725.18** Sampling method for morphometry of the myelinated fibers of sural nerves in adult rats. **F.B.C. Silveira, L.S. Sanada and V.P.S. Fazan**. Sch. of Med. of Ribeirão Preto, Brazil.
- B300 **725.19** Two nerve morphometry methods performed through the same computer program: are they comparable? **A.P. Bilego Neto, F.B.C. Silveira, L.S. Sanada and V.P.S. Fazan**. Sch. of Med. of Ribeirão Preto, Brazil.
- B301 **725.20** Use of a natural latex membrane for nerve grafting: an experimental study. **M.V.M. Ganga, V.P.S. Fazan, W. Marques Júnior and L.S. Lopes**. Sch. of Med. of Ribeirão Preto, Brazil.

## 726. ANATOMY: CARDIOVASCULAR

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B302 **726.1** Role of LEK1 in cardiac disease and function. **P.M. Miller, E. Dees and D.M. Bader.** Vanderbilt Univ.
- B303 **726.2** Cadaveric research: informing current heart surgery techniques. **K.L. Losenno, M. Johnson and M. Chu.** Univ. of Western Ontario.
- B304 **726.3** Application of four-dimensional computed tomography angiography in the study of vascular structure of the deep inferior epigastric artery perforator. **L. Wenting and F. Borong.** Inst. of Basic Med. Sci., Chinese Acad. of Med. Sci., Beijing.
- B305 **726.4** Mice and rats have different responses to abdominal aorta constriction. **C.M. Prado, V. Blefari, M.S. Ribeiro, M.R.N. Celes, A.C.S. Freitas, L.M. Malvestio, E.C. Campos, P. Ferezin, L.A. Jelicks, H.B. Tanowitz and M.A. Rossi.** Univ. of São Paulo, Ribeirão Preto and Albert Einstein Col. of Med.
- B306 **726.5** Angles of the branches of the visceral aorta: implications for complex aneurysm repairs. **J.H. Belchos, M. Johnson and T. Forbes.** Univ. of Western Ontario and London Hlth. Sci. Ctr., Canada.
- B307 **726.6** Ultrastructure and immunohistochemistry of innervation in the regions of the mouse sinoatrial and atrioventricular nodes. **K. Rysevaite, M. Jokubauskas, I. Saburkina, N. Pauziene and D.H. Pauza.** Lithuanian Univ. of Hlth. Sci.
- B308 **726.7** Fenestrations of the aortic valve cusps: an anatomical explanation? **K.L. Losenno, M. Johnson and M.W.A. Chu.** Univ. of Western Ontario.
- B309 **726.8** High speed imaging of an aortic valve in a full-functional reanimated human heart. **C.D. Rolfes, M.G. Bateman and P.A. Iazzo.** Univ. of Minnesota, Minneapolis.
- B310 **726.9** Novel visualization of iatrogenic atrial septal defects and ablation lesions in a reanimated human heart. **R.P. Goff, S.A. Howard and P.A. Iazzo.** Univ. of Minnesota, Minneapolis.
- B311 **726.10** Videoscopic images of unique septal and medial papillary muscle complexes recorded from reanimated human hearts. **M.G. Bateman and P.A. Iazzo.** Univ. of Minnesota, Minneapolis.
- B312 **726.11** Morphological pattern of mouse intrinsic cardiac nerve plexus. **D.H. Pauza, K. Rysevaite, I. Saburkina, M. Jokubauskas and N. Pauziene.** Lithuanian Univ. of Hlth. Sci.
- B313 **726.12** Pelvic reproductive organ vasculature in boars. **L.E. Freeman.** Virginia Tech Col. of Vet. Med.
- B314 **726.13** Is embryonic pressure overload responsible for causing endocardial fibroblastosis? **Z. Pesevski and D. Sedmera.** First Fac. of Med., Charles Univ. and Inst. of Physiol., Acad. of Sci. of Czech Republic, Prague.
- B315 **726.14** Epicardial HIF1 regulates vascular precursor cell invasion into the myocardium through the VEGF signaling pathway. **J. Tao, Y. Doughman, K. Yang, D. Ramirez-Bergeron and M. Watanabe.** Case Western Reserve Univ.

## 727. ANATOMY: GASTROINTESTINAL AND UROGENITAL

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B316 **727.1** Immunohistochemical localization of PACAP and VIP receptors in major salivary glands and the effect of PACAP on saliva secretion in mice. **N. Nonaka and M. Nakamura.** Showa Univ., Japan.
- B317 **727.2** Expression and involvement of the Mas-related gene receptor MrgD in intestinal inflammation in the mouse. **L.R.M. Avula, R. Buckinx, K. Alpaerts, D. Adriaensen, D. Anderson, L. Van Nassauw and J-P. Timmermans.** Univ. of Antwerp and Caltech.
- B318 **727.3** Autotaxin, a potent inducer of cell motility and differentiation, is differentially expressed in visceral and parietal mesothelia. **E.L. Shelton, C.C. Hong and D.M. Bader.** Vanderbilt Univ.
- B319 **727.4** Immunohistochemical localization of collagen types I, III and IV in fibrotic livers of elderly cadavers. **K.M. Mak and E. Chu.** Mount Sinai Sch. of Med.
- B320 **727.5** Morphological characterization of the liver in a murine non-alcoholic fatty liver disease model. **H. Itagaki, S. Kitahara, S. Morikawa and T. Ezaki.** Grad. Sch. of Med., Tokyo Womens Med. Univ.
- B321 **727.6** A novel staging system to assess the severity of colorectal polyposis in patients with FAP. **Z.A. Lu, E. Hawk, P. Lynch and S. Patterson.** Johns Hopkins Univ. and MD Anderson Cancer Ctr.
- B322 **727.7** Protective effect of tetramethylpyrazine on autosomal dominant polycystic kidney disease. **J. Ran, G. He and S. Sun.** Chongqing Med. Univ., China.
- B323 **727.8** RICOM: a potential male contraceptive agent? **R.T. McNeil, E.O. Ekwere, A.A. Adebessin, F.K. Okwuasaba and A.J. Ochigbo.** Univ. of Limpopo, South Africa and Univ. of Jos, Nigeria.

## 728. BONES, CARTILAGE AND TEETH: MOLECULAR MECHANISMS

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B324 **728.1** Expression of thyroid hormone receptor in tooth germ of newt (*Cynops pyrrhogaster*). **Y. Miwa, K. Shimada and I. Sato.** Nippon Dent. Univ. and Kagoshima Univ. Grad. Sch. of Med. & Dent. Sci., Japan.
- B325 **728.2** A novel anti-apoptotic role of DMP1 in normal and pathological conditions. **A. Rangiani, Y. Sun, N. Nowar, A. Sahfey, B. Yuan, C. Qin, M. Kuro-o and J.Q. Feng.** Baylor Col. of Dent., Univ. of Wisconsin and GRECC, Madison and Univ. of Texas Southwestern Med. Ctr.
- B326 **728.3** Novel dose dependent positive feedback loop in endothelial cells: a response to rhBMP2 treatment. **K. Hussein, I. Helwa, I. Zakhary, R. Elrefai, M. Al-Shabrawey and M. Sharawy.** Georgia Hlth. Sci. Univ. and Natl. Res. Ctr., Cairo.

- B327 **728.4** Individual and combined effect of silicon and calcium ions on osteoblast gene expression and matrix formation. **V.G. Varanasi, L.M. Dominia, S.M. Jue, A. Lee, K.K. Leong, P.M. Loomer and L.A. Opperman.** Texas A&M Hlth. Sci. Ctr. Baylor Col. of Dent. and UCSF.
- B328 **728.5** The effect of quercetin on oxidative stress-induced bone-like cells (UMR 106-01 BSP). **B. McCowan, M. Bria and E.E. Joseph.** La Sierra Univ., CA.

## 729. BONES, CARTILAGE AND TEETH: EXERCISE; BIOMECHANICS; BIOENGINEERING

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B329 **729.1** Changes in semicircular canal morphology in response to selective breeding for high voluntary wheel running. **H. Schutz, H.A. Jamniczky, B. Hallgrímsson and T. Garland, Jr.** California Polytech State Univ., San Luis Obispo, Univ. of Calgary, Canada and Univ. of California, Riverside.
- B330 **729.2** Effects of mechanical shear on anisotropic tissue engineered construct as potential TMJ repair. **A. Mathema and D.K. Mills.** Louisiana Tech Univ.
- B331 **729.3** Zygapophyseal joint space gapping following spinal manipulation in low back pain patients. **G.D. Cramer, J.A. Cambron, J.A. Cantu, J. Dexheimer, J.D. Pocius, D. Gregerson, M. Fergus and R.A. McKinnis.** Natl. Univ. of Hlth. Sci., Consulting Radiologist, Charlottesville and Consulting Statistician, Winfield, IL.
- B332 **729.4** Fatty marrow and increased loaded cancellous bone was resistant to OVX-induced bone changes in female rats. **Z. Lin, X. Tian, D. Chen, J. Lin, M. Chen, J. Liu, H. Shi, P. Men, G. Liu and W. Jee.** Fujian Hlth. Col., China and Univ. of Utah.
- B333 **729.5** The effects of glucocorticoids and voluntary running on spinal curvature deformation in mdx mice. **J.H. Plochocki, D. An, E.L.R. Simons and D.S. Brereton.** Midwestern Univ., AZ.

- B334 **729.6** A donor model assessing the effect of errant drill passes during placement of femoral nail interlock screws. **N. Mulchandani, S. Cataldo, C. Russo, D. Hip-Flores, H. El-Gendi, W. Hayes, S. Saha and S. Márquez.** SUNY Downstate Med. Ctr.
- B335 **729.7** Changes in femoral bone geometry compensate the lower bone mass and mineralization degree in ovariectomized Wistar rats. **H. Fonseca, D. Moreira-Gonçalves, R. Ferreira, F. Amado, M.P. Mota and J.A. Duarte.** Univ. of Porto, Univ. of Aveiro and UTAD, Portugal.

## 730. MUSCLE: STEM CELLS AND REGENERATION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B336 **730.1** Reduction of muscle fiber size, muscle IGF-1, and increased myostatin in the leptin receptor-deficient pound mouse. **M. Hamrick, P. Arounleut, M. Bowser, S. Fulzele, N. Pollock, C.M. Isales, J. Erion and A. Stranahan.** Georgia Hlth. Sci. Univ.
- B337 **730.2** The role of vascular endothelial growth factor in mechanically stimulated muscle-derived stem cell repair. **S. Beckman, L. Mlakar and J. Huard.** Univ. of Pittsburgh.
- B338 **730.3** Satellite cell pool size expansion is affected by skeletal muscle characteristics. **F. Macaluso, N.E. Brooks, C.U. Niesler and K.H. Myburgh.** Stellenbosch Univ. and Univ. of KwaZulu-Natal, South Africa.
- B339 **730.4** Cthrc1 is involved in the activation of adult stem cells in skeletal muscle. **R. Miller, J. Dupuis, M. Schuenke, V. Lindner and R. LeClair.** Univ. of New England and Maine Med. Ctr. Res. Inst.
- B340 **730.5** The myomere-myoseptal intersections in a lamprey (*Petromyzon marinus*) and a shark (*Squalus acanthias*). **B.M. Wood, R.J. Andermann and D.G. Homberger.** LSU.

# Biochemistry and Molecular Biology

## 731. FUNDAMENTAL MECHANISMS IN GENE REGULATION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A1 **731.1** Architecture of the mediator head module. **Y. Takagi, T. Imasaki, G. Cai, K. Yamada, I. Berger and F. Asturias.** Indiana Univ. Sch. of Med., The Scripps Res. Inst. and European Molec. Biol. Lab., Grenoble.
- A2 **731.2** Internalization pathways of non-viral vectors for gene therapy. **E. Anghel, J. Shi and S. Pun.** Univ. of Arizona and Univ. of Washington.
- A3 **731.3** Interleukin-8 regulation by histone deacetylase inhibitors and bortezomib in human macrophages. **S.M. Sanacora, S. Ramaswami, T-P. Chang, S. Manna, B. Singha and I. Vancurova.** St. John's Univ., NY.
- A4 **731.4** Bortezomib inhibits expression of immunosuppressive cytokines IL-10 and TGF $\beta$  in cutaneous T cell lymphoma. **T-P. Chang, S. Sanacora, S. Manna, B. Singha, S. Ramaswami and I. Vancurova.** St. John's Univ., NY.
- A5 **731.5** An intrinsically unstructured domain in MBD2 recruits the histone deacetylase core complex of NuRD and modifies kinetics of DNA binding. **D.C. Williams, M. Desai, G.D. Ginder and N.M. Walavalkar.** Virginia Commonwealth Univ.
- A6 **731.6** Development of an integrated bioenergetics index function for biophotonic therapy. **G.P. Einstein, O.L. Tulp and D. Karam.** Univ. of Sci., Arts and Technol., Montserrat and SW Inst. for Med. Res., Sunland Park, NM.

- A7 **731.7** Chronic effect of parathyroid hormone on Na<sup>+</sup>/H<sup>+</sup> exchanger isoform 3 gene proximal promoter. **E.A. Neri, G.D. Queiroz-Leite, C.N.A. Bezerra and N.A. Rebouças.** Univ. of São Paulo.
- A8 **731.8** Investigation of the potential role of 6-hydroxynicotinate monooxygenase in the modulation of virulence in *Bordetella pertussis*. **S.L. Justice and M.J. Snider.** Col. of Wooster, OH.
- A9 **731.9** Arrangement of the 4.5 Myb domain repeats of SNAP190 on the U1 gene promoter. **W.E. Stumph, M. Doherty and Y.S. Kang.** San Diego State Univ.
- A10 **731.10** Structural and biophysical characterization of the coiled-coil complex between MBD2 and p66 $\alpha$  integral to MBD2-NuRD mediated silencing. **N.M. Walavalkar, M. Desai, G.D. Ginder and D.C. Williams.** Virginia Commonwealth Univ. and Massey Cancer Ctr., Richmond.
- A11 **731.11** Combinatorics of cis-regulatory element evolution in stress response modules of ascomycete yeasts. **A. García-González, S. Roy, J. Konieczka, D. Thompson and A. Regev.** Univ. of Puerto Rico, Rio Piedras and Broad Inst. of MIT and Harvard.
- A12 **731.12** A new regulatory pathway of mRNA export by an F-box protein, Mdm30. **G. Durairaj and S.R. Bhaumik.** Southern Illinois Univ. Sch. of Med.

### 732. HIGHER ORDER AND ALTERNATIVE CHROMATIN STRUCTURES

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A13 **732.1** Cap independent translation controls in barley yellow dwarf virus. **B. Banerjee, S. Das Sharma and D.J. Goss.** Hunter Col. and Grad. Ctr., CUNY.
- A14 **732.2** SREBP1c is regulated by E3 ligase RNF20/BRE1A upon hormonal changes. **J.H. Lee, G.Y. Lee, H. Jang, J. Kong, Y.J. Park and J.B. Kim.** Sch. of Biol. Sci., Seoul Natl. Univ.

### 733. NON-CODING RNAs IN GENE REGULATION AND CHROMOSOME STRUCTURE

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A15 **733.1** Regulation of microRNA expression by AUF1 through dicer. **J.M. Johnson, K. Tominaga, M. Gorospe and K. Abdelmohsen.** Univ. of Maryland Eastern Shore and NIA/NIH, Baltimore.
- A16 **733.2** Convergence of the microRNA and NMD pathways in neurons. **E.Y. Shum, C.H. Lou and M.F. Wilkinson.** UCSD.

### 734. REGULATION AND MODIFICATION OF TRANSCRIPTION FACTORS

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A17 **734.1** ZIPK modulates canonical Wnt/ $\beta$ -catenin signaling through interaction with NLK/TCF4. **S. Togi, R. Muromoto and T. Matsuda.** Hokkaido Univ., Japan.
- A18 **734.2** WT1 interacts with p53 and inhibits p53-induced p21 gene expression. **K-W. Ko, Y-J. Choe, S-Y. Lee and H-S. Kim.** Col. of Med., Catholic Univ. of Korea.
- A19 **734.3** Kinetically differentiated post-translational modifications in a transcription factor, Bcl11b. **T.M. Filtz, W.K. Vogel, L-j. Zhang, X. Liu, B. Arbogast, A. Zweber, C.S. Maier and M. Leid.** Oregon State Univ.
- A20 **734.4** Transient exposure to hydrogen peroxide inhibits degradation of phosphorylated I $\kappa$ B $\alpha$ . **Y. Lee, J. Choi and D-m. Jue.** The Catholic Univ., South Korea.
- A21 **734.5** Exercise translocates RIP140 to the cytoplasm in human skeletal muscle. **E-K.S. Sällstedt, M. Ydfors, J. Norrbom and C.J. Sundberg.** Karolinska Inst.
- A22 **734.6** Altered states of Pax3 phosphorylation contribute to regulation in melanocytes and melanoma. **A.S. Iyengar and A.D. Hollenbach.** LSU Hlth. Sci. Ctr., New Orleans.
- A23 **734.7** A means to an end: a role for phosphorylation in the degradation of Pax3. **J.M. Loupe, P.J. Miller, A.S. Iyengar and A.D. Hollenbach.** LSU Hlth. Sci. Ctr., New Orleans.
- A24 **734.8** Analysis of Pax3 phosphorylation in regulating DNA binding in early myogenic differentiation. **A.D. Hollenbach, J.M. Loupe, A.S. Iyengar and P.J. Miller.** LSU Hlth. Sci. Ctr., New Orleans.
- A25 **734.9** Mastermind-like 1 is ubiquitinated: functional consequences for Notch signaling. **B. White, M. Farshbaf, M.J. Lindberg, S. Behmner and A.E. Wallberg.** San Jose State Univ. and Karolinska Inst.

### 735. RNA POLYMERASE PAUSING AND ELONGATION

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A26 **735.1** Molecular basis of RNA polymerase II transcription fidelity. **D. Wang.** UCSD Sch. of Pharm. and Pharmaceut. Sci.
- A27 **735.2** Nonpolar nucleosides alter RNA polymerase II NTP specificity by disrupting hydrogen bonding and base stacking. **M.W. Kellinger, S. Ulrich, E.T. Kool and D. Wang.** Sch. of Pharm., UCSD and Stanford Univ.

**736. RNA POLYMERASE STRUCTURE****Poster**

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A28 **736.1** Identification of RNA polymerase  $\omega$  subunit in *Chlamydia trachomatis*. **K. Allette, H. Fan and X. Bao.** Long Island Univ. and UMDNJ-Robert Wood Johnson Med. Sch.

**737. TRANSCRIPTIONAL ASSEMBLIES AND MECHANISMS****Poster**

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A29 **737.1** Asymmetry in activator ring opens up sigma<sup>54</sup> dependent transcription in bacteria. **S. Chowdhury, S. De Carlo, R. Diaz-Avalos, W. Rice and B.T. Nixon.** Penn State, FEI, Eindhoven, Netherlands, Univ. of California, Davis and New York Struct. Biol. Ctr., New York.

**738. TRANSCRIPTIONAL INITIATION****Poster**

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A30 **738.1** Footprinting analysis of the interactions between *E. coli* RNA polymerase and promoter DNA that produce very long abortive transcripts. **M. Thandar, A. Lee and L.M. Hsu.** Mount Holyoke Col.
- A31 **738.2** Crosslinking very long abortive transcripts to *E. coli* RNA polymerase: an approach to elucidate forward hypertranslocation. **R. Wieland and L.M. Hsu.** Mount Holyoke Col.

**739. MECHANISM OF DNA REPLICATION****Poster**

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A32 **739.1** Successful computational prediction of residues important for function in DNA polymerase III alpha subunit. **R. Parasuram, R. Sharma, P.J. Beuning and M.J. Ondrechen.** Northeastern Univ.
- A33 **739.2** Acetylation of replication and repair proteins regulates genome fidelity. **L. Balakrishnan and R.A. Bambara.** Univ. of Rochester Med. Ctr.
- A34 **739.3** The structure and kinetics of an unusual DNA polymerase I from the thermophilic bacterium, *Rhodothermus marinus*. **N.S. Omattage, M.A. Rubio Gomez, E. Kornberg, B. Duffany, R. Dow, L. Spicer and E. Wu.** Univ. of Richmond.
- A35 **739.4** A new role for the proofreader in bacterial DNA replication. **N.E. Dixon and S. Jergic.** Sch. of Chem., Univ. of Wollongong, Australia.

- A36 **739.5** Biochemical genetics of the mitochondrial replicase: clustering of pathogenic mutations into five functional modules in human DNA polymerase  $\gamma$ . **L.S. Kaguni, G.A. Farnum, L. Euro, E. Palin and A. Wartiovaara.** Michigan State Univ. and Univ. of Helsinki.

A37 **739.6** **Withdrawn.**

- A38 **739.7** *E. coli* and *S. cerevisiae* clamp loaders,  $\gamma$  complex and RFC, actively close clamps. **J. Hayner and L. Bloom.** Univ. of Florida.

- A39 **739.8** *S. cerevisiae* RFC Walker A and arginine finger mutants are defective in clamp opening and binding. **M.R. Marzahn and L. Bloom.** Univ. of Florida.

**740. DNA PROTEIN INTERACTIONS****Poster**

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A40 **740.1** The binding of G-quadruplex DNA to insulin: from single molecule to bulk methods. **K. Sinniah, S. Lynch, C. Timmer and A. Witte.** Calvin Col., MI.
- A41 **740.2** Investigation of the thermodynamics of DNA interactions with the LL-37 peptide. **C.E. Dodson, R.K. Zachary and M.L. Craig.** Mary Baldwin Col., VA.
- A42 **740.3** The roles of the N-terminal metal coordinating residues in DNA binding and oligomerization of *Deinococcus radiodurans* Dps-1. **K.H. Nguyen and A. Grove.** LSU.
- A43 **740.4** The role of protein sequence and global conformation in DNA binding specificity of members of the Cro family. **M.R. Nelson, K. Olson and M.H.J. Cordes.** Univ. of Arizona.
- A44 **740.5** Characterization of a MarR homolog in *Vibrio vulnificus*. **T. Lemon and A. Grove.** LSU.
- A45 **740.6** Complex formation between LL-37 and CpG DNA: thermodynamic properties and effects in a prostate cancer progression model. **M.L. Craig, C. Dodson, A.S. Gupta and P.D. Deeble.** Mary Baldwin Col., VA.
- A46 **740.7** Dependence of DNA-protein cross-linking via guanine oxidation upon local DNA sequence. **Z.A. Perez and E. Stemp.** Mount St. Mary's Col., CA.

**741. DNA REPLICATION MECHANISMS****Poster**

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A47 **741.1** An active site mutant allele of human Pol  $\epsilon$  is a mutator in vitro and in vivo. **A. Ayuk Agbor and Z.F. Pursell.** Tulane Univ. Sch. of Med.
- A48 **741.2** Srs2 functions needed to replicate CAG/CTG hairpins and prevent repeat instability. **J. Nguyen, R. Anand, G-F. Richard and C. Freudenreich.** Tufts Univ. and Pasteur Inst., Paris.

## 742. DNA

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A49 **742.1** The use of molecular approaches to identify changes in soil microbial communities during storage. **V. Freeman, N. Patel, S.A. Larson and C. Bailey.** Univ. of Nebraska-Lincoln.
- A50 **742.2** Rapid bacterial DNA extraction from stool samples. **M. Duggan, T. Parrish and P. Williams.** Evogen Inc., Lenexa, KS.

## 743. THE SPLICEOSOME: FITTING THE PIECES TOGETHER

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A51 **743.1** Investigation of the role of the proteasomal subunit rpn10 in pre-mRNA splicing. **E.C. Merkhofer and T. Johnson.** UCSD.
- A52 **743.2** A role for stem-loop 4 of U1 snRNA in splice site pairing. **S. Sharma, S. Wongpalee and D. Black.** HHMI and UCLA.

## 744. COORDINATING TRANSCRIPTION WITH RNA PROCESSING

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A53 **744.1** Yeast mRNA 5'triphosphatase, Cet1p, represses the accumulation of RNA polymerase II towards the 5'end of active coding sequence in vivo: implications for promoter proximal pausing. **S. Lahudkar, G. Durairaj and S.R. Bhaumik.** Southern Illinois Univ. Sch. of Med.

## 745. RIBONUCLEOPROTEINS

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A54 **745.1** Genetic and proteomic dissection of TDP43 toxicity in *S. cerevisiae*. **M.J. Higgins, N.J. Krogan and R.V. Farese, Jr.** Gladstone Inst. of Cardiovasc. Dis., San Francisco.
- A55 **745.2** Yeast two-hybrid reveals a potato polypyrimidine tract binding protein interacts with a Nova-like protein. **S. Shah, N. Butler, D.J. Hannapel and A.G. Rao.** Iowa State Univ.
- A56 **745.3** Allosteric inhibition of a stem cell RNA-binding protein by an intermediary metabolite. **S.P. Ryder, C.C. Clingman, L.M. Deveau and F. Massi.** Univ. of Massachusetts Med. Sch.

## 746. RIBOSWITCHES

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A57 **746.1** Investigating the role of sterics and hydrogen bonding in the preQ<sub>1</sub> riboswitch binding site. **L.W. Ryon and I.T. Suydam.** Seattle Univ.
- A58 **746.2** Role of the cofactor in the catalytic mechanism of the *glmS* ribozyme. **J. Viladoms Claverol and M.J. Fedor.** The Scripps Res. Inst.

## 747. RNA AND DISEASE

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A59 **747.1** Gene expression profiling of oxidative stress on vascular tissue in Puerto Rican diabetic patients undergoing coronary artery bypass grafting. **E. Albino-Rodriguez, E. Soltero, L. Ferder and J. Dutil.** Ponce Sch. of Med. and Damas Hosp., PR.
- A60 **747.2** Cross talk in the regulation of miR-192 by p53: an amplification loop in the pathogenesis of diabetic nephropathy. **S. Deshpande, M. Kato, S. Putta, L. Lanting and R. Natarajan.** Irell and Manella Grad. Sch. of Biol. Sci. and Beckman Res. Inst., City of Hope.
- A61 **747.3** Genetic deletion of an instability motif in the tristetraprolin transcript: implications for the treatment of systemic inflammation. **S. Patial, D.J. Stumpo, W.S. Lai, T.W. Ward and P.J. Blackshear.** NIEHS/NIH, Research Triangle Park.
- A62 **747.4** Convergent transcription at the ataxin-7 locus produces dsRNA fragments that are processed by Dicer-1. **P.D. Ladd, J.M. Ward, N.S. Lomas, V.V. Pineda and A.R. La Spada.** UCSD and Univ. of Washington.
- A63 **747.5** NMD-deficient Upf3b-null mice display behavioral and neuropathological defects. **L. Huang, E.Y. Shum, R. Karam, L.S. Nguyen, J. Gecz and M.F. Wilkinson.** UCSD and Women's and Children's Hosp., Adelaide.

## 748. RNA SPLICING

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A64 **748.1** Integrative genome-wide analysis reveals cooperative regulation of alternative splicing by hnRNP proteins. **S.C. Huelga, A.Q. Vu, J.D. Arnold, T.Y. Liang, J.P. Donohue, L. Shiue, S. Hoon, S. Brenner, M. Ares, Jr. and G.W. Yeo.** UCSD, Univ. of California, Santa Cruz and A\*STAR, Singapore.
- A65 **748.2** Computational prediction of alternative splice site selection. **A. Busch and K.J. Hertel.** Univ. of California, Irvine.

- A66 **748.3** Synergy between chromatin remodeling complexes and pre-mRNA splicing. **S.K. Pradhan, E. Soule and T.L. Johnson.** UCSD.
- A67 **748.4** Autoregulation of SUS1: a splicing dependent regulation of histone H2B ubiquitination. **M.A. Hossain, S. Venkataramanan and T.L. Johnson.** UCSD.

## 749. PROTEIN TARGETING AND TRANSLOCATION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A68 **749.1** Structural requirements for N-terminus-mediated basolateral targeting in multipass membrane transporters. **S-M. Kuo, S. Yu, L-Y. Wang and C.E. Campbell.** Univ. at Buffalo.
- A69 **749.2** Identification of the activator binding residues in protein kinase C theta C1B domain. **G.M. Rahman, S. Sanker, N. Lewin, B.V.V. Prasad, P.M. Blumberg and J. Das.** Univ. of Houston, Baylor Col. of Med., NCI/NIH.
- A70 **749.3** Investigating synaptophysin targeting to the photoreceptor synapse. **S.A. Baker, M.F. Brucato, V.Y. Arshavsky, S.R. Hengel, Y. Pan and J.G. Laird.** Univ. of Iowa and Duke Univ.
- A71 **749.4** Structural investigations of the Get4/Get5/Sgt2 complex. **J.W. Chartron and W.M. Clemons, Jr.** Caltech.

## 750. ADAMS AND OTHER PROTEASES

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A72 **750.1** Reduced tumor load and metastasis in vivo by targeting a metalloprotease-disintegrin, ADAM8, in highly invasive adenocarcinomas. **U. Schlomann, T. Ferdous, P. Golfi, G. Koller, M. Parsons, S. Höfling, T. Hagemann, M. Bossard, C. Nimsky and J.W. Bartsch.** King's Col. London, Queen Mary Univ. of London and Marburg Univ., Germany.
- A73 **750.2** VEGFR-1/flt-1 is induced by protein kinase C and its ectodomain cleavage is regulated by glycosylation and metalloproteases. **N.S. Raikwar, K.Z. Liu and C.P. Thomas.** Univ. of Iowa Col. of Med. and VA Med. Ctr.

## 751. PROTEASE: STRUCTURE AND REGULATION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A74 **751.1** Cathepsin B cleaves and activates the alpha subunit of the epithelial sodium channel. **A.A. Alli, J.Z. Song, O. Al-Khalili, H-F. Bao, H-P. Ma and D.C. Eaton.** Emory Univ.
- A75 **751.2** The role of a second shell hydrophobic interaction in trypsin-fold serine protease function. **A. Batt, H. Rafidi and T. Baird, Jr.** San Francisco State Univ. and Univ. of California, Davis.

- A76 **751.3** Probing the role of a "first shell" interaction in trypsin-fold serine proteases. **A. Sharma and T. Baird, Jr.** San Francisco State Univ.
- A77 **751.4** Nucleotide-dependent conformational changes in the N-ethylmaleimide sensitive factor and their potential role in SNARE complex disassembly. **A. Moeller, C. Zhao, M.G. Fried, E.M. Wilson-Kubalek, B. Carragher, C.S. Potter and S.W. Whiteheart.** The Scripps Res. Inst., Univ. of Kentucky and UCSD Sch. of Pharm.

## 752. PROTEIN AGGREGATION AND AMYLOID DISEASES

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A78 **752.1** Evidence for a secondary pathway for fibril growth during amyloid fibril formation by tau. **G. Ramachandran and J.B. Udgankar.** NCBS, Bangalore.
- A79 **752.2** Self-aggregating mutant TRAPPC6A from partial exon 1 gene deletion activates caspases, binds TIAF1, and generates amyloid beta in hippocampus. **N-S. Chang and J-Y. Chang.** Natl. Cheng Kung Univ., Taiwan.
- A80 **752.3** Interesting effects including apoptosis induced by protein aggregation of Gts1p with polyQ-tail in yeast. **K. Kuroda, M. Sanada and M. Ueda.** Grad. Sch. of Agr., Kyoto Univ.
- A81 **752.4** The novel role of Sav1 in aggresome formation. **N. Sakai, Y. Fujiwara, T. Shiraki, T. Koshimizu and K. Shibata.** Himeji Dokkyo Univ. and Jichi Med. Univ., Japan.
- A82 **752.5** Abeta-polyacrolein is neurotoxic in an amyloid-independent manner. **C.S. Theisen and N.W. Seidler.** Kansas City Univ. of Med. and Biosci.
- A83 **752.6** The neuroendocrine peptide 7B2 prevents neurodegenerative disease-related protein aggregation. **M. Helwig, A. Hoshino, S-N. Lee, N. Lorenzen, D.E. Otzen and I. Lindberg.** Univ. of Maryland Sch. of Med., Yonsei Univ. Col. of Med., South Korea and Aarhus Univ., Denmark.
- A84 **752.7** Investigating the effect of the oligopeptide repeat region on prion propagation. **C. Langlois and T. Serio.** Brown Univ.
- A85 **752.8** Amyloid beta oligomers trigger death receptors-mediated apoptosis in cerebral endothelial cells. **S. Fossati, J. Ghiso and A. Rostagno.** NYU Sch. of Med.
- A86 **752.9** Glycosylation and phosphorylation induce alternative structural conformations in tau's proline-rich domain. **M.A. Brister, A.A. Bielska and N.J. Zondlo.** Univ. of Delaware.
- A87 **752.10** The role of protein oxidation in the onset of the transthyretin amyloidoses. **L. Zhao, N. Reixach and J. Buxbaum.** The Scripps Res. Inst.

### 753. CO- AND POST-TRANSLATIONAL PROTEIN TARGETING

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A88 **753.1** Cell-specific processing and release of the pro-hormone candidate tumor suppressor, Ecrg4, from the epithelial cell surface. **X. Dang, S. Podvin, R. Coimbra, B. Eliceiri and A. Baird.** UCSD Sch. of Med.
- A89 **753.2** Expression and auto-processing of Hedgehog-like proteins from *Brugia malayi*. **G. Savidis, M.J. Drago, J.N. Reitter and K.V. Mills.** Col. of Holy Cross, MA.
- A90 **753.3** Sumoylation of caveolin-3: SUMO-specific proteases SENP1 and SENP2 regulate deconjugation of SUMO-3 and poly-SUMO-3 chains. **A.R. Busija, S.R. Fuhs, H.H. Patel and P.A. Insel.** UCSD and Salk Inst. for Biol. Studies.
- A91 **753.4** Immuno-enrichment of the novel B-raf target FAM129B from rat lung tissue. **E.A. Holdman, T. Anderson, R. Todhunter, J. Riedinger, W. Muhonen and J. Shabb.** Univ. of North Dakota.
- A92 **753.5** Regulation of the Get3 ATPase cycle. **M.E. Rome and M. Rao.** Caltech.

### 754. UBIQUITIN PATHWAY AND PROTEASOME TARGETING

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A93 **754.1** Human RMND5 proteins function as E3 ubiquitin ligases in prostate cancer cells. **A. Louw, J. Harvey and J. Bentel.** Royal Perth Hosp. and Univ. of Western Australia.
- A94 **754.2** Mutational and kinetic analysis of the endosome-associated deubiquitinating enzyme, AMSH. **C.W. Davies, M-I. Kim, L.N. Paul and C. Das.** Purdue Univ.
- A95 **754.3** Acupuncture ameliorated skeletal muscle atrophy induced by hindlimb suspension and spiral wire immobilization in mice. **A. Onda, Q. Jiao, S. Minamisawa and T. Fukubayashi.** Waseda Univ., Japan.
- A96 **754.4** An autoregulatory feedback loop between nuclear receptor SHP and Mdm2 that controls Mdm2, SHP and p53 protein stability. **Z. Yang, Y. Zhang and I. Wang.** Univ. of Utah Sch. of Med.
- A97 **754.5** Complementary rather than redundant CYP3A4 ubiquitination by UBC7/gp78 and UbcH5a/CHIP E2/E3 systems. **Y. Wang and M.A. Correia.** UCSF.
- A98 **754.6** Identification of a ubiquitin-binding domain in GTP cyclohydrolase 1. **Y. Zhao, H-P. Zhu and M-H. Zou.** Univ. of Oklahoma Hlth. Sci. Ctr.

### 755. CHEMISTRY IN THE SERVICE OF MEDICINE

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A99 **755.1** Complex peptide biosensors for detection of intracellular kinase biomarkers. **M.C. Morris, L. Kurzawa, N. Van and M. Pellerano.** CRBM-CNRS, Montpellier.
- A100 **755.2** Effects of alkyl chain length of Zn N-alkylpyridylporphyrins on photo-mediated protein crosslinking. **J. Craik, M. Ghazal, I. Batinic-Haberle and L. Benov.** Kuwait Univ. and Duke Univ.
- A101 **755.3** Label transfer reagents for the study of protein kinase complexes. **S. Andrews, G. Perera, P. Ranjitkar and D. Maly.** Univ. of Washington.

### 756. ENZYME MECHANISM

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A102 **756.1** Family 18 chitinase from *Bacillus pumilus* SG2: role of chitin-binding domain in the enzymatic activity. **S. Ghasemi, M. Amirahmadvandi and A. Karimi.** Royesh Khazar Plant Protection Clin., Sari, Iran.
- A103 **756.2** Substrate tolerance of acyl-CoA ligases. **M.D.K. Go, A.T. Tai and W.S. Yew.** Natl. Univ. of Singapore.
- A104 **756.3** Protein splicing of a temperature-dependent intein from an extreme thermophile. **K.M. Colelli, J.N. Reitter and K.V. Mills.** Col. of Holy Cross, MA.
- A105 **756.4** Protein splicing facilitated by highly similar inteins from two extreme thermophiles. **J.E. Williams, J.N. Reitter and K.V. Mills.** Col. of Holy Cross, MA.
- A106 **756.5** Protein splicing of inteins from *Synechococcus sp. PCC 7002* and *Pyrococcus abyssi*. **K.K. Karanja, L.M. Urbanski, J.N. Reitter and K.V. Mills.** Col. of Holy Cross, MA.
- A107 **756.6** Side-chain cyclization of Gln or Asn residues coupled to peptide bond cleavage in an intein and a model peptide. **L.M. Urbanski, S.L. Chin, J.N. Reitter and K.V. Mills.** Col. of Holy Cross, MA.
- A108 **756.7** Calcium-dependent interactions and electron transfer in NADPH oxidase 5. **C-C. Wei, N. Reynolds and C. Palka.** Southern Illinois Univ. Edwardsville.
- A109 **756.8** Structural insights into the mechanism of acetolactate decarboxylase. **V. Marlow, D. Rea, M. Wills and V. Fülöp.** Univ. of Warwick, U.K.
- A110 **756.9** Characterization of the metal binding in NADPH oxidase 5 by fluorescence, isothermal titration calorimetry, and circular dichroism. **C.D. Palka, N. Reynolds, A. Tatro and C-C. Wei.** Southern Illinois Univ. of Edwardsville.
- A111 **756.10** Combinatorial biosynthesis of unnatural polyketides using a type III polyketide synthase from *Oryza sativa*. **J.Y. Chow, J. Wongsantichon, R. Robinson, Y.H. Gan and W.S. Yew.** Natl. Univ. of Singapore and Inst. of Molec. and Cell Biol., Singapore.
- A112 **756.11** Acid-base chemical mechanism of the dihydrodipicolinate synthase from *Escherichia coli*. **C.G. Bruxvoort, W.E. Karsten and L. Chooback.** Univ. of Central Oklahoma and Univ. of Oklahoma.



- A113 **756.12** Entrance to a lipoxygenase substrate cavity is defined. **B.J. Gaffney, M. Bradshaw, J. Freed and P. Borbat.** Florida State Univ. and Cornell Univ.
- A114 **756.13** pH-dependent studies of *E. coli* methylenetetrahydrofolate reductase. **J. Wang and E.E. Trimmer.** Grinnell Col., IA.
- A115 **756.14** The study of a catalytic intermediate of methylenetetrahydrofolate reductase. **M. Bierlein De La Rosa and E.E. Trimmer.** Grinnell Col., IA.
- A116 **756.15** A functional role for glutamine 183 in the folate half-reaction of methylenetetrahydrofolate reductase from *E. coli*. **E.E. Trimmer, D.I. Satzer, A.L. Jolly, S. Cao and A.P. Nikolova.** Grinnell Col., IA.
- A117 **756.16** Developing polyketide-based anti-microbial therapeutics using synthetic enzymology. **V.W.N. Cheung, M.D.K. Go, R. Robinson, J. Wongsantichon and W.S. Yew.** Natl. Univ. of Singapore and Inst. of Molec. and Cell Biol., Singapore.
- A118 **756.17** From truncated models to full protein QM/MM analysis of the reaction catalyzed by malate dehydrogenase. **H. Guterres and E. Bell.** Univ. of Richmond.
- A119 **756.18** Par-6 activates atypical protein kinase C by pseudosubstrate displacement. **C. Graybill and K.E. Prehoda.** Univ. of Oregon.
- A120 **756.19** Expression of a tetradomain fragment from a polyunsaturated fatty acid synthase with dehydratase activity. **D.J. Oyola-Robles, M.M. Rodriguez-Guilbe, M-L. Bermudez, M. Rivera-Diaz, N.M. Carballeira and A. Baerga-Ortiz.** Univ. of Puerto Rico, Med. Sci. Campus and Univ. of Puerto Rico, Rio Piedras.
- A121 **756.20** On the role of Cys150 in the mechanism of maleamate amidohydrolase (NicF). **J.W. Noel, N.E. Spittle and M.J. Snider.** Col. of Wooster, OH.
- A122 **756.21** Oxygen activation in the copper amine oxidases. **S.A. Mills, E. Choi, C. Chow, A. Bitsimis and D.J. Sommer.** Univ. of San Diego.
- A123 **756.22** Examination of effect of diet, pH, and age on chitinase activity in the gut of the yellow-bellies slider turtle *Trachemys scripta*. **A.M. Garrett, J.T. Tansey and S.S. Bouchard.** Otterbein Univ., OH.
- A124 **756.23** The mechanism of oxygen activation by pea seedling amine oxidase. **D.J. Sommer, E. Choi, A. Bitsimis, C. Chow and S.A. Mills.** Univ. of San Diego.
- A125 **756.24** Characterization of a chitinase activity in the gut of the yellow-bellied slider turtle *Trachemys scripta*. **K.A. Kaiser, J.T. Tansey and S.S. Bouchard.** Otterbein Univ., OH.
- A126 **756.25** HSP90 interaction with eNOS and nNOS. **D.K. Ghosh, C.A. Chrestensen, J.L. McMury and J.C. Salerno.** Kennesaw State Univ.
- A127 **756.26** Fluorescence lifetimes as a monitor of conformational distributions in NOS. **E.N. Umejiego, D.K. Ghosh, B.L. Hopper, C.M. Enweani, A. Lester and J.C. Salerno.** Kennesaw State Univ.

**757. ROLE OF DYNAMICS IN ENZYME CATALYSIS****Poster**

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A128 **757.1** Solution structures of CaM-iNOS and CaM-eNOS peptide complexes: effects of a phosphomimetic CaM mutation. **M. Piazza, T. Dieckmann and J.G. Guillemette.** Univ. of Waterloo, Canada.
- A129 **757.2** Do the inter-nucleotide domain loops act as an entropy sink in the catalytic activity and regulation of 3-phosphoglycerate dehydrogenase? **C. Meehan, B. Falk and E. Bell.** Univ. of Richmond.
- A130 **757.3** Probing subunit interactions in 3-phosphoglycerate dehydrogenase. **B. Falk and E. Bell.** Univ. of Richmond.

**758. SIGNALING AND METABOLISM****Poster**

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A131 **758.1** Iron contributes to hepatocyte insulin resistance in a cell model of nonalcoholic fatty liver disease. **D. Messner, B. Rhieu, D. Godbout and K.V. Kowdley.** Bastyr Univ. and Benaroya Res. Inst.
- A132 **758.2** Improvement of cell survival by ammonium ions in glutamine-deprived cells. **A. Abusneina and E.R. Gauthier.** Laurentian Univ., Canada.
- A133 **758.3** Transforming growth factor-beta and vascular endothelial growth factor expressions in the kidney of Fabry mouse. **M.H. Lee, E.N. Choi and S-C. Jung.** Ewha Womans Univ. Sch. of Med., South Korea.
- A134 **758.4** Analysis of ethanol metabolic enzymes in primary human mammary epithelial cells and MCF-10A cells: possible participation of CYP2E1 in ethanol-induced oxidative stress and epidermal growth factor receptor activation. **L. Rodríguez-Fragoso, A. Leon Buitimea, F. Lauer, T. Thompson, H. Bowels and S. Burchiel.** Fac. of Pharm., Autonomous Univ. of State of Morelos, Mexico and Univ. of New Mexico Col. of Pharm.
- A135 **758.5** NAD(P)H oxidase-dependent H<sub>2</sub>O<sub>2</sub> production and RyR-IP<sub>3</sub>R activation are required for insulin-induced GLUT4 translocation and glucose uptake in skeletal muscle cells. **A. Contreras-Ferrat, C. Vasquez, A. Espinosa, S. Lavandero, A. Klip and E. Jaimovich.** Univ. of Chile and Hosp. for Sick Children, Toronto.
- A136 **758.6** Hydrogen sulfide regulates hypoxic signaling in T cells. **T.W. Miller, T. Song, S. Amarnath, D.H. Fowler and D.D. Roberts.** NCI/NIH.
- A137 **758.7** Salt-inducible kinase 1 links p300 phosphorylation to CREB regulated gluconeogenesis post burn. **N.C. Brooks, A.H. Smith, Y. Hiyama, C.C. Finnerty, D.N. Herndon, D. Boehning and M.G. Jeschke.** Univ. of Texas Med. Branch, Sunnybrook Hlth. Sci. Ctr., Toronto and Shriners Hosps. for Children, Galveston.
- A138 **758.8** Endoglin is a key mediator of BMP2-mediated adipogenesis. **A. Reese.** Univ. of Delaware.

- A139 **758.9** The JAK kinase Tyk2 and the signal transducer and activator of transcription 3 are required for brown adipose tissue differentiation. **A.C. Larner, M. Derecka, A. Gornicka, K. Szczepanek, M. Morgan, V.B. Rajee, J. Sisler and S. Keller.** Virginia Commonwealth Univ. and Univ. of Virginia.
- A140 **758.10** Heterologous expression of human phosphodiesterase 3A affects calcineurin-mediated calcium homeostasis in yeast. **D.K. Rhee, S.C. Hockman and V.C. Manganiello.** NHLBI/NIH.
- A141 **758.11** Evidence for activation of AMP kinase in nephropathic cystinosis. **M. Taub and F. Cutuli.** Univ. at Buffalo.
- A142 **758.12** The role of oxygen in bone regeneration. **M. Sammarco, J. Simkin, J. Castillo and K. Muneoka.** Tulane Univ.
- A143 **758.13** PKA-induced interaction of phosphorylated PDE3A and Big1 (brefeldin A-inhibited guanine nucleotide exchange protein 1) in cytosolic fractions from human myocardium may be important in regulation of BIG1 function. **F.A. Khan, N. Szabo-Fresnais, J. Krall, J. Moss, M. Vaughan, M. Movsesian and V.C. Manganiello.** NHLBI/NIH and Univ. of Utah.
- A144 **758.14** Effects of lysophosphatidic acid on CCN1 expression in human prostate cancer cell lines. **Z. Zhang, C.R. Bailey and K.E. Meier.** Washington State Univ.
- A145 **758.15** Regulation of PASK function by mTOR signaling pathway. **C.K. Kikani and J.P. Rutter.** Univ. of Utah.
- A146 **758.16** PAS kinase regulates hepatic lipid metabolism through activating SREBP-1. **X. Wu, I. Dorweiler, A. Walkup and J.P. Rutter.** Univ. of Utah.
- A147 **758.17** Protein stability of wild type and mutant forms of the RET tyrosine kinase. **Q. Vega and S. Maslovski.** Montclair State Univ., NJ.
- A153 **759.6** Rgs16 is a pancreatic reporter of chronic hyperglycemia in diabetes. **O. Ocal, I.W. Asterholm, R.A. Brekken, O. Cleaver, P.E. Scherer and T.M. Wilkie.** Univ. of Texas Southwestern Med. Ctr.
- A154 **759.7** Evaluation of anti-diabetics and cardiovascular effects of a Nigerian poly herbal extract (*Picralima nitida* seed, *Acacia nilotica* pod and *Aristolochia ringens* root) on postprandial and alloxan-induced diabetic albino rats. **A.A. Ani, S.O. Ogbonnia and A. Okosun.** Col. of Med., Univ. of Lagos, Nigeria.
- A155 **759.8** Catalase overexpression and mitochondrial function in insulin-resistant muscle cells. **L.R. Silveira, I.H. Sampaio, L. Bomfim, A. Queiroz, T.A. Sousa, B. Gonzaga, C. Zoppi, E.M. Carneiro and R. Curi.** Univ. of São Paulo, Ribeirão Preto, UNICAMP, Campinas and ICB, Univ. of São Paulo.
- A156 **759.9** Extracts of purple sweet potato protect pancreatic  $\beta$ -cells from oxidative stress. **C-Y. Lin, Y-Y. Li, T-Y. Chiang and T-L. Jeng.** Asia Univ., Taiwan and Council of Agr. Taichung, Taiwan.
- A157 **759.10** Quercetin as a possible inhibitor of glycation in diabetes. **D. Maynard, C. DeBauche and B. Wing.** Drury Univ., MO.
- A158 **759.11** H<sub>2</sub>S and L-cysteine increase the glucose utilization via the PIP3-mediated insulin-dependent (PI3K/AKT) and the insulin independent (SIRT1/AMPK/PPAR $\gamma$ ) signaling cascades in U937 human monocytes exposed to high glucose. **P. Manna and S.K. Jain.** LSU Hlth. Shreveport.
- A159 **759.12** Cell cholesterol levels determine glucose uptake and insulin resistance in skeletal muscle. **P. Llanos, A. Contreras-Ferrat, C. Osorio-Fuentealba, A. Espinosa, C. Hidalgo and E. Jaimovich.** Univ. of Chile.
- A160 **759.13** *myo*-Inositol oxygenase identified in *Drosophila melanogaster*. **M.K. Jones, E.D. Eldon and L.S. Klig.** California State Univ., Long Beach.
- A161 **759.14** Circulating adipokine profile in type 2 diabetes mellitus in Lagos, Nigeria. **A. Ebuehi, T. Oshodi, I. Udenze and O. Ebuehi.** Col. of Med., Univ. of Lagos, Nigeria.
- A162 **759.15** IRS-1/2 mediated regulation of hepatic OGT and OGA expression. **K. Sundararaj, A.M. Alqalam, K.A. Robinson, M.G. Buse and L.E. Ball.** Med. Univ. of South Carolina.
- A163 **759.16** The function of SREBP-1a in high sucrose diet-mediated metabolic disease. **S-S. Im, M. Roqueta-Rivera and T.F. Osbrone.** Sanford-Burnham Med. Res. Inst., Orlando.

## 759. METABOLISM AND DIABETES

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A148 **759.1** Excess protein O-GlcNAcylation and the progression of diabetic cardiomyopathy. **E.S. Fricovsky, J. Suarez, S-H. Ihm, B.T. Scott, J.A. Suarez-Ramirez, F.J. Villarreal and W.H. Dillmann.** UCSD.
- A149 **759.2** Fatty acid elongase-5 (Elovl5) regulates the mTORC2-FoxO1 pathway in obese-diabetic C57BL/6J mice. **S. Tripathy and D.B. Jump.** Sch. of Biol. and Popul. Hlth. Sci., Oregon State Univ.
- A150 **759.3** TGF- $\beta$  activates Akt kinase and induces glomerular mesangial hypertrophy related to diabetic nephropathy through FOG2 inhibition by microRNA-200b/c. **J.T. Park, M. Kato, L. Lanting, S. Putta, N. Castro and R. Natarajan.** Beckman Res. Inst. of City of Hope.
- A151 **759.4** Analysis of the metabolic changes occurring during the development of metabolic disorder induced by a high-fat diet. **A.V. De la Rosa Medina, I. Sanchez Gutierrez, R. Reynoso and L.M. Salgado.** CICATA and Autonomous Univ. of Querétaro, Mexico.
- A152 **759.5** Improvement in blood lipid levels by *Eryngium carlinae* in diabetic rats. **R. Noriega-Cisneros, O. Ortiz-Ávila, E. Esquivel-Gutiérrez, M. Clemente-Guerrero, S. Manzo-Avalos, R. Salgado-Garciglia, C. Cortés-Rojo and A. Saavedra-Molina.** Univ. Michoacana de San Nicolás de Hidalgo, Mexico.

## 760. NUCLEAR RECEPTORS IN METABOLIC SYNDROMES

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A164 **760.1** Structure-based pharmacophore sampling of PPAR $\gamma$ . **Z. Garcia, N. Lewis, J. Bassaganya-Riera and D. Bevan.** Virginia Tech and Virginia Bioinformat. Inst.
- A165 **760.2** Refinement of virtual screening binding criteria for PPAR $\gamma$  therapeutic screening. **S.N. Lewis, L. Brannan, J. Bassaganya-Riera and D. Bevan.** Virginia Tech and Virginia Bioinformat. Inst.

## 761. SIGNAL TRANSDUCTION

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A166 **761.1** PIM1-activated PRAS40 regulates radioresistance in non-small cell lung cancer cells through interplay with FOXO3a, 14-3-3, and protein phosphatases. **W. Kim, H. Youn, K.M. Seong, J. Kang and B. Youn.** Pusan Natl. Univ. and Sejong Univ., South Korea and Korea Hydro & Nuclear Power Co. Ltd., Seoul.
- A167 **761.2** Silent scaffolds: inhibition of JNK3 activity in living cells by a dominant-negative arrestin-3 mutant. **V.V. Gurevich, M. Breitman, L.E. Gimenez, S. Kook, B.N. Lizama, M.C. Palazzo and E.V. Gurevich.** Vanderbilt Univ.
- A168 **761.3** Construction of non-visual arrestins with enhanced specificity for individual G protein-coupled receptors. **L.E. Gimenez and V.V. Gurevich.** Vanderbilt Univ.
- A169 **761.4** Glucagon-like peptide-1 signals to PKB and mTORC1 via the activation of the insulin-like growth factor receptor (IGF1R) in islets of Langerhans. **N.M. Mostafa, C.E. Moore and T.P. Herbert.** Univ. of Leicester, U.K.
- A170 **761.5** Non-visual arrestins function as simple scaffolds assembling the MKK4–JNK3a2 signaling complex. **X. Zhan, T.S. Kaoud, K.N. Dalby and V.V. Gurevich.** Vanderbilt Univ. and Univ. of Texas at Austin.
- A171 **761.6** The cAMP-dependent protein kinase signaling pathway is a key regulator of P body foci formation. **K.H. Shah, V. Ramachandran and P.K. Herman.** The Ohio State Univ.
- A172 **761.7** Bone morphogenetic protein 2 and casein kinase 2 regulate the differentiation of osteoblasts. **A.M. D'Angelo, B. Bragdon, J. Bonor and A. Nohe.** Univ. of Delaware.
- A173 **761.8** Evaluating multiple signaling activities in LPS-induced human peripheral blood mononuclear cells. **M. McGivern, K. Wiewel, A. Borkovec, M. Jett and C. Mendis.** Univ. of Wisconsin-Platteville and U.S. Army Ctr. for Environ. Hlth. Res., Fort Detrick, MD.
- A174 **761.9** Mechanisms of transformation by the MEK1 mutants K57N and D67N. **S. Procaccia and R. Seger.** Weizmann Inst. of Sci., Rehovot.
- A175 **761.10** The redirection of adipocyte to osteoblast through the alteration of the casein kinase 2 interaction with the bone morphogenetic protein 2 pathway. **L.M. Gurski, B. Bragdon and A. Nohe.** Univ. of Delaware.
- A176 **761.11** Nutlin-3 activates MEK1/2-ERK1/2 pathway via p53-induced ROS accumulation. **S-Y. Lee, K-W. Ko, Y-J. Choe and H-S. Kim.** Col. of Med., The Catholic Univ. of Korea.
- A177 **761.12** Conformational switching on AKAP7 modulates the phosphorylation dynamics of anchored PKC. **J.M. Redden, E. Greenwald, J. Saucerman and K. Dodge-Kafka.** Univ. of Connecticut Hlth. Ctr. and Univ. of Virginia.
- A178 **761.13** Identification of the essential cell wall stress sensors in a *Saccharomyces cerevisiae* budding yeast lacking a myosin heavy chain gene (*myo1Δ*). **E. Santiago-Cartagena, S. González-Crespo and J.R. Rodríguez-Medina.** Univ. of Puerto Rico Med. Sci. Campus.
- A179 **761.14** Genetic depletion of the phosphatase PHLPP1 upregulates receptor tyrosine kinase signaling. **G.X. Reyes and A.C. Newton.** UCSD.
- A180 **761.15** The effects of the O-xylosyltransferase mutation on Wg, Hh, and Dpp signaling. **A. Liu.** Univ. of Delaware.

- A181 **761.16** Effect of pathway-interconnectors in SEB induced apoptosis related events in human PBMCs. **E.A. Banwarth, H. Schneider and C. Mendis.** Univ. of Wisconsin-Platteville.
- A182 **761.17** Characterization of the EMT response in Crybb2Phil mutants. **V.H. Roop.** Univ. of Delaware.
- A183 **761.18** Requirements of Gαi1 and Gαi3 for BDNF and NGF-induced PI3K/AKT and MAPK signaling, neuronal survival and migration. **C. Cao and J. Marshall.** Brown Univ.
- A184 **761.19** Characterization of the cynomolgus monkey 20α hydroxysteroid dehydrogenase enzyme. **K-S. Min, T. Nanjidsuren, C-W. Park and S-J. Yun.** Hankyong Natl. Univ., South Korea.
- A185 **761.20** Endothelin-1-induced early growth response factor-1 expression in vascular smooth muscle cells requires c-Src and ERK1/2 activation. **V. Youreva, G. Vardatsikos and A.K. Srivastava.** Univ. of Montreal and Hosp. Ctr.
- A186 **761.21** TCTP as a regulator of Rheb: impact on mTOR signaling. **M. Grabiak, J. Cortez and N. Parmar.** California State Univ., Channel Islands.
- A187 **761.22** Endothelin-1 induces Ca<sup>2+</sup>-calmodulin-dependent protein kinase II α expression in an ERK1/2-dependent pathway in vascular smooth muscle cells. **E.R. Simo Cheyou and A.K. Srivastava.** Univ. of Montreal and Univ. of Montreal Hosp. Ctr.
- A188 **761.23** Testing the HYPE: studies of the mammalian Fic protein. **A.R. Woolery, Y-H. Hao, P. Luong and K. Orth.** Univ. of Texas Southwestern Med. Ctr.
- A189 **761.24** Interference with platelet-derived growth factor-induced activation of receptor tyrosine kinase and downstream signaling pathways by compound C. **E-J. Yeo, G-E. Kim, H.J. Kwon, M-S. Jeong and Y-T. Lee.** Gachon Univ., South Korea.
- A190 **761.25** Role of SM22α in angiotensin II induced vascular smooth muscle cell contraction. **X. Xiao-Li and H. Mei.** Hebei Med. Univ., China.
- A191 **761.26** PDZ interactions between PHLPP phosphatases and the NHERF scaffold. **M. Kunkel, E.L. Garcia, R.A. Hall and A.C. Newton.** UCSD and Emory Univ. Sch. of Med.
- A192 **761.27** Cellular localization of tenomodulin isoforms. **J. Qi, J. Dmochowski, A. Banes, M. Tsuzaki, D. Bynum, S. Gomez and A.J. Banes.** Flexcell Intl. Corp., Hillsborough, NC, Univ. of North Carolina at Chapel Hill and North Carolina State Univ.
- A193 **761.28** Targeting the metastasis suppressor NDRG1: a new strategy for the treatment of pancreatic cancer. **D.R. Richardson, S. Chikhani, G. Lui, S. Sivagurunathan and Z. Kovacevic.** Univ. of Sydney.

## 762. NEUROBIOLOGY

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A194 **762.1** Interaction of ibogaine with human α3β4 nicotinic receptors in different conformational states. **I. Emert, K.M. Targowska-Duda, D. Feuerbach, K. Jozwiak and H.R. Arias.** Arizona Col. of Osteo. Med., Midwestern Univ., Med. Univ. of Lublin, Poland, Novartis Insts. for Biomed. Res., Switzerland, Col. of Pharm. and Midwestern University.

- A195 **762.2** Interactions of rat embryonic hippocampal neuronal stem cell on gold nano-film surface. **A. Islam and L. Menon.** Northeastern Univ.
- A196 **762.3** Short-chain fatty acids activate sympathetic neurons via a novel signaling pathway. **D. Inoue, I. Kimura, K. Ozawa, Y. Takei, A. Hirasawa and G. Tsujimoto.** Grad. Sch. of Pharmaceut. Sci., Kyoto Univ.
- A197 **762.4** Role of the  $\beta_4$  nicotinic receptor subunit in the anti-addictive activity of 18-methoxycoronaridine. **S. Mukhida and H.R. Arias.** Arizona Col. of Osteo. Med. and Col. of Pharm., Midwestern Univ.
- A198 **762.5** A study of GABA in bivalve molluscs. **T. Cochran, C. Brown, K. Mathew, S. Mathieu, M.A. Carroll and E.J. Catapane.** Medgar Evers Col., NY.
- A199 **762.6** Sensory-motor integration of gill lateral cilia in the bivalve mollusc, *Crassostrea virginica*. **P. Akande, Z. Bandaogo, M.A. Carroll and E.J. Catapane.** Medgar Evers Col., NY.
- A200 **762.7** FK962 induces neurite elongation in cultured monkey trigeminal ganglion cells. **E. Nakajima, R.D. Walkup, T.R. Shearer and M. Azuma.** Senju Pharmaceut. Co. Ltd., Beaverton, OR and Oregon Hlth. & Sci. Univ.
- A201 **762.8** Efficient downregulation of glia maturation factor expression in brain and spinal cord. **A. Zaheer, Y. Wu, R. Thangavel, S.K. Sahu and S. Zaheer.** Univ. of Iowa and VA Hlth. Care Syst.
- A202 **762.9** The influence of advanced age on novelty detection. **J.J. Ferng, S.N. Burke, A.L. Hartzell, J.M. Friel and C.A. Barnes.** Univ. of Arizona.
- A203 **762.10** CAPS primes vesicles for regulated exocytosis through SNARE protein interactions. **N. Daily and T. Martin.** Univ. of Wisconsin-Madison.
- A204 **762.11** Global and local administration of BDNF regulate dendrite patterning via different pathways. **M. Kwon and B.L. Firestein.** Rutgers Univ., Piscataway.
- A205 **762.12** Temporal and spatial patterns of enteric nervous system regeneration. **S. Qi Huang, E. Cuyar, K. Tossas and J.E. Garcia Arraras.** Univ. of Puerto Rico, Rio Piedras Campus.
- A206 **762.13** Examination of the reproductive effects of SIRT1 expression in neurons. **E.L. Rickert, J.M. Olefsky and N.J. Webster.** UCSD and VA San Diego Healthcare Syst.
- A207 **762.14** Differential effect of chronic opioid exposure on signaling and translational pathways in rat brain. **N.L. Korneeva and L.M. Schrott.** LSU Hlth. Sci. Ctr., Shreveport.
- A208 **762.15** Reproductive effects of SirT1 expression in astrocytes. **I.S. Choi, E.L. Rickert, J.M. Olefsky and N.J. Webster.** UCSD and VA San Diego Healthcare Syst.
- A209 **762.16** In vitro and in vivo investigation of modulators of hyperactivated ion channel induced necrosis in *C. elegans*. **S. Kamat, L. Bianchi, S. Yeola and M. Driscoll.** Rutgers Univ., New Brunswick and Piscataway and Univ. of Miami.
- A210 **762.17** The amyloid precursor protein of Alzheimer's disease localizes to plaques on the surfaces of axoplasmic organelles. **J.A. DeGiorgis, B.J. Scollins and R.B. Walsh.** Providence Col. and Marine Biol. Lab., Woods Hole.
- A211 **762.18** Impaired cognitive function is associated with changes in serotonin receptor activity following prenatal exposure to dexamethasone. **K.C. Page, D.S. Shah and V.J. Aloyo.** Bucknell Univ. and Drexel Univ. Col. of Med.

## 763. PROTEIN PHOSPHORYLATION AND DEPHOSPHORYLATION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A212 **763.1** Phosphorylation of p57/coronin-1 regulates its binding to actin cytoskeleton. **T. Oku, M. Nakano, Y. Kaneko, M. Tsuiji, S. Toyoshima and T. Tsuji.** Hoshi Univ., Japan and Japan Pharmacists Educ. Ctr., Tokyo.
- A213 **763.2** Structural biology of MAPK (p38/ERK) regulation by phosphatases and scaffolding proteins. **R. Page and W. Peti.** Brown Univ.
- A214 **763.3** Endogenous and psychostimulant substrates but not blockers stimulate dopamine transporter phosphorylation at a proline-directed site. **S. ChallaSivaKanaka, J.D. Foster and R.A. Vaughan.** Univ. of North Dakota.
- A215 **763.4** Protein kinase C  $\alpha$  phosphorylates argininosuccinate synthase at serine 328 in endothelial cells to affect nitric oxide production. **R.J. Haines, K.D. Corbin, L.C. Pendleton and D.C. Eichler.** Univ. of South Florida and Univ. of North Carolina at Chapel Hill, Kannapolis.
- A216 **763.5** Phosphorylation of argininosuccinate synthase at T131 correlates with changes in NO production. **L.C. Pendleton, R.J. Haines, K.D. Corbin and D.C. Eichler.** Univ. of South Florida and Univ. of North Carolina at Chapel Hill, Kannapolis.

## 764. ADAPTER PROTEINS

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A217 **764.1** Identifying chemotaxis protein-protein interactions in the symbiotic aquatic bacterium *Epulopiscium* sp. B. **J.A. Kessler and A.J. Piefer.** Hartwick Col., NY.
- A218 **764.2** Altered GIPC expression: potential role in cancer progression. **B. Reed, C. Cefalu, M. Mastrodomenico, T. Campbell, J.S. Alexander, B.J. Williams, S. Huang, A. De Benedetti, Y. Li and M. Lamb-Hall.** LSU Hlth. Sci. Ctr., Shreveport.

## 765. MAP KINASES

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A219 **765.1** TAK1 kinase signaling regulates Nrf2 and intestinal homeostasis. **A.N. Simmons and J. Ninomiya-Tsuji.** North Carolina State Univ.
- A220 **765.2** Prostate cancer pathways: selective action of 2-methoxyestradiol. **J.L. Ellis and N.E. Hopkins.** Tulane Univ.

A221 **765.3** The endocrine disruptors cadmium chloride and sodium arsenate induce human lung adenocarcinoma cell proliferation by activating the estrogen receptor-mediated signaling pathway. **R.D. Murphy, A.L. Smith, S.L. Todd, J.T. Elpers, B.N. Radde, C.M. Klinge and M.O. Huff.** Bellarmine Univ. and Univ. of Louisville.

## 766. PHOSPHATASES

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A222 **766.1** The role of PHLPP in regulating cell migration in pancreatic cancer. **A. Smith and T. Gao.** Univ. of Kentucky.

A223 **766.2** Structural and functional studies of plant glucan phosphatases. **S. Husodo and M.S. Gentry.** Univ. of Kentucky.

A224 **766.3** Discovery, characterization, and structural analyses of glucan phosphatases from plants to humans. **M.S. Gentry, D.A. Meekins, A.O. Taylor, D. Santelia, O. Kotting, S.C. Zeeman and C.W. Vander Kooi.** Univ. of Kentucky and ETH-Zurich.

A225 **766.4** A novel testis-specific isoform of the protein phosphatase 1 inhibitor I-2 is expressed in developing germ cells during sperm morphogenesis. **S. Ramdas, N. Sinha and S. Vijayaraghavan.** Kent State Univ.

A226 **766.5** PPP1CC2 levels are highly regulated in testis to ensure normal spermatogenesis and male fertility. **S. Dasgupta, N. Sinha and S. Vijayaraghavan.** Kent State Univ.

A227 **766.6** A simple Arg to Lys mutant of protein phosphatase 1 exhibits catalytic efficiencies toward monoanionic substrates superior to wild type. **Y. Chu, A.C. Hengge and N.H. Williams.** Utah State Univ. and Univ. of Sheffield, U.K.

A228 **766.7** High resolution structure of the phosphatase VHZ explains unexpected substrate specificity, and suggests the presence of metavanadate at the active site. **V.I. Kuznetsov, S.J. Johnson and A.C. Hengge.** Utah State Univ.

A229 **766.8** The phosphoramidase competency of prototypical phosphatase motifs. **M.P. Haney and A.C. Hengge.** Utah State Univ.

A230 **766.9** Identification of methylation-dependent protein phosphatase 2A activity correlated with changes in insulin secretion and glucose tolerance in mice with hypomorphic expression of the LCMT1 protein carboxyl methyltransferase. **K.B. MacKay, S. Clarke and S. Young.** UCLA.

A231 **766.10** Sperm motility characteristics are regulated by changes in carboxy methylation and tyrosine phosphorylation of protein phosphatase PP2A. **T. Dudiki, S. Kadunganattil, S. Ramdas and S. Vijayaraghavan.** Kent State Univ. and Ottawa Hosp. Res. Inst.

A232 **766.11** Dynamic interaction between lymphoid tyrosine phosphatase and C-terminal Src kinase controls T cell activation. **L. Tautz, T. Vang, W. Liu, L. Delacroix, S. Wu, S. Vasile, R. Dahl, L. Yang, L. Musumeci, D. Francis, J. Landskron, K. Tasken, M. Tremblay, B. Lie, R. Page, T. Mustelin, S. Rahmouni and R. Rickert.** Sanford-Burnham Med. Res. Inst., Biotechnol. Ctr. of Oslo, Univ. of Liège, Belgium, Brown Univ., Rosalind and Morris Goodman Cancer Ctr., Montreal and Univ. of Oslo.

A233 **766.12** Inhibition of hematopoietic protein tyrosine phosphatase augments and prolongs ERK1/2 and p38 activation. **L. Tautz, E. Sergienko, J. Xu, W. Liu, R. Dahl, D. Critton, Y. Su, B. Brown, X. Chan, L. Yang, E. Bobkova, S. Vasile, H. Yuan, J. Rascon, S. Colayco, S. Sidique, N. Cosford, T. Chung, T. Mustelin, R. Page and P. Lombroso.** Sanford-Burnham Med. Res. Inst., Yale Univ. Sch. of Med. and Brown Univ.

## 768. SERINE/THREONINE KINASE

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A235 **768.1** Development of biosensor for serine/threonine kinases. **J-H. Lee and C-J. Yuan.** Natl. Chiao Tung Univ., Taiwan.

A236 **768.2** Regulation of bone remodeling by glycogen synthase kinase 3 $\beta$  in a transgenic mouse model. **D. Park, R. Ko and S.Y. Lee.** Ewha Womans Univ., South Korea.

A237 **768.3** Resolving the structure of Bcy1, the regulatory subunit of yeast protein kinase A. **L.M. Fernández Núñez, N. González Bardeci, S. Rossi, D. Blumenthal and S. Moreno.** Univ. of Buenos Aires and Univ. of Utah.

A238 **768.4** Oxidative stress responses in *Caenorhabditis elegans* with reduced mrck-1 expression. **S. Rigoulot, S. Blondeaux, M. Russo and P.T. Erickson.** Salisbury Univ., MD.

A239 **768.5** Discrepancies in purified and cellular PKM $\zeta$  inhibition profiles invalidate its proposed role as a mediator of memory. **C.L. Schramm, A.X. Wu-Zhang, S. Nabavi, L. Xie, L. Xie, P.E. Bourne, R. Malinow and A.C. Newton.** UCSD and Hunter Col, CUNY.

## 769. SMALL GTPASES

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A240 **769.1** Regulation of activation of Rac1 and Cdc42 GTPases in CHR1-288-11 cells. **R.P. Bhullar and B. Xu.** Univ. of Manitoba.

A241 **769.2** MARCO modulates asbestos-induced Rac1 mitochondrial import and H<sub>2</sub>O<sub>2</sub> production. **S. Murthy, L. Kobzik and A.B. Carter.** Univ. of Iowa, Harvard Sch. of Publ. Hlth. and Iowa City VA Med. Ctr.

A242 **769.3** Control of cortical actin assembly and cadherin-catenin localization by GPCRs and RhoGTPases. **M.J. Jimenez-Dalmaroni, J. Heasman and C. Wylie.** Cincinnati Children's Hosp. Res. Fndn.

## 770. TYROSINE KINASES

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A243 **770.1** Development of biosensor for protein tyrosine kinases. **L-Y. Wei and C-J. Yuan.** Natl. Chiao Tung Univ., Taiwan.

## 771. CONSTRUCTING NETWORKS

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A244 **771.1** *Trypanosoma cruzi* regulates the extracellular matrix interactome network to promote cellular infection. **C.A. Johnson, P.N. Nde, T.C. Cardenas, S. Pratap, M.F. Lima and F. Villalta.** Meharry Med. Col.

## 772. NETWORKS AND TIME

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A245 **772.1** Regulatory dynamics of the transcriptional network controlling the cold shock response in *Saccharomyces cerevisiae*. **K.D. Dahlquist, B.G. Fitzpatrick, N.A. Rohacz and K. Sherbina.** Loyola Marymount Univ., CA.

## 773. BIOPHYSICS

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A246 **773.1** Obligatory structural elements in tobacco etch virus RNA required for depurination by pokeweed antiviral protein. **A. Domashevskiy and S-Y. Cheng.** John Jay Col. of Criminal Justice, CUNY and Grad. Ctr., CUNY.
- A247 **773.2** The box C/D sRNP dimeric architecture is conserved across Kingdom Archaea. **S.J. Baserga, K.R. Phipps, D.W. Taylor and H. Wang.** Yale Univ.
- A248 **773.3** Biophotonic and bioenergetic phototherapy for treatment of antimicrobial resistant *S. aureus* infection. **G.P. Einstein, M. Kowalczywska and O.L. Tulp.** Univ. of Sci. Arts & Technol., Montserrat.
- A249 **773.4** Modeling receptor-mediated uptake of polymer-functionalized iron oxide nanoparticles by macrophages. **O. Lunov, V. Zablotskii, T. Syrovets, C. Roecker, K. Tron, G.U. Nienhaus and T. Simmet.** Ulm Univ., Germany, Inst. of Biophys., Acad. of Sci. of Czech Republic and Karlsruhe Inst. of Technol., Germany.

- A250 **773.5** The N-terminal actin binding domain (ABD1) of dystrophin is in a closed conformation in solution and undergoes a conformational transition upon binding to F-actin. **K. Mallela and S. Singh.** Univ. of Colorado Anschutz Med. Campus.

- A251 **773.6** The studies of self-assembled xylose derivative on gold nanoparticles. **S-M. Chang, C-Y. Chang, Y-L. Lin and K. Hwa.** Natl. Taipei Univ. of Technol. and Ctr. for Biomed. Indust., Taipei.

## 774. GENOMICS

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A252 **774.1** High throughput transcriptomic analysis of the effects of radiation exposure in a mouse model. **S-A. Miller, J.W. Shupp, L.T. Moffatt, D.S. Rosenthal, J. Nam, R. Hammamieh and M. Jett.** U.S. Army Ctr. for Envir. Hlth. Res., Fort Detrick, MD, Washington Hosp. Ctr. and Georgetown Univ.
- A253 **774.2** Functional validation of human pigmentation SNPs in zebrafish. **Z. Tsetskhladze, V.A. Canfield, J. Copper, S.L. Johnson, K. Kawakami and K.C. Cheng.** Penn State Col. of Med., Washington Univ. Sch. of Med. and Natl. Inst. of Genet., Mishima, Japan.
- A254 **774.3** Analysis of the positively and non-positively selected non-coding sequences of human chromosome 16. **J. Snedeker, K. Tretina, M. Triplet, D. Lee, A. Poirier, M. Bragg, P. Pun, J. Hayward, R. Leung and S. Tsui.** Wheaton Col., IL and The Chinese Univ. of Hong Kong.
- A255 **774.4** Studying the differential gene expression patterns of hippocampus and amygdala associated with social stress in mouse model. **S. Srinivasan, B. Sowe, S-A. Miller, S. Muhie, N. Chakraborty, R. Hammamieh, J. Meyerhoff and M. Jett.** U.S. Army Ctr. for Envrn. Hlth. Res., Fort Detrick, MD.
- A256 **774.5** Nanoanatomy Museum: creating a protein family ProfileGrid database. **A. Roca.** ProfileGrid.org, Irvine.

## 775. HIGH-CONTENT MICROSCOPY

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A257 **775.1** Comparison of the redox potential in the endocytic pathway of different cell types by imaging live cells via FRET. **S. Zilikana, J. Lee, C. Provoda and K-D. Lee.** Kalamazoo Col. and Univ. of Michigan.
- A258 **775.2** Scalable fluorescence microscopic assays of organelle transport and mitochondrial swelling. **A.A. Gerencser, D.G. Nicholls and M.D. Brand.** Buck Inst. for Res. on Aging, Novato, CA.

## 776. PROTEOMICS

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A259 **776.1** Purification and identification of polyisoprenylated methylated protein methyl esterase from porcine brain. **R. Duverna, B.J. Aguilar, F. Amisshah and N.S. Lamango.** Col. of Pharm. and Pharmaceut. Sci., Florida A&M Univ.
- A260 **776.2** High-throughput, single-step purification of affinity-tagged protein complexes. **J. LaCava, Z. Hakhverdyan, D. Fenyo, M. Domanski, A. Oroskar, A. Oroskar, L. Hough, T.H. Jensen, B.T. Chait and M.P. Rout.** Rockefeller Univ., NYU Langone Med. Ctr., Aarhus Univ., Denmark and Orochem Technol. Inc., Lombard, IL.
- A261 **776.3** Analysis of differentially expressed proteins in *Escherichia coli* when exposed to L-telluromethionine. **K.M. Broderick, J.O. Boles and S. Brinkley.** Tennessee Technol Univ., Oak Ridge and Cookeville.
- A262 **776.4** Isolation and functional studies of eukaryotic ribosomes using HaloTag surface display and imaging technology. **M. Urh, D. Daniels and J. Mendez.** Promega, Madison, WI.
- A263 **776.5** iTRAQ based quantitative proteomics analysis reveals that G6PD deficiency affects aflatoxin B1 metabolism in A549 cells. **S-R. Lin, C-C. Wu, Y-H. Wu, M-L. Cheng and D-T-Y. Chiu.** Chang Gung Univ., Taiwan.
- A264 **776.6** Identification of target proteins of shear stress-related miRNAs in endothelial cells. **Y. Park, D-H. Kang, D. Son, H. Jo and S.W. Kang.** Ewha Womans Univ., South Korea and Emory Univ.
- A265 **776.7** Specific O-GlcNAcylated peptide enrichment with improved photocleavable chemical/enzymatic tagging methodology. **G. Han, J. Ma, X. Liu and G.W. Hart.** Johns Hopkins Sch. of Med.
- A266 **776.8** Direct Detect IR-based system revolutionizes biomolecule quantitation. **J. Doty.** EMD Millipore, Danvers, MA.
- A267 **776.9** Improved antibody immobilization using aniline-catalyzed aldehyde-hydrazide chemistry for the study of protein-protein interactions. **S.M. Meier, R. Bomgarden, C. Etienne, K. Opperman and B. Kaboord.** Thermo Fisher Scientific, Rockford, IL.
- A268 **776.10** Proteomic profiling of mouse liver under conditions of hepatitis C virus-mediated oxidative damage and CuZnSOD deficiency. **P. Ramachandran, V.C. Chu and T-T. Huang.** Stanford Univ.
- A269 **776.11** Optimizing peptide yields from human hair. **J.A. Steenstra, P. Clifford and G. Parker.** Utah Valley Univ.
- A270 **776.12** Proteomic evaluation of a caveolae-enriched fraction from variable beta3 integrin backgrounds. **J. Liu, L. Jin and J.A. Bush.** California State Univ., Fresno and UCSF, Fresno.
- A271 **776.13** An automated reinvention of the Western blot? a simple Western analysis of the AKT pathway signaling cascade. **A. Boge, F. Ramirez, U. Nguyen, I. Kazakova, J. Dermody, T. Yang and R. Gavin.** ProteinSimple, Santa Clara, CA.
- A272 **776.14** Identification of proteins O-GlcNAc modified during osteoblastogenesis. **L.E. Ball, M. Schilling, L.N. Waller and A. Nagel.** Med. Univ. of South Carolina.

## 777. QUANTITATIVE BIOLOGY

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A273 **777.1** Robust and sensitive control of nitrogen sequestration in *Escherichia coli*. **M. Kim, Z. Zhang, D. Yan, A. Groisman and T. Hwa.** UCSD and Indiana Univ. Sch. of Med.

## 778. SYNTHETIC BIOLOGY

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A274 **778.1** Ligand-mediated transcriptional regulation using DNA aptamers in cell-free systems. **S. Iyer and M.J. Doktycz.** Univ. of Tennessee, Knoxville and Oak Ridge Natl. Lab.
- A275 **778.2** Electron microscopy reveals variance in the assembly of mutant Q $\beta$  virus-like particles. **M.G. Campbell, J.D. Fiedler, C. Higginson, A. Kislukhin, A. Castillejos, F. Manzenreider, C.S. Potter, B. Carragher and M.G. Finn.** The Scripps Res. Inst.

## 779. ORGANELLE QUALITY CONTROL

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A276 **779.1** Protein kinase A is required for resistance to the lysosomotropic drugs quinacrine and chloroquine in the fission yeast, *Schizosaccharomyces pombe*. **Z. Yuan, Y. Wang and S. Marcus.** Univ. of Alabama.

## 780. CARGO SORTING AND VESICLE TARGETING

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A277 **780.1** AP-3-dependent peroxiredoxin 6 trafficking to lamellar bodies in pearl mice. **E.M. Sorokina, C. Dodia, K.J. Yu, N. Hong, P. Zhang, S. Guttentag and A.B. Fisher.** Univ. of Pennsylvania and Children's Hosp. of Philadelphia.
- A278 **780.2** ALIX interacts with a YPX3L motif of protease-activated receptor 1 and mediates MVB/lysosomal sorting through an ESCRT-III-dependent pathway independent of ubiquitination. **M.R. Dores, B. Chen, H. Lin, U.J.K. Soh, M.M. Paing, W.A. Montagne, T. Meerloo and J. Trejo.** UCSD and Washington Univ.
- A279 **780.3** Rab38, Varp and VAMP7 interactions define a biased trafficking pathway in lung alveolar type II cell. **L. Zhang, K.M. DeBolt, M. Fukuda, A.B. Fisher and S. Huang.** Univ. of Pennsylvania Sch. of Med. and Tohoku Univ., Japan.

## 781. CELL DIVISION

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

A280 **781.1** Myosin-II is necessary for septum formation in *Aspergillus nidulans*. **X. Wang, W. Du, B.L. Hoge, L. Jackson-Hayes and T.W. Hill.** Rhodes Col., TN.

A281 **781.2** Myosin light chain plays a role in cell division in the fungus *Aspergillus nidulans*. **K.E. Wendt, M. Pluta, L. Jackson-Hayes and T.W. Hill.** Rhodes Col., TN.

## 782. CELL MIGRATION

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

A282 **782.1** Characterization of the role of a novel gene in *Drosophila* oogenesis. **Y.A. Puplampu-Dove, L. Manning and M. Starz-Gaiano.** Univ. of Maryland Eastern Shore and Univ. of Maryland Baltimore County.

A283 **782.2** LL-37/CpG oligonucleotide complex formation and its effects on prostate cancer progression. **A.S. Gupta, M.L. Craig and P.D. Deeble.** Mary Baldwin Col., VA.

A284 **782.3** Evidence for a role of p53, WWOX and TIAF1 as tumor suppression axis. **P-Y. Chou, S-R. Lin, M-H. Lee, L-J. Hsu, Y-H. Lin and N-S. Chang.** Natl. Cheng Kung Univ., Taiwan.

A285 **782.4** Sphingosine 1-phosphate regulates matrix metalloproteinase-9 expression and breast cell invasion through S1P3-Gαq coupling. **A. Moon, E-S. Kim, J-S. Kim, S.G. Kim, S. Hwang and C.H. Lee.** Col. of Pharm., Duksung Women's Univ., Col. of Pharm., Seoul Natl. Univ. and Col. of Med., Hanyang Univ., South Korea.

A286 **782.5** Cysteine-rich protein 2 regulates vascular smooth muscle cell migration via influencing p130Cas localization. **C-H. Chen, C-C. Hsieh, Y-J. Chuang and S-F. Yet.** Natl. Hlth. Res. Insts., Zhunan and Natl. Tsing Hua Univ., Taiwan.

A287 **782.6** Attenuated L1 expression by glioma cells results in decreased cell migration on monolayer co-cultures. **H. Bhatti and D. Galileo.** Univ. of Delaware.

A288 **782.7** BIG2, an ARF guanine nucleotide-exchange protein, regulates cell migration via effects integrin β1 cycling and actin cytoskeleton remodeling. **C-C. Li, X. Shen, A. Aponte, R-F. Shen, E.M. Billings, J. Moss and M. Vaughan.** NHLBI/NIH.

A289 **782.8** Interaction between NFATc1 and STAT3 is required for thrombin-induced cyclin D1 expression in vascular smooth muscle cells. **V. Kundumani-Sridharan, D.V. Quyen, J. Subramani, N.K. Singh and G.N. Rao.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.

A290 **782.9** Urokinase plasminogen activator receptor induced non-small cell lung cancer invasion and metastasis requires NHE1 transporter expression and transport activity. **J.J. Provost, N. Berthelsen, K. Anderson and M. Wallert.** North Dakota State Univ. and Minnesota State Univ. Moorhead.

A291 **782.10** Chronic exposure to cadmium increases in the metastatic phenotype of breast cancer cells. **E.M. Ponce, N.B. Aquino and M.C. Louie.** Dominican Univ. of California.

A292 **782.11** CB2 receptor-mediated regulation of prostate cancer cell migration: involvement of RhoA and stress fiber formation. **S. Jha, V. Jones, K. Burridge and S. Mukhopadhyay.** North Carolina Central Univ. and Univ. of North Carolina at Chapel Hill.

## 783. BIOENERGETICS

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

A293 **783.1** Mutations that affect the directionality of electron transfer in photosystem 1. **S.L. Badshah.** Arizona State Univ.

A294 **783.2** Differential effects of radio frequency magnetic fields in vitro and in vivo. **C.F. Martino, L. Portelli, G. Ackerman and F. Barnes.** Univ. of Nevada Reno and Univ. of Colorado Boulder.

A295 **783.3** Modulation of H<sub>2</sub>O<sub>2</sub> production in vitro by low level magnetic fields. **C.F. Martino and P. Castello.** Univ. of Nevada Reno and Univ. of Colorado Boulder.

## 784. CYTOCHROME P450

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

A296 **784.1** Gene engineering, purification, crystallization and preliminary X-ray diffraction of cytochrome P450 *p*-coumarate-3-hydroxylase, the *Arabidopsis* membrane protein. **Y.H. Kim, T. Kwon, H.J. Yang, B. Son and B. Youn.** Pusan Natl. Univ., South Korea.

A297 **784.2** Molecular analysis and modeling of inactivation of CYP2D6 by four mechanism-based inhibitors. **M.R. Livezey, L.D. Nagy, L.E. Diffenderfer, E.J. Arthur, D.J. Hsi and L.L. Furge.** Kalamazoo Col.

A298 **784.3** Insecticide toxicity and characterization of cytochrome P450 CYP6BB1 and CYP6p10 in *Aedes sollicitans* larvae. **C. Suwanchaichinda and L.B. Brattsten.** Rutgers Univ.

A299 **784.4** Ligand-induced conformational changes in cytochrome P450 3A4 detected by luminescence resonance energy transfer. **E.V. Sineva, J. Rumfeldt, A.Y. Bakulina, J.R. Halpert and D.R. Davydov.** Skaggs Sch. of Pharm. and Pharmaceut. Sci., UCSD and State Res. Ctr. of Virol. and Biotechnol., Koltsovo, Russia.

A300 **784.5** Relative contribution of hepatic CYP3A and CYP2E1 to oxidative stress upon CHIP E3 ligase knockdown. **S. Kim, C. Patterson and M.A. Correia.** UCSF and Univ. of North Carolina at Chapel Hill.

A301 **784.6** Role of SLC10A1 SNPs in regulating cytochrome P450 expression. **O. Varechtchouk, A. Chaudry and E. Schuetz.** SUNY at Geneseo and St. Jude Children's Res. Hosp.



A302 **784.7** Peripheral ligand binding and allostery in cytochrome P450 3A4. **D.R. Davydov, J.A.O. Rumfeldt, E.V. Sineva, N.Y. Davydova and J.R. Halpert.** UCSD Skaggs Sch. of Pharm. and Pharmaceut. Sci.

A303 **784.8** Conditional deletion of cytochrome P450 reductase in mouse bone results in Antley-Bixler syndrome-like craniofacial and bone mass defects. **S.P. Panda, A.R. Guntur, R. Kar, K. Tang and B.S. Masters.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio and Maine Med. Ctr. Res. Inst., Scarborough.

A304 **784.9** Regulation of gap junction function and connexin 43 expression by cytochrome P450 oxidoreductase. **S.R. Polusani, R. Kar, M. Riquelme, B.S. Masters and S.P. Panda.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.

## 785. OXIDATIVE PHOSPHORYLATION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A305 **785.1** Assessment of intracellular O<sub>2</sub> gradient on a microplate reader. **R.I. Dmitriev, A.V. Zhdanov, G. Jasioneck and D.B. Papkovsky.** University Col. Cork.

A306 **785.2** Effect of propionylcarnitine on mitochondrial energy metabolism in elderly rat heart. **J. Kerner, A. Virmani, A. Koverech and C. Hoppel.** Case Western Reserve Univ. and Sigma-Tau, Pomezia, Italy.

## 786. METABOLIC BRANCHPOINTS/LIPID CHANNELING

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A307 **786.1** Lipogenesis by reductive carboxylation is regulated by Bcr-Abl signaling. **R. Leonardi, S. Jackowski and C.O. Rock.** St. Jude Children's Res. Hosp.

## 787. ENZYMES OF LIPID METABOLISM

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A308 **787.1** A mitochondrial lipid phosphatase in cell metabolism and membrane organization. **J. Zhang, Z. Guan, A. Murphy, S. Wiley, G. Perkins, C. Worby, J. Engel, C.R.H. Raetz, W. Dowhan and J. Dixon.** UCSD, Duke Univ. and Univ. of Texas Houston Med. Sch.

A309 **787.2** Identification of a novel phosphatidate phosphatase gene *PAH2* from *Saccharomyces cerevisiae*. **M. Chae and G.M. Carman.** Rutgers Univ.

A310 **787.3** Glycosomal localization of dihydroxyacetone phosphate acyltransferase LmFAT is important for lipophosphoglycan biosynthesis. **N. Patel, T. Zhu, S. Dhalladon and R. Zufferey.** St. John's Univ., NY.

A311 **787.4** Discovery and purification of AaLpxE, a bi-functional lipid phosphatase from *Aquifex aeolicus*. **R.A. Gillespie, J.D. York and C.R.H. Raetz.** Duke Univ. Med. Ctr.

A312 **787.5** Is the eukaryotic cis-prenyltransferase a heteromer? The role of NgBR and its yeast ortholog Nus1 in protein glycosylation. **K.A. Grabinska, Z. Guan and W.C. Sessa.** Yale Univ. Sch. of Med. and Duke Univ. Med. Ctr.

A313 **787.6** Cholecalciferol increases 7-dehydrocholesterol reductase activity in adult human epidermal keratinocytes. **L. Zou and T.D. Porter.** Univ. of Kentucky.

A314 **787.7** Investigations into how a lyso-glycerophospholipid acyltransferase alters headgroup acylated glycerophospholipid levels in *Escherichia coli*. **T.A. Garrett.** Vassar Col.

A315 **787.8** Physiological variations in plasma sphingomyelin inversely correlate with lecithin-cholesterol acyltransferase activity. **P.V. Subbaiah, X-C. Jiang, N. Belikova, B. Aizezi, Z.H. Huang and C.A. Reardon.** Univ. of Illinois at Chicago, SUNY Downstate Med. Ctr. and Univ. of Chicago.

A316 **787.9** Characterization of a lysophospholipid acyltransferase in *Candida albicans*. **P.M. Oelkers, M. Ayyash, A. Alghami, I. Haidar-Ahmad and L. Khadr.** Univ. of Michigan-Dearborn.

A317 **787.10** Sterol regulation of HMG CoA reductase in the liver. **N. Calhoun and R. Deobse-Boyd.** Univ. of Texas Southwestern Med. Ctr.

A318 **787.11** AMPK regulates lipolysis by phosphorylation of desnutrin/ATGL at serine406. **M.J. Abbott and H.S. Sul.** Univ. of California, Berkeley.

## 788. LIPID TRAFFICKING

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A319 **788.1** Type II pneumocyte lamellar bodies contain components of the Niemann-Pick type C pathway. **B.R. Roszell, J-Q. Tao, K.J. Yu, S. Huang and S.R. Bates.** Univ. of Pennsylvania.

A320 **788.2** VLDL selection into VLDL transport vesicle is regulated by CideB. **S. Tiwari, S. Siddiqi, A. Mani and S.A. Siddiqi.** Col. of Med., Univ. of Central Florida.

## 789. LIPIDOMICS

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A321 **789.1** Comparative lipidomic analysis of the symbiosis between *Aiptasia pallida* and *Symbiodinium*. **J.L. Schmeitzel, J. Klein, M. Smith, J. Schwarz and T.A. Garrett.** Vassar Col.

A322 **789.2** Omega-3 fatty acids cause dramatic changes in TLR-4 and purinergic eicosanoid signaling in macrophages. **P. Norris and E. Dennis.** UCSD.

## 790. REGULATION OF LIPID METABOLISM

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A323 **790.1** Role of DNA methylation in the regulation of lipogenic gene expression in the mouse neonatal liver. **Y. Kamei, T. Ehara, M. Takahashi, X. Yuan, S. Kanai, E. Tamura, M. Tanaka, T. Yamazaki, O. Ezaki, T. Suganami, M. Okano and Y. Ogawa.** Tokyo Med. and Dent. Univ., Natl. Inst. of Hlth. and Nutr., Tokyo and RIKEN Ctr. for Develop. Biol., Kobe.
- A324 **790.2** Endoplasmic reticulum stress induces the degradation of stearoyl-CoA desaturase protein in human retinal pigment epithelial cells via ubiquitin-proteasome pathway. **W. Samuel, R.K. Kutty, T. Duncan and T.M. Redmond.** NEI/NIH.
- A325 **790.3** Regulation of yeast phosphatidate phosphatase by fatty acids. **S. Fakas and G. Carman.** Rutgers Univ.
- A326 **790.4** Phosphorylation of phosphatidate phosphatase on Ser<sup>10</sup> by protein kinase A regulates triacylglycerol synthesis in *Saccharomyces cerevisiae*. **W-M. Su, J. Casciano and G.M. Carman.** Rutgers Ctr. for Lipid Res., New Brunswick.
- A327 **790.5** Mechanism of AMPK suppression of LXR-dependent Srebp-1c transcription. **J. Yang.** Univ. of South Alabama Col. of Med.
- A328 **790.6** Para-aminobenzoic acid is an alternative aromatic ring precursor of coenzyme Q biosynthesis in mammalian cells. **L. Xie, K.J. Williams, B. Marbois, J. Tang and S.J. Bensinger.** UCLA.
- A329 **790.7** ACSL1 multi-tissue knockout mice are resistant to diet- and age-induced obesity and insulin resistance. **T.J. Grevenkoed, D.S. Paul, L.O. Li and R.A. Coleman.** Univ. of North Carolina at Chapel Hill.
- A330 **790.8** Transcription factor Reb1p regulates *DGK1*-encoded diacylglycerol kinase in *Saccharomyces cerevisiae*. **Y. Qiu, S. Fakas and G. Carman.** Rutgers Univ.
- A331 **790.9** The role of phosphatidate phosphatase in the biosynthesis of phosphatidylcholine via the CDP-choline pathway. **G-S. Han and G.M. Carman.** Rutgers Univ. and Rutgers Ctr. for Lipid Res.
- A332 **790.10** The role of phosphatidate phosphatase in the yeast chronological life span. **Y. Park, G-S. Han and G.M. Carman.** Rutgers Ctr. for Lipid Res., New Brunswick.
- A333 **790.11** Bile acids induce diacylglycerol kinase- $\theta$  expression in HepG2 liver cells. **K. Cai and M.B. Sewer.** Skaggs Sch. of Pharm. and Pharmaceut. Sci., UCSD.
- A334 **790.12** Transcriptome analysis of *Chlorella protothecoides* to identify novel pro-lipid genes for biofuel production. **J.O. Davidson, J. Overton and R. Waikel.** Eastern Kentucky Univ.
- A335 **790.13** Major facilitator superfamily domain-containing protein 2a is a novel regulator of hepatic lipid metabolism. **J.H. Berger and D.L. Silver.** Albert Einstein Col. of Med. and Duke-NUS Grad. Med. Sch., Singapore.
- A336 **790.14** Acyl chain dependent product inhibition by phosphatidylserine synthases. **A.K. Kimura and H-Y. Kim.** NIAAA/NIH.
- A337 **790.15** Opi1p relocalization in response to inositol in *scs2 $\Delta$ pct1 $\Delta$*  mutant. **Y-F. Chang, M.L. Gaspar and S.A. Henry.** Cornell Univ.

## 791. STRUCTURAL BIOLOGY AND MECHANISMS OF MEMBRANE LIPID ASSEMBLY

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A338 **791.1** Crystal structure of LpxK: the tetraacyldisaccharide 4'-kinase of lipid A biosynthesis. **R.P. Emptage, K.D. Daughtry, C.W. Pemble and C.R.H. Raetz.** Duke Univ.
- A339 **791.2** Enzymatic and structural studies of UDP-2,3-diacylglycosamine hydrolysis in lipid A biosynthesis. **H.E. Young, L.E. Metzger IV, J.K. Lee, R.M. Stroud, P. Zhou and C.R.H. Raetz.** Duke Univ. Med. Ctr. and UCSF.

## 792. TISSUE-SPECIFIC REGULATION OF LIPID METABOLISM

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A340 **792.1** Alteration of sphingolipid metabolism during 4-HPR induced cell death in the ARPE-19 human retinal pigment epithelial cell line. **T. Duncan, W. Samuel, R.K. Kutty and T.M. Redmond.** NEI/NIH.
- A341 **792.2** Molecular dissection of syndecan-1 mediated triglyceride-rich lipoprotein clearance. **J.C. Gonzales, E.M. Foley, P.L. Gordts and J.D. Esko.** UCSD.

## 793. NOVEL METABOLIC ROUTES OF GLYCOCONJUGATE ASSEMBLY

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A342 **793.1** Intracellular fate of the non-human sialic acid *N*-glycolylneuraminic acid. **A.K. Bergfeld, O.M.T. Pearce, S. Diaz, T. Pham and A. Varki.** UCSD.

## 794. ROLES OF GLYCOCONJUGATES IN METABOLISM AND DISEASE

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A343 **794.1** Impact of exposure to high concentrations of fructose on cell surface chemistry and carbohydrate metabolism. **J.L. Sacoman, L. Badish and R.I. Hollingsworth.** Michigan State Univ.
- A344 **794.2** Suppression of  $\gamma$ -secretase activity increases ganglioside levels at neuritic terminals of differentiated PC12. **N. Oikawa, M. Goto, K. Ikeda, R. Taguchi and K. Yanagisawa.** Natl. Ctr. for Geriat. and Gerontol., Obu, Chubu Univ. and Keio Univ., Japan.

- A345 **794.3** Biochemical characterization of pmm2-depleted zebrafish suggests an unexpected mechanism for glycosylation deficiency in cdg-ia. **M.A. Lehrman, N. Gao, A. Cline, H. Flanagan-Steet, H.H. Freeze, K.C. Sadler and R. Steet.** Univ. of Texas Southwestern Med. Ctr., Univ. of Georgia, Sanford-Burnham Med. Res. Inst. and Mount Sinai Sch. of Med.
- A346 **794.4** Differential gene expression in capillary endothelial cells after inducing unfolded protein response with a protein N-glycosylation inhibitor. **K. Baksi, A. Banerjee and D.K. Banerjee.** Univ. Central del Caribe, PR and Univ. of Puerto Rico.
- A347 **794.5** Towards a well defined meningitis vaccine: chemoenzymatic synthesis of meningococcal glycoconjugate vaccine candidates. **P. McCarthy, R. Saksena, D. Peterson, C-H. Lee, Y. An, J. Vionnet, J. Cipollo and W. Vann.** NIGMS/NIH and FDA, Bethesda.
- A348 **794.6** Human lysyl oxidase-like 2 in breast cancer metastasis. **M. Mure, L. Xu and K. Rebecchi.** Univ. of Kansas.
- A349 **794.7** Intracellular and extracellular human lysyl oxidase-like 2 in metastatic breast cancer cells. **L. Xu, K. Rebecchi, R. Nightengale and M. Mure.** Univ. of Kansas.

## 795. EXTRACELLULAR MATRIX GLYCOBIOLOGY

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A350 **795.1** CD45 is a major receptor involved in galectin-8 signaling of preapoptosis in HL-60 cells. **J-P.F. Gourdine, S.R. Stowell and R.D. Cummings.** Emory Univ.
- A351 **795.2** Shorter forms of the proteoglycan, perlecan: adding complexity to an already complex molecule. **J.M. Whitelock, M.S. Jung, C.Y. Chuang, B. Cheng, T. Koo, J. Lyons and M.S. Lord.** Grad. Sch. of Biomed. Engin., Univ. of New South Wales and Univ. of Sydney.
- A352 **795.3** O-GlcNAcylation and hyaluronan synthesis. **A. Passi, D. Vigetti, S. Deleonibus, M. Viola, E. Karousou, P. Moretto, B. Bartolini and G. Deluca.** Univ. of Insubria, Italy.

## 796. PROTEIN-CARBOHYDRATE RECOGNITION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A353 **796.1** Structural and functional characterization of glucosidase II N-glycan binding domain. **N.M. Dahms, L.J. Olson, S.G. Alculumbre, I.D. Stigliano, F.C. Peterson, J.J. Caramelo, A.J. Parodi and C. D'Alessio.** Med. Col. of Wisconsin and Fndn. Inst. Leloir and IIBBA, CONICET, Buenos Aires.

## 797. DRUG DEVELOPMENT AND APOPTOSIS: LINKING TUMOR REGRESSION TO CELL DEATH

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A354 **797.1** Development of a small anti-cancer molecule targeting both the intrinsic and extrinsic pathways of apoptosis. **V. Titorenko, A. Goldberg and A. Beach.** Concordia Univ., Canada.
- A355 **797.2** Characterization of noni component damnacanthol in anti-tumorigenic activity. **T. Nualsanit, P. Rojanapanthu, W. Gritsanapan and S.J. Baek.** Fac. of Pharm., Mahidol Univ., Thailand and Col. of Vet. Med., Univ. of Tennessee.
- A356 **797.3** TIAF1 self-aggregation causes spontaneous activation of SMAD-responsive promoter in p53-deficient environment and cell death. **N-S. Chang.** Natl. Cheng Kung Univ., Taiwan.
- A357 **797.4** Acid sphingomyelinase, syntaxin 4 and nitric oxide: how regulation of exo-endocytic pathways is implicated in tumor chemotherapy. **C. Perrotta, E. Assi, L. Bizzozero, D. Cazzato and E. Clementi.** L. Sacco Univ. Hosp., Univ. of Milan and E. Medea Sci. Inst., Lecco, Italy.
- A358 **797.5** N-(1-pyrenyl) maleimide induces apoptosis through mitochondrial pathway. **P-R. Huang and T-C. Wang.** Chang Gung Univ., Taiwan.
- A359 **797.6** The inhibitory effects of curcumin and coumarin analogues on the NF- $\kappa$ B pathway in hepatocellular carcinoma. **K.A. Hanson and N. Hopkins.** Tulane Univ.
- A360 **797.7** GSK3 $\beta$  regulates Bcl2l12 and Bcl2l12A anti-apoptosis signaling in glioblastoma and is inhibited by LiCl. **Y-R. Hong, C-C. Lin, C-H. Chou and S-L. Howng.** Kaohsiung Med. Univ., Taiwan.
- A361 **797.8** Blocking of CDCP1 in vivo cleavage presents Akt-dependent survival of cancer cells and inhibits their metastatic colonization via PARP1-mediated apoptosis. **B. Casar, J.D. Hooper, J.P. Quigley and E.I. Deryugina.** The Scripps Res. Inst. and Mater Med. Res. Inst., South Brisbane.
- A362 **797.9** Effect of xanthopterin and isoxanthopterin on nitric oxide production by a RAW264.7 cell line. **R.P. Metzger, P. Abadi, S. Mascuch, L. Gerwick and A. de Peyster.** San Diego State Univ. and UCSD.
- A363 **797.10** Xanthopterin-induced apoptosis in leukemic cell lines. **R.P. Metzger, M.R. Janes, P. Abadi and A. de Peyster.** Grad. Sch. of Publ. Hlth., San Diego State Univ.

## 798. APOPTOSIS AND CELL STRESS

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A364 **798.1** Antioxidant protein regulates ionizing radiation-induced apoptosis. **J-W. Park, S.Y. Kim and E.S. Yang.** Kyungpook Natl. Univ., South Korea.
- A365 **798.2** Localization of different conformation forms of transglutaminase 2 in living cells. **M.S. Pavlyukov and M.I. Shakhparonov.** M.M. Shemyakin and Y.A. Ovchinnikov Inst. of Bioorganic Chem., RAS, Moscow.

- A366 **798.3** Ghrelin prevents TBI-induced neuronal apoptosis via induction of mitochondrial uncoupling protein 2. **L.S. Gaston and N. Lopez.** Kalamazoo Col. and UCSD.
- A367 **798.4** N-glycans in cell survival and death: cross-talk between glycosyltransferases. **D.K. Banerjee, A. Banerjee, Z. Zhang, L.A. Espinoza, M. Torres, J.S. Placido and K. Baksi.** Univ. of Puerto Rico and Univ. Central del Caribe, PR.
- A368 **798.5** Leptin reduces hypoxia-reoxygenation-induced Fas/FasL gene overexpression and apoptosis in human L02 cells. **S. Zhou, G. Chen, X. Li, S. Li, N. Guo, M.G. Irwin, Z. Xia and Z. Hei.** The Third Affiliated Hosp. of Sun Yat-sen Univ., China and Univ. of Hong Kong.
- A369 **798.6** Signaling mechanisms of apoptosis resistance in lymphoid cells exposed to hyperosmotic stress. **A.B. Scoltock, C. Bortner and J. Cidlowski.** NIEHS/NIH, Research Triangle Park.
- A370 **798.7** TDAG51 overexpression mediates proximal tubule epithelial cell apoptosis through its accumulation in the nucleus. **A.E. Heffernan, Z. Mohammed-Ali, C.A. Collins, J.G. Dickhout and R.C. Austin.** McMaster Univ. and St. Joseph's Healthcare Hamilton, Canada.
- A371 **798.8** WWOX/WOX1 is essential in UV irradiation/frostbite-induced membrane bubbling. **S-J. Chen, S-S. Huang and N-S. Chang.** Natl. Cheng Kung Univ., Taiwan.
- A372 **798.9** Osmotic stress resistance imparts acquired anti-apoptotic properties in lymphocytes via regulatory cell volume mechanisms. **C.D. Bortner, A.B. Scoltock, M.I. Sifre and J.A. Cidlowski.** NIEHS/NIH, Research Triangle Park.
- A373 **798.10** Cytotoxicity and active component in bitter melon (*Momordica charantia*) seed extracts. **E. Chipps, R. Jayini, A.M. Malkawi, M.A. Mottaleb and R. Islam.** Northwest Missouri State Univ.
- A374 **798.11** AKIP1 regulation of PKA and NF- $\kappa$ B in the heart. **M. Sastri, P. Chang, H.N. Fridolfsson, M. Paneerselvam, D. Ng, S. Taylor and H.H. Patel.** Univ. of San Diego and UCSD.
- A375 **798.12** Cytosolic antioxidant enzyme regulate TNF- $\alpha$ -induced apoptosis. **J. Lee and S. Kang.** Ewha Womans Univ., South Korea.
- A376 **798.13** Molecular fingerprinting of Hsp27 anti-apoptotic activity. **J. Tossey, O. Voss and A. Doseff.** The Ohio State Univ.
- A377 **798.14** Genome reduction in yeast involves programmed cell death. **M. Hurton, E. Roblee, E. DiBiasio, R. Bennett and N. Austriaco.** Providence Col. and Brown Univ.
- A378 **798.15** Genetic characterization of the mechanism of action of sulforaphane in the yeast, *S. cerevisiae*. **D. Tucker, M. Murphy, A. Wilcox and N. Austriaco.** Providence Col.
- A379 **798.16** Apoptotic mechanism of bisphenol A in human neuroblastoma. **B. Park, D-K. Rhee and S. Pyo.** Sungkyunkwan Univ., South Korea.
- A380 **798.17** How Apaf-1 relays the death signal in the mitochondrial pathway of apoptosis. **S. Eschenburg and T.F. Reubold.** Hannover Med. Sch., Germany.
- A381 **798.18** Attachment capabilities of erythroleukemia cells to normal human fibroblasts. **C. Barnes and P.J. Birckbichler.** Slippery Rock Univ., PA.
- A382 **798.19** Differential apoptotic response in normal and virus-transformed human cells. **M.A. Maczis and P.J. Birckbichler.** Slippery Rock Univ., PA.
- A383 **798.20** Tissue transglutaminase response in myelogenous leukemia cells following the addition of 8-bromoadenosine 3',5' -cyclic monophosphate. **L.T. Miller and P.J. Birckbichler.** Slippery Rock Univ., PA.
- A384 **798.21** Temperature as a cellular stress of Chinook salmon embryo cells. **A.L. Reese and E.E. Williams.** Salisbury Univ., MD.
- A385 **798.22** Adherence analysis between human erythroleukemia cells and human lung fibroblasts. **C.D. Dover.** Slippery Rock Univ., PA.
- A386 **798.23** ATP release is altered in a mouse model for Duchenne muscular dystrophy and signals for proteins that promote cell death. **D. Valladares, G. Almarza, M. Pavez and E. Jaimovich.** Univ. of Chile.
- A387 **798.24** Strain differences in response to stress: territorial urine markings, body weight, and temperature. **W.J. Santos, M. Melige, N. Chakraborty, J. Meyerhoff, R. Hammamieh and M. Jett.** U.S. Army Ctr. for Envrn. Hlth. Res., Fort Detrick, MD.
- A388 **798.25** Apoptotic signaling of the amblyomin-X involves endoplasmic reticulum stress, cell cycle regulation and survival pathways. **A.M. Chudzinski-Tavassi, K.L.P. Morais, J.G. Souza, S.M. Simons, C.M. Berra and C. Lameu.** Inst. Butantan, São Paulo, Fed. Univ. of São Paulo and Univ. of São Paulo.
- A389 **798.26** Induction of apoptosis by tungsten carbide-cobalt nanoparticles in JB6 cells involves ROS generation through both extrinsic and intrinsic apoptotic pathways. **M. Ding, J. Zhao, L. Bowman, S. Leonard and V. Castranova.** NIOSH, Morgantown, WV.
- A390 **798.27** Proteasome inhibitor epoxomicin prevents cardiomyocyte apoptosis through regulation of gene expression. **D. Li and G. Babu.** UMDNJ, Newark.
- A391 **798.28** Ceramide synthase 6 suppression leads to resistance to photodynamic therapy in human head and neck cancer cells. **D. Separovic, P. Breen, N. Joseph and T.I. Gudz.** Wayne State Univ. and Med. Univ. of South Carolina.
- A392 **798.29** FADD/RIP1/RIP3 coregulation of apoptotic, necrotic and survival pathways in embryogenesis and lymphoid homeostasis. **J. Zhang.** Thomas Jefferson Univ.

## 799. BIOCHEMICAL PHARMACOLOGY

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A393 **799.1** Psoralidin, a dual inhibitor of COX-2 and 5-LOX, regulates ionizing radiation-induced pulmonary inflammation. **H.J. Yang, H. Youn, K.M. Seong, E.G. Kim and B. Youn.** Pusan Natl. Univ. and Sejong Univ., South Korea and Korea Hydro & Nuclear Power Co. Ltd., Seoul.
- A394 **799.2** Pretreatment with morin ameliorates lipid profiles in isoproterenol-induced myocardial infarction in Wistar rats. **C. Govindasamy, K.S. Alnumair and M.A. Alsaif.** King Saud Univ., Saudi Arabia.
- A395 **799.3** The pronociceptive activity of spinal dynorphin A is not due to sensitization of wide dynamic range neurons. **A. Cai, K. Bannister and A. Dickenson.** Univ. of Arizona and University Col. London.
- A396 **799.4** Golgi apparatus location and regulation of mTOR is regulated by novel Golgi recruiting protein GRP. **J.D. Thomas and X.F.S. Zheng.** Rutgers and UMDNJ-Robert Wood Johnson Med. Sch.

- A397 **799.5** Mechanisms of resistance to quaternary ammonium compounds and other antimicrobials in *Salmonella enterica*. **S. Stamm and D. Herson**. Univ. of Delaware.
- A398 **799.6** Interactions between the ABCG2 multidrug transporter and inhibitors of the EGFR signaling pathway. **B. Sarkadi, C. Heged s, K. Truta-Feles, C. Özvegy-Laczka, A. Telbisz and G. Várady**. Hungarian Acad. of Sci., Budapest.
- A399 **799.7** Detection and prevention of aggregate formation of cobinamide as an antidote for cyanide poisoning. **M.E. Glasheen, A. Chan, G. Boss and S.S. Ali**. UCSD and VA San Diego Healthcare Syst.
- A400 **799.8** Control of smoke-induced proliferation and migration of human breast cancer cells by PK11195, a translocator protein (TSPO) antagonist. **S. Mukherjee and S.K. Das**. Meharry Med. Col.
- A401 **799.9** Novel selective estrogen receptor modulators induce LNCaP cell death via mechanisms involving apoptosis. **J.E. Green, J.S. Cooperwood, A.P. Stephenson and R.R. Reams**. Florida A&M Univ. Col. of Pharm. and Pharmaceut. Sci.

## 800. BIOCHEMICAL MEDIATORS OF THE HOST-PATHOGEN INTERACTION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A402 **800.1** Tetracycline therapy against phytoplasma causing yellowing disease of date palms. **M.S. Montasser, A.M. Hanif, H.A. Al Awadhi and P. Suleman**. Univ. of Kuwait.
- A403 **800.2** Isotuberculosinol: an immunomodulatory diterpenoid from *Mycobacterium tuberculosis*. **R.J. Peters**. Iowa State Univ.
- A404 **800.3** Proteolytic processing of Hendra virus fusion protein in cells of the bat reservoir host. **F. El Najjar and R.E. Dutch**. Univ. of Kentucky.
- A405 **800.4** A yeast-two hybrid screen against HPV16 capsid proteins indicates dynactin 6 is a potential cellular factor involved in HPV16 infection. **A.M. Schlegel, J.A. Chapman and S.K. Campos**. Univ. of Arizona.
- A406 **800.5** Novel role of the antimicrobial peptide LL37 in the formation and stabilization of neutrophil extracellular traps. **M. von Köckritz-Blickwede, A. Neumann, L. Völlger, E. Berends, M. Molhoek, V. Nizet and H. Naim**. Univ. of Vet. Med., Hannover, Univ. Med. Ctr., Utrecht, TNO Earth, Environ. and Life Sci., Rijswijk and UCSD Sch. of Med.
- A407 **800.6** Towards the glycoproteome of *Mycobacterium tuberculosis*. **S. Hess, C. Bell, G.T. Smith and M.J. Sweredoski**. Caltech and Univ. of Montreal.
- A408 **800.7** Tuberculosis and epigenetics: functional noncoding RNA in the host-pathogen interaction. **J.H. Wissler**. ARCONS Inst. for Applied Res. & Didactics, Bad Nauheim.

## 801. RELATIONSHIP OF HOST AND PATHOGEN

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A409 **801.1** Further characterization of a unique mycobacterial heme uptake system. **C.W. Goulding, C. Owens, N. Chim, C. Harmston, A. Iniguez, H. Contreras and R. Morse**. Univ. of California, Irvine.
- A410 **801.2** Novel microRNAs and alternative isoforms arising during human cytomegalovirus infection. **T. Stark, B. Roberts, J. Arnold, D. Spector and G. Yeo**. UCSD.
- A411 **801.3** Identification of host factors to block vascular leakage after exposure to staphylococcal enterotoxin b using the siRNA approach. **O.O. Abegunrin, A. Hoke, A. Gautam, A. Day, R. Hammamieh and M. Jett**. U.S. Army Ctr. for Environ. Hlth. Res., Fort Detrick, MD and Howard Univ.
- A412 **801.4** The association of *Leishmania* RNA viruses with metastatic or mucocutaneous leishmaniasis in South America. **S.M. Beverley, L-F. Lye, K. Owens, S.M. Hickerson, F.M. Kuhlmann, E. Acino, D. Dobson, N. Akopyants, F. Pratlong, P. Bastien and N. Fasel**. Washington Univ. Sch. of Med., Univ. of Montpellier and Univ. of Lausanne.
- A413 **801.5** Thrombospondin-1 binding protein on the surface of *Trypanosoma cruzi* enhances cellular infection. **C.A. Johnson, T.C. Cardenas, S. Pratap, M.A. Duquette, M.F. Lima, J. Lawler, F. Villalta and P.N. Nde**. Meharry Med. Col. and Beth Israel Deaconess Med. Ctr.

## 802. DRUG DESIGN AND NEW TARGETS FOR *M. TUBERCULOSIS*

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A414 **802.1** Characterization of rifamycin-resistant *Mycobacterium tuberculosis* RNA polymerases. **S.K. Gill, H.D.H. Showalter and G.A. Garcia**. Univ. of Michigan.
- A415 **802.2** Expression, purification and crystallization of an essential protein from *M. tuberculosis* using a non-pathogenic mycobacterium. **M.W. Rutter, R. Patwell and T. Chavan**. Col. of Pharm., Univ. of Illinois at Chicago.

## 803. ENZYMOLOGY OF *M. TUBERCULOSIS* TARGET PROTEINS

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A416 **803.1** A reversible acetylation system in mycobacteria. **H. Xu, S. Hegde and J.S. Blanchard**. Albert Einstein Col. of Med.

**804. STRUCTURAL BIOLOGY OF MACROMOLECULES FROM *M. TUBERCULOSIS*****Poster**

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A417 **804.1** Solution structures and models describing the thioredoxin system from *Mycobacterium tuberculosis*. **T.S. Neumann, A. Olson, S. Cai and D. Sem.** Marquette Univ., North Carolina State Univ. and Concordia Univ. Wisconsin.

**805. THE CELL BIOLOGY OF MYCOBACTERIA****Poster**

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A418 **805.1** Investigating the cytotoxic effects of mycobacteriophage Vix gene 80. **D. Goodman, V. McDonough and J. Stukej.** Hope Col., MI.

**Nutrition****806. BREASTFEEDING: DETERMINANTS, INITIATION, DURATION****Poster**

(Sponsored by: Lactation RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C1 **I 806.1** Dimensions of workplace breastfeeding support and the duration of breastfeeding. **Y. Bai, S.M. Wunderlich and A.D. Fly.** Montclair State Univ. and Indiana Univ.
- C2 **II 806.2** Comparison of early sucking dynamics of breastfeeding infants born by either Caesarean section and vaginal birth. **J.C. Kent, V. Sakalidis, T. Williams, A. Hepworth, C. Garbin, M.J. Paech, P. Hartmann and D. Geddes.** Univ. of Western Australia.
- C3 **I 806.3** Do mother's self-reported reasons for introducing solid foods vary by age at introduction and socio-demographic characteristics? **H.B. Clayton, K. Scanlon, C. Perrine and R. Li.** Ctrs. for Dis. Control and Prevent.
- C4 **II 806.4** Storage capacity of the human breast. **J.C. Kent, T. Williams, V. Sakalidis, P.E. Hartmann and C.T. Lai.** Univ. of Western Australia.
- C5 **I 806.5** Decline of exclusive breastfeeding: practical advice and stronger policy compliance are needed in government health services in Lima, Peru. **Y. Fautsch Macías, G.S. Marquis, D. Groleau and M.E. Penny.** Sch. of Dietetics and Human Nutr., McGill Univ., Jewish Gen. Hosp., Montreal and Nutr. Res. Inst., Lima, Peru.
- C6 **II 806.6** Factors associated with breastfeeding initiation and duration in term healthy infants. **J.C. Kent, S.L. Perrella, J. Williams, E. Nathan, J. Fenwick, P. Hartmann and D. Geddes.** Univ. of Western Australia, King Edward Mem. Hosp. and The Women & Infant Res. Fund, Subiaco and Griffith Univ., Australia.
- C7 **I 806.7** Workplace accommodations to support breastfeeding in New Jersey. **S. Gaits, Y. Bai and S.M. Wunderlich.** Montclair State Univ., NJ.
- C8 **II 806.8** Nurse knowledge and attitudes towards breastfeeding in Arizona. **T. Foster and D.M. Winham.** Arizona State Univ.

- C9 **I 806.9** Infant formula samples: association between sources and breastfeeding outcomes at one month postpartum. **A. Thurston, J. Holden and J.C. Chezem.** Ball State Univ.

- C10 **II 806.10** Early parenting correlates of 9-month formula amount of predominantly breastfed U.S. 3-month infants. **T. Valtr, L. Hubbs-Tait, S. Grant, N. Aubuchon-Endsley, T.S. Kennedy and D. Thomas.** Oklahoma State Univ.

**807. BREASTFEEDING AND HUMAN MILK: EFFECT ON THE RECIPIENT INFANT AND/OR LACTATING MOTHER****Poster**

(Sponsored by: Lactation RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C11 **I 807.1** Factors associated with weight change up to 12 months postpartum in HIV-infected women: findings from the HIV prevention of mother-to-child transmission Kesho Bora trial. **C. Cames, A. Counil and K. Bork.** Res. Inst. for Develop. (IRD), Montpellier.
- C12 **II 807.2** Validation of sonographic methods for monitoring gastric volume in preterm infants. **J.C. Kent, S.L. Perrella, A.R. Hepworth, K. Simmer, P.E. Hartmann and D. Geddes.** Univ. of Western Australia.
- C13 **I 807.3** Zinc and copper status are associated with bone mineral measures in lactating adolescent mothers. **F.F. Bezerra, P.A. Maia, A. Anastácio, L.M.C. Mendonça and C.M. Donangelo.** Univ. of Estado of Rio de Janeiro, Fed. Univ. of Rio de Janeiro, Brazil Soc. of Densitometry Clin., Rio de Janeiro and Univ. of the Republic, Uruguay.
- C14 **II 807.4** Effects of polyunsaturated fatty acids on cognitive-linguistic development of premature infants. **T. Toro-Ramos, M.D. Barbosa Baker Meio, D. Streit Morsch, M.E. Lopes Moreira, M. Tavares do Carmo, R. Sichiari and D.J. Hoffman.** Rutgers, The State Univ. of New Jersey, Fernandes Figueira Inst./Fiocruz, Rio de Janeiro, Fed. Univ. of Rio de Janeiro and State Univ. of Rio de Janeiro.
- C15 **I 807.5** How do infants acquire creatine? **M.E. Brosnan, E.E. Edison and J.T. Brosnan.** Mem. Univ. of Newfoundland, Canada.

C16 II 807.6 Introduction of complementary feeding for infants: a dilemma for parents and caregivers. **J.K. Friel, W. Qasem and T. Fenton.** Univ. of Manitoba and Univ. of Calgary, Canada.

C17 I 807.7 Effects of vitamin A supplementation during lactation on infant's antibody response to hepatitis B vaccine in China. **Z. Wang, Z. Sun, P. Fan, Y. Li, J. Wu and C. Zhong.** Sch. of Publ. Hlth., Nanjing Med. Univ. and Jining Med. Col., China.

## 808. NUTRITIONAL ASSESSMENT AND STATUS IN OLDER POPULATIONS

### Poster

(Sponsored by: Aging and Chronic Disease RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C18 I 808.1 The relationship between the use of blood pressure medication, a low-sodium diet, and health and nutrition literacy among community-dwelling hypertensive older adults. **S. Jones, H. Young and L. Miller.** Sch. of Nursing, Univ. of California Davis Hlth. Systs., Sacramento and Univ. of California, Davis.

C19 II 808.2 Prevalence of folate deficiency and folate deficiency anemia in REGARDS 2003-2007. **O. Odewole, N. Zakai, S. Judd, R. Berry, Y.P. Qi, W. McClellan, R. Williamson, A. Demilade and G. Oakley.** Rollins Sch. of Publ. Hlth., Emory Univ., Univ. of Vermont, Univ. of Alabama at Birmingham Sch. of Publ. Hlth. and Ctrs. for Dis. Control.

C20 I 808.3 Biomarker of whole grain wheat intake associated lower BMI in older adults. **J. Ma, A. Ross, S.J. Bruce, P. Jacques, A.H. Lichtenstein, E. Saltzman, S. Booth and N.M. McKeown.** Friedman Sch. of Nutr. Sci. and Policy, Tufts Univ., Nestlé Res. Ctr., Lausanne and USDA at Tufts Univ.

C21 II 808.4 Does digital photography improve the accuracy of diet records in the elderly? **A. Brown, R. Hakkak, D. Gonzales, R. Wolfe and N. Hays.** Univ. of Arkansas for Med. Sci.

C22 I 808.5 Comparing diet quality based on a dietary screening tool and the DASH Diet Index in obese, older women. **N.E. Beebe, S. Manganti, L. Katkowski, M. Benson, M.J. Delmonico and I.E. Lofgren.** Univ. of Rhode Island.

C23 II 808.6 Evaluation of the nutritional risk among vulnerable seniors. **M.Y. Hong, J.W. Min, P. Elkins and M. Piwowarski.** San Diego State Univ. and Sr. Community Ctr. of San Diego.

C24 I 808.7 The feasibility of incorporating whole grains into the diet of older populations. **S.A. Gorski, R. Rosen, E.A. Arndt and L. Marquart.** Univ. of Minnesota, St. Paul and ConAgra Foods Inc., Omaha.

C25 II 808.8 An assessment the actual nutrition practice in elderly. **A. Abduldaeva and E. Dalenov.** Medical University of Astana, Kazakhstan.

## 809. CORRELATES, CONSEQUENCES AND TREATMENT OF OBESITY IN OLDER ADULTS

### Poster

(Sponsored by: Aging and Chronic Disease RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C26 I 809.1 Dietary characteristics associated with abdominal obesity in congregate meal participants. **K.N. Porter and M.A. Johnson.** Univ. of Georgia.

C27 II 809.2 Postoperative vitamin deficiencies in patients undergoing laparoscopic Roux-en-Y gastric bypass. **N.A. Lodhia, L.V. Almario, A. Eltorai, J. Kattan, M.M. Nkansah, M. Kerolus, K. Kiely and J. Morton.** Stanford Sch. of Med.

C28 I 809.3 Weight loss, long-term weight maintenance, and health status of members of Food Addicts in Recovery Anonymous (FA). **J. Stookey.** Children's Hosp. Oakland Res. Inst.

C29 II 809.4 Anthropometry in achondroplasia adults. **B. Henry, C. Koerner, Y. Alade, K. Schulze and J. Hoover-Fong.** Johns Hopkins Univ. and Bloomberg Sch. of Publ. Hlth.

C30 I 809.5 Body composition in achondroplasia. **K. Schulze, B. Henry, C. Koerner, Y. Alade, J. McGready, N. Collop, H. Silber, E. Germain-Lee and J. Hoover-Fong.** Bloomberg Sch. of Publ. Hlth., Johns Hopkins Univ., Emory Univ. and Kennedy Krieger Inst., Baltimore.

## 810. OSTEOPOROSIS AND BONE METABOLISM IN THE AGING

### Poster

(Sponsored by: Aging and Chronic Disease RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C31 I 810.1 Novel anti-osteoclastogenic effect of dietary phloretin on RANKL-induced osteoclast differentiation in murine macrophages. **J-L. Kim and Y-H. Kang.** Hallym Univ., South Korea.

C32 II 810.2 Age associated change in biomarkers of bone metabolism in cats. **S. Yu.** Hill's Pet Nutr. Inc., Topeka.

C33 I 810.3 Relation between dairy calcium intake, bone mineral density and lipids in obese postmenopausal women. **N. Mamed, L. Beeson, D. Fakhrawi, A. Darnel and Z. Cordero-MacIntyre.** Loma Linda Univ.

C34 II 810.4 Dairy, protein, and calcium intake are associated with improved bone health of U.S. women: results from NHANES 2005-2008. **D.R. Keast, C.K. Gugger, A.M. Albertson and N.M. Holschuh.** Food & Nutr. Database Res. Inc., Okemos, MI and General Mills Inc., Minneapolis.

C35 I 810.5 Effects of dietary calcium intake on osteopenia and osteoporosis in middle aged and old men. **Y.J. Yang.** Dongduk Women's Univ., South Korea.

- C36 **II** **810.6** Factors associated with osteoporosis in Korean postmenopausal women: data from the Korean National Health and Nutrition Examination Survey 2009. **M-H. Kim, M.A. Johnson and J.S. Lee.** Kangwon Natl. Univ., South Korea and Univ. of Georgia.
- C37 **I** **810.7** The relationship between life style factors and BMD in men from the Fourth KNHANES . **O. Lee and J. Lee.** Yonjin Univ., South Korea.
- C38 **II** **810.8** Peculiarities of nutrition practice in population at risk of osteoporosis in Astana. **A. Abduldjayeva and S. Iskakova.** Inst. of Nutr. Issues, Astana, Kazakhstan.
- C39 **I** **810.9** Validation of Sojasun®, a soy-based fermented dessert, as an efficient source of calcium. **G. Joubrel, B. Housez, M. Cazaubiel and V. Coxam.** Triballat Noyal, Biofortis, Nantes and 3INRA-CRNH Auvergne, France.

## 811. CHILD NUTRITION AND GROWTH: ISSUES AND CHALLENGES

### Poster

(Sponsored by: Nutritional Epidemiology RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C40 **I** **811.1** Prevalence and determinants of overweight and obesity in a national sample of 13-19 year old Lebanese adolescents. **N. Hwalla, F. Naja, A. Sibai, N. Adra, S. Karam and L. Nasreddine.** American Univ. of Beirut.
- C41 **II** **811.2** Freshman Health Initiative Survey: a pilot study. **R. Schnoll, R. Curran and S. Burroughs.** Brooklyn Col. of CUNY.
- C42 **I** **811.3** Prevalence and determinants of overweight and obesity in a national sample of 5-12 years old Lebanese children. **L. Nasreddine, F. Naja, C. Akl, N. Adra, A. Sibai and N. Hwalla.** American Univ. of Beirut.
- C43 **II** **811.4** Nutritional status for less-explored micronutrients in underprivileged Guatemalan preschool children: vitamin B12. **L. Hernández, N.W. Solomons, M-E. Romero-Abal, F. Gamero, L. Paul, J. Selhub, M.J.L. Bonorden and R.M. Herreid.** CeSSIAM, Guatemala City, Tufts Univ., Boston and Hormel Foods Corp., MN.
- C44 **I** **811.5** Nutritional assessment of the school lunch program in Puerto Rico: participants versus non-participants. **A.M. Preston, H. Venegas, C. Rodriguez and R.M. Velez-Rodriguez.** Univ. of Puerto Rico - Med. Sci. Campus.
- C45 **II** **811.6** Dietary intake of omega-3 long-chain polyunsaturated fatty acids by U.S. toddlers. **K.R. Walsh, Q. Ye and A. Piekarz.** Mead Johnson Pediat. Nutr. Inst.
- C46 **I** **811.7** Metabolic assessment of pediatric patients with chronic disease. **R.B. Leung, J.R. Schaub, D.S. Klein and P.R. Borum.** Univ. of Florida.
- C47 **II** **811.8** Measured versus estimated resting energy expenditure in a clinic population of obese youth. **S. Henes, R. Hickner, D. Cummings, J. Houmard, K. Kolasa, S. Lazorick and D. Collier.** Georgia State Univ. and East Carolina Univ.
- C48 **I** **811.9** Are pro-poor policies improving nutritional status of disadvantaged preschoolers in daycares in Salvador, NE Brazil? **R. Lander, A. Lander, K. Bailey, H. Ribiero, D. Barreto and R.S. Gibson.** Univ. of Otago, New Zealand and Fima Lifshitz Res. Unit, Salvador, Brazil.

- C49 **II** **811.10** Breakfast consumption among Mexican American adolescents. **I. Maximo, L. Hernandez, Y. Dong, A.V. Wilkinson, L. Strong, M.L. Bondy, M.R. Spitz and M.R. Forman.** Univ. of Texas at Austin, Univ. of Texas Sch. of Publ. Hlth., Austin, Univ. of Texas MD Anderson Cancer Ctr. and Baylor Col. of Med.
- C50 **I** **811.11** Dietary intake, physical activity and overweight and obesity in Mexican American adolescents. **Y. Zhu, L. Hernandez, Y. Dong, A. Wilkinson, L. Strong, M.L. Bondy, M.R. Spitz and M.R. Forman.** Univ. of Texas at Austin, Univ. of Texas Sch. of Publ. Hlth., Austin, Univ. of Texas MD Anderson Cancer Ctr. and Baylor Col. of Med.
- C51 **II** **811.12** Body composition of 6-to-8.5-year-old overweight and obese children: 12-week follow-up from an eating and exercise behaviour family-centered lifestyle intervention in Quebec (Canada). **T.R. Cohen, T. Hazell, C. Vanstone, M. Moore, H. Plourde, C. Rodd and H. Weiler.** Sch. of Dietetics and Human Nutr., McGill Univ., Montreal Children's Hosp. and McGill Univ.
- C52 **I** **811.13** Body weight misperception patterns and their association with health related behaviors among adolescents in South Korea. **H. Lim and Y. Wang.** Johns Hopkins Bloomberg Sch. of Publ. Hlth.
- C53 **II** **811.14** Calcium nutritional status affects the interrelationships between  $\alpha$  and  $\beta$  CTX bone markers in children in pre-puberty ages. **M.E. Río, H. Dupraz and L. Zago.** CONICET, Buenos Aires and Univ. of Buenos Aires.
- C54 **I** **811.15** Yogurt, dairy, calcium, and vitamin D intake are associated with lower body fat measures in U.S. children: results from NHANES 2005–2008. **D.R. Keast, A.M. Albertson, C.K. Gugger and N.M. Holschuh.** Food & Nutr. Database Res. Inc., Okemos, MI and General Mills Inc., Minneapolis.
- C55 **II** **811.16** Nutrient intake among children with autism. **E. Moore, T. Crook, J. James, D. Gonzales and R. Hakkak.** Univ. of Arkansas for Med. Sci.

## 812. GLOBAL HEALTH: DIETARY INTAKES AND HEALTH OUTCOMES IN DIVERSE POPULATIONS

### Poster

(Sponsored by: Nutritional Epidemiology RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C56 **I** **812.1** Dietary patterns and hypertension among Chinese adults: a nationally representative cross-sectional study. **D. Wang, Y. He, Y. Li, D. Luan, X. Yang, F. Zhai and G. Ma.** Natl. Inst. for Nutr. and Food Safety, Chinese Ctr. for Dis. Control and Prevent., Beijing, Civil Aviation Admin. of China, Beijing, and Liaoning Provincial Ctr. for Dis. Control and Prevent., China.
- C57 **II** **812.2** Sources of sodium according to income levels in the Brazilian National Dietary Survey. **A. de Moura Souza, I. Nogueira Bezerra, R. Alves Pereira and R. Sichieri.** State Univ. of Rio de Janeiro Univ. of Michigan Sch. of Publ. Hlth. and Univ. of North Carolina at Chapel Hill.
- C58 **I** **812.3** School-age children might be the best source of information for their digestive health. **S. Kranz, M. Brauchla and K. Miller.** Purdue Univ. and Kellogg Co., Battle Creek.



- C59 **II** **812.4** Association between total fat intake and depressive symptoms in Cuban Americans with and without type 2 diabetes. **J.C. Exebio, G.G. Zarini, C. Duenas and F.G. Huffman.** Florida Intl. Univ.
- C60 **I** **812.5** An examination of certain foods which may predict a zinc deficiency. **S. Cadet, B. Harland and D. Oberleas.** Howard Univ. and Texas Tech Univ. Emeritus.
- C61 **II** **812.6** Foods consumed away from home and energy intake in urban areas of Brazil. **R.A. Pereira, I.N. Bezerra, A.M. Souza and R. Sichieri.** Univ. of North Carolina at Chapel Hill, Fed. Univ. of Rio de Janeiro and State Univ. of Rio de Janeiro.
- C62 **I** **812.7** Sex differences in eating behavior during military training. **L.J. Lutz, J.P. Karl, S.J. Cable, K.W. Williams, A.J. Young and J.P. McClung.** U.S. Army Res. Inst. of Envrn. Med., Natick, MA and Directorate of Basic Combat Trng., Fort Jackson, SC.
- C63 **II** **812.8** Breakfast consumption is associated with favorable nutrient intake and healthy body measures among ethnic U.S. children: results from NHANES 2003-08. **K.J. Lancaster, S.S. Jonnalagadda, A.M. Albertson, N. Joshi and N. Holschuh.** NYU and General Mills Inc., MN.
- C64 **I** **812.9** Dietary intakes, acculturative stress and cultural adaptation of marriage migrant women according to dietary life adaptation. **J-M. Kim, H.S. Lee and M.H. Kim.** Hanbuk Univ., South Korea.
- C65 **II** **812.10** A qualitative analysis of exercise and health practices in Korean American versus American adults in Southern Salifornia. **A. Wright, K.H. Yu and M.Y. Hong.** San Diego State Univ. and Ulsan Col., South Korea.
- C66 **I** **812.11** Percent of WHO breastfeeding recommendation as a metric to combine breastfeeding duration and intensity during the first 6 months. **J.G. Woo, P.M. Herbers and A.L. Morrow.** Cincinnati Children's Hosp. Med. Ctr.
- C66A **II** **387.3** Iron biomarkers identify similar risk factors for iron deficiency but provide different estimates of the national prevalence of iron deficiency and iron-deficiency anemia in Cameroon. **R. Engle-Stone, M. Nankap, A.O. Ndjebayi, J.G. Erhardt and K.H. Brown.** Univ. of California, Davis, Helen Keller Intl., New York and Univ. of Indonesia.
- 813. WEIGHT MANAGEMENT IN REAL LIFE**
- Poster**
- (Sponsored by: Community and Public Health Nutrition RIS)
- MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D
- Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)
- C67 **I** **813.1** Estimates of body composition during pregnancy using bioelectrical impedance analysis. **T. Toro-Ramos, D.J. Hoffman and R. Sichieri.** Rutgers, The State Univ. of New Jersey, Piscataway and New Brunswick and State Univ. of Rio de Janeiro.
- C68 **II** **813.2** Increased BMI is associated with lower iron status and increased inflammation and oxidative stress in postpartum women. **J.M. Jorgensen, Z. Yang, B. Lönnerdal, C.J. Chantry, L.H. Allen and K.G. Dewey.** Univ of California Davis, Davis and Sacramento and USDA, Davis.
- C69 **I** **813.3** Prepregnancy BMI and gestational weight gain as determinants of pregnancy complications and outcomes by race/ethnicity. **D. Shin and W.O. Song.** Michigan State Univ.
- C70 **II** **813.4** Association of body fat indicators with lipid concentrations in U.S. children aged 6-11. **M. Masters, K. Stanek-Krogstrand and J.A. Albrecht.** Univ. of Nebraska-Lincoln.
- C71 **I** **813.5** Healthy minds but unhealthy bodies: graduating with a 4-year college degree and 7 pounds of body fat. **S.S. Gropper, L.J. Connell, K. Simmons and P. Ulrich.** Auburn Univ.
- C72 **II** **813.6** Comparison between self-reported nutrient intake from 24-h recall and Food Frequency Questionnaire, at baseline, among Spanish overweight and obese participants in a metabolic trial. **M-J. Soto-Méndez, E. Martínez-de-Victoria, G. Lobo, J. Boza, M. Kellerhals, A. Pérez-de-la-Cruz, A. Gil, M-D. Mesa and C-M. Aguilera.** CeSSIAM, Guatemala City, Univ. of Granada, Hosp. Virgen de las Nieves, Granada and The Coca-Cola Co., Atlanta and Brussels.
- C73 **I** **813.7** Seasonal change in antioxidant intakes and major food sources in overweight postmenopausal women. **M. Yang, Y. Wang, C.G. Davis, S-G. Lee, M.L. Fernandez, S.I. Koo, E. Cho and O.K. Chun.** Univ. of Connecticut, Emory Univ. Hosps. and Brigham and Women's Hosp., Harvard Med. Sch.
- C74 **II** **813.8** The effect of weight loss on quality of life in obese adults: a study using physical activity and dietary intervention. **Y.Y. Lee, W.M. Wan Abdul Manan, A.J. Rohana, W.B. Wan Mohamad, H. Ruhani, G.S. Ooi, O. Rubiah and M. Suzuki.** Sch. of Hlth. Sci., Sch. of Med. Sci. and Hosp., Univ. Sains Malaysia and Waseda Univ., Japan.
- C75 **I** **813.9** Gestational weight gain and birth outcomes according to pre-pregnancy obesity status. **S. Shin, M.Y. Kim, H.M. Ryu, S.W. Lee, J.H. Chung, J.C. King and H. Jung.** Seoul Natl. Univ., Cheil Gen. Hosp. & Women's Healthcare Ctr. and Kwandong Univ., Col. of Med., South Korea and Children's Hosp. Oakland Res. Inst.
- C76 **II** **813.10** Community based lifestyle intervention improves body weight, anthropometric, and fitness parameters. **S.K. Raatz, L.K. Johnson, A.J. Scheet, C.M. Langei and R.A. Westereng.** USDA, Ctr. Court Fitness Ctr. and Altru Hlth. Sys., Grand Forks.
- C77 **I** **813.11** Comparison of nutrient intake and food consumption patterns in normal-weight, overweight and obese adults. **K.S. Stote, P. Carrico and R. Cole.** SUNY Empire State Col. and U.S. Army Med. Dept. Ctr. & Sch., Fort Sam Houston.
- C78 **II** **813.12** Caloric titration method for weight loss in overweight and obese adults: 12 month results. **C.R. Pacanowski and D.A. Levitsky.** Cornell Univ.
- C79 **I** **813.13** Changes in knowledge, preferences, auto-efficacy and resource availability after a summer program on physical activity promotion. **A. Pérez-Lizaur, L.I. Moreno, C. Chaires and K. Haa.** Univ. Iberoamericana, Mexico.
- C80 **II** **813.14** Bioelectrical impedance analysis and anthropometric data in two populations of Ecuadorian children. **I.O. Chukwueke, L.W. Beeson, F. Castillo and Z.R. Cordero-MacIntyre.** Loma Linda Univ. Sch. of Publ. Hlth.

## 814. FEEDING YOUNG CHILDREN

## Poster

(Sponsored by: Community and Public Health Nutrition RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C81 I 814.1 Perceptions of key parental benefits from practices that promote intake of calcium-rich foods and beverages in preadolescent children. **S.S. Wong, C. Gunther, M. Reicks, R. Richards, C.M. Bruhn, M. Cluskey, S. Misner, C. Watters and M. Bellajos.** Oregon State Univ., The Ohio State Univ., Univ. of Minnesota, St. Paul, Brigham Young Univ., Univ. of California, Davis, Univ. of Arizona, Univ. of Hawaii and Washington State Univ.
- C82 II 814.2 Quantifying vitamin D production from sunlight exposure. **M.G. Kimlin.** Queensland Univ. of Technol., Australia.
- C83 I 814.3 Child feeding practices among Mexican mothers from rural communities and WHO guiding principles. **A.L. Lozada, A.C. Fernández-Gaxiola, A. García-Guerra and L. Neufeld.** Natl. Inst. of Publ. Hlth., Cuernavaca and Micronutrient Initiative, Ottawa.
- C84 II 814.4 Socio-cultural factors associated with child feeding practices among Hmong, Latino and White parents. **Y. Zhao, A. Roche, C. Wolff and K. Goto.** California State Univ., Chico.
- C85 I 814.5 Nutrition status of children in Ecuador. **S.D. Katuli, Z. Natto, L.W. Beeson and Z.R. Cordero-MacIntyre.** Loma Linda Univ.
- C86 II 814.6 Cariogenic bacteria and diet according to nutritional status in pre-school children. **A. Argentieri, M. Mateo, M. Iglesias, M. Manto, S. Friedman, F. Lifshitz, S. Molgatini and P. Rodriguez.** Sch. of Dent., Univ. of Buenos Aires and Sansum Med. Res. Inst., Santa Barbara.
- C87 I 814.7 Self efficacy scale for fruits and vegetables consumption in teachers of Mexican elementary schools. **M. Morales Ruan, T. Shamah-Levy, C. Amaya Castellanos, A. Salazar Coronel and A. Jimenez Aguilar.** Natl. Inst. of Publ. Hlth., Mexico City and Cuernavaca.
- C88 II 814.8 Food safety knowledge, attitudes, behaviors and intended behaviors of middle schoolers. **V. Quick, K. Corda and C. Byrd-Bredbenner.** Univ. of Minnesota, Minneapolis, Univ. of Texas at San Antonio and Rutgers Univ.
- C89 I 814.9 Developing and pre-testing nutrition messages for Asian Indian mothers. **S.R. Momin and B. Olson.** Michigan State Univ.
- C90 II 814.10 Evaluating a promotor training to prevent obesity among Latino preschoolers. **S.M. Reynolds, E.A. Jara and A. Fajardo.** Loma Linda Univ., Sch. of Publ. Hlth. and El Sol Neighborhood Educ. Ctr., San Bernardino.
- C91 I 814.11 Attitudes of nutrition education teachers and dietitians on implementation of school breakfast program in Korea. **Y-S. Choi and H. Oh.** Daegu Univ., South Korea.

## 815. NUTRITION EDUCATION

## Poster

(Sponsored by: Nutrition Education RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C92 I 815.1 Formative evaluation of a community-based nutrition education curriculum for Hispanics in South Carolina. **M.C. Aragon, K.L. Cason, Y. Hernandez-Garbanzo, M. Ugalde-Gonzalez, M.M. Rossi and J. Senior-Angulo.** Clemson Univ.
- C93 II 815.2 Stepping up to the challenge: the development, implementation, and assessment of a statewide, regional leadership program for child nutrition directors. **J.J. Bergman, D. Beall and S. Zidenberg-Cherr.** Univ. of California, Davis and California Dept. of Educ., Sacramento.
- C94 I 815.3 Development of a questionnaire to measure nutrition knowledge in adults. **A.M. Jones, C. Lamp, M. Neelon, Y. Nicholson, C. Schneider, P. Wooten Swanson and S. Zidenberg-Cherr.** Univ. of California, Davis and Univ. of California Coop. Ext. Tulare Cty., Contra Costa Cty., Sacramento Cty. and San Diego Cty.
- C95 II 815.4 Preschool children's familiarity with fruits and vegetables: impact of exposure in the home and school environments. **T.B. Cox, V. Carraway-Stage, K. Nanney, M. Borges, A. Martin, H. Spangler, A. Worf and L.S. Goodell.** North Carolina State Univ.
- C96 I 815.5 Head Start preschool administrators' barriers, motivators, and facilitators to implementing nutrition education. **S. Riggsbee, V. Carraway-Stage, A. Dipper and M. Anderson.** North Carolina State Univ.
- C97 II 815.6 Ways of educating, informing and networking with health professionals about nutritional sciences: the Nestlé Nutrition Institute. **P. Klassen and F. Haschke.** Nestlé Nutr. Inst., Vevey, Switzerland.
- C98 I 815.7 Evaluating the impact of farm to school programs on vegetable preference and consumption patterns among school-aged children. **R.J. Miller, R.E. Scherr, T. Rittenhouse, G. Feenstra, J. Ohmart, C. Hillhouse, L. Farfan-Ramirez and S. Zidenberg-Cherr.** Univ. of California, Davis.
- C99 II 815.8 Low-income adults have limited knowledge of health benefits of beans. **D.M. Winham, T. Florian and S.V. Thompson.** Arizona State Univ., Mesa, Univ. of Arizona, Phoenix and Oregon Hlth. & Sci. Univ.
- C100 I 815.9 Exposure to calcium-rich foods lessons increases nutrition knowledge among 5th-grade students. **J. Linnell, M. Briggs and S. Zidenberg-Cherr.** Univ. of California, Davis.
- C101 II 815.10 Benefits of family mealtime across the growing years: a conceptual model. **J.T. Martin-Biggers, A. Berhaupt-Glickstein, J. Worbey and C. Byrd-Bredbenner.** Rutgers, The State Univ. of New Jersey.
- C102 I 815.11 Comparison of parent and child reported fruit and vegetable preferences. **K. Nanney, V. Carraway-Stage, T.B. Cox, H. Spangler, A. Martin, M. Borges, A. Worf and L.S. Goodell.** North Carolina State Univ.

C103 II **815.12** Teacher-perceived barriers, facilitators, and motivators to providing nutrition education in Head Start classrooms. **A. Dipper, S. Riggsbee, M. Anderson, V. Carraway-Stage and L.S. Goodell.** North Carolina State Univ.

C104 I **815.13** Integrating sustainable agriculture into professional practice: a survey of dietetic professionals in Arkansas. **A. Hardin, D. Gonzales, P. Carroll and R. Hakkak.** Univ. of Arkansas for Med. Sci.

C105 II **815.14** Sensory nutrition education positively impacts willingness to try local vegetables in Western Massachusetts Head Start children. **S. Kannan, J. Joyner, L. Pfau, J. Meshenko, A. Sciallis, A. Krishnakumar and S. Severin.** Univ. of Massachusetts Amherst, Syracuse Univ. and Western Massachusetts Head Start., Greenfield.

C106 I **815.15** Skipping breakfast and having snacks of middle school students in Incheon and factors affecting their dietary habits. **H-J. Chung and J-I. Park.** Inha Univ., South Korea.

C107 II **815.16** The DI/MS match: pairing dietetic interns and medical students to promote interdisciplinary team development in nutrition-related patient care. **F. Wang, S. Lee, L. Judd, S. Feldman, J. Salge-Blake, C.M. Lenders and K. Gorman.** Boston Univ. Sch. of Med. and Col. of Hlth. & Rehabil.: Sargent Col.

## 816. CHILDHOOD OBESITY: WHEN SHOULD WE INTERVENE?

### Poster

(Sponsored by: Obesity RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C108 I **816.1** Evaluation of knowledge and behavior changes in middle school students. **L. Richmond, D. Gonzales, T. Crook and R. Hakkak.** Univ. of Arkansas for Med. Sci.

C109 II **816.2** Differential dietary intake patterns among 2-6 year olds in the U.S. across race/ethnicity, parental education, and poverty levels. **J.L. Butler, D.R. Miles, M.M. Slining and B.M. Popkin.** Univ. of North Carolina at Chapel Hill.

C110 I **816.3** Predictors of excessive weight gain in a low income and diverse population of Massachusetts infants. **E.S. Metallinos-Katsaras, E.C. Siu, L. Brown and S. Edelstein.** Simmons Col.

C111 II **816.4** Underserved minority children are not meeting the moderate-to-vigorous physical activity recommendation. **W.W. Wong, C.L. Ortiz, D. Lathan, L.A. Moore, K.L. Konzelmann, A.L. Adolph, J.E. Stuff, C. Mikhail, E.O. Smith and N.F. Butte.** Baylor Col. of Med. and Houston Parks and Recreation Dept.

C112 I **816.5** Obesity and premature gallstone disease: results from a cross-sectional study of over 510,000 youths. **C. Koebnick, N. Smith, M.H. Black, A.H. Porter, B.A. Richie, S.M. Hudson, D.Y. Gilliland, S.J. Jacobsen and G.F. Longstreth.** Kaiser Permanente Southern California, Pasadena, Baldwin Park Med. Ctr., Riverside Med. Ctr. and Fontana Med. Ctr.

C113 II **816.6** Effect of TV exposure and advertising on food intake in India: an experimental ad libitum study during snacking time. **D. Gregori, A. Gulati and F. Zobec.** Univ. of Padua and OBEY-AD Coop. Study Gp., Maulana Azad Med. Col., India and Zeta Res. srl, Trieste.

## 817. REDEFINE OBESITY: BODY WEIGHT VERSUS ADIPOSITITY

### Poster

(Sponsored by: Obesity RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C114 I **817.1** Relationship between obesity markers and blood pressure among African Americans with and without T2D. **C. Duenas, C. Podesta, G.G. Zarini and F.G. Huffman.** Florida Intl. Univ.

C115 II **817.2** Obesity and serum high sensitivity C-reactive protein in Turkish immigrants with type 2 diabetes. **S.D. Sukram, G.G. Zarini and F.G. Huffman.** Florida Intl. Univ.

## 818. OBESITY, INFLAMMATION AND CHRONIC DISEASE MODULATION BY DIETARY PHYTONUTRIENTS

### Poster

(Sponsored by: Obesity RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C116 I **818.1** Xanthohumol lowers body weight and fasting plasma glucose in obese male Zucker fa/fa rats. **L.L. Legette, A.Y. Moreno Luna, R.L. Reed, C.L. Miranda, G. Bobe, R.R. Proteau and J.F. Stevens.** Oregon State Univ.

C117 II **818.2** The effect of naringenin on the phosphorylation of AMPK in diet-induced obese mice. **J-Y. Ke, M. Tian, K. Kliewer and M.A. Belury.** The Ohio State Univ.

C118 I **818.3** Hepatoprotective effect of *Paecilomyces japonica* in db/db mice. **J-I. Kim and Y-K. Jeong.** Inje Univ. and Dong-A Univ., South Korea.

C119 II **818.4** Hepatic effect of quercetin in rats fed high-fructose diet. **J-I. Kim.** Inje Univ., South Korea.

C120 I **818.5** Bioavailability, glucose disposal, and anti-inflammatory properties of grape products in high fat-fed obese mice. **C-C. Chuang, W. Shen, G. Xie, W. Jia and M. McIntosh.** Univ. of North Carolina at Greensboro.

C121 II **818.6** Nutraceutical values of muscadine against obesity and metabolic complications in vivo. **V. Gourineni, N. Shay, S. Chung and L. Gu.** Univ. of Florida and Oregon State Univ.

C122 I **818.7** Impact of Korean pine nut oil on weight gain and immune responses in high-fat diet-induced obese mice. **S. Park, M. Lim, S. Shin and S.N. Han.** Seoul Natl. Univ.

- C123 II **818.8** Effects of mungbean extract and mungbean tesa extract on adipogenesis and obesity-related inflammation in vitro 3T3L1 cells and in vivo KK-Ay mice. **I. Kang, E. Chang, S.J. Yang, Z.J. Quan, M.Y. Park, M.J. Choi, J.I. Kim, H.R. Wi, S.L. Choi and M. Lee.** Sungshin Univ. and Chonnam Natl. Univ., South Korea.
- C124 I **818.9** Psychological determinants of dietary adherence and intervention outcome in obesity: self-efficacy, dietary and physical exercise counseling. **G.M. Trovato, G.F. Martines, F.M. Trovato, P. Pace, C. Pirri, A. Tonzuso and D. Catalano.** Univ. of Catania, Italy.
- C125 II **818.10** Broccosprout extract inhibits the nasal allergic response to diesel exhaust particles in atopic individuals. **A.M. Wong, Z. Li, M. Garcia-Lloret, A. Zerlin, G. Thames, Y. Zhang, A. Nel and D. Heber.** UCLA.
- C126 I **818.11** Association of hyperthyroidism and obesity. **K.R. Saeed, T.A. Haurami and T.O. Mahwee.** Suleimani Teaching Hosp. and Sulaimani Univ. Col. of Med., Iraq.

## 819. OBESITY AND METABOLIC SYNDROME

### Poster

(Sponsored by: Energy and Macronutrient Metabolism RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C127 I **819.1** Adiposity is associated with menstrual cycle irregularity in young women. **R. Natarajan, E. Bertone-Johnson, S. Zagarins, S.H. Gehlbach and A.G. Ronnenberg.** Univ. of Massachusetts Amherst.
- C128 II **819.2** The diagnostic efficacy of anthropometric and body composition cut-off values in assessing risk factors for cardiovascular disease among university students. **S. Nichols and A-M. Edwards.** Univ. of West Indies, Trinidad and Tobago.
- C129 I **819.3** Metabolically healthy overweight/obese premenopausal women benefit from a diet and exercise weight loss intervention. **C.M. Durward, J.D. Shlisky, M.K. Zack and S.M. Nickols-Richardson.** Penn State.
- C130 II **819.4** Anthropometric antecedents of metabolic syndrome and its components among university students. **S. Nichols and A-M. Edwards.** Univ. of West Indies, Trinidad and Tobago.
- C131 I **819.5** The association between serum estrogen, fat mass and type II diabetes in the Boston Puerto Rican Health Study. **L. Landry and K.L. Tucker.** Tufts Univ., Boston and Northeastern Univ.
- C132 II **819.6** Measurement of body fat does not predict cardiovascular risk factors in metabolic syndrome. **G. Kalil, C. Sinkey and W. Haynes.** Univ. of Iowa.
- C133 I **819.7** Associations among adiposity, inflammation, and iron status in overweight/obese pregnant women. **C.P. Stewart, S. Shahab-Ferdows, F.Y.J. Chen, A.H. Lindsay, B. Lönnerdal and J.C. King.** Univ. of California, Davis, USDA, Davis and Children's Hosp. Oakland Res. Inst.
- C134 II **819.8** Risk factors of type 2 diabetes and cardiovascular diseases among Jamaican adolescents. **S.C. Barrett, F. Huffman, P. Johnson, A. Campa and M. Magnus.** Northern Illinois Univ. and Florida Intl. Univ.
- C135 I **819.9** Brown adipocyte commitment of primary human adipose stem cells in vitro. **S. Chung, M. Okla, J-H. Ha and M.A. Lee.** Univ. of Florida.
- C136 II **819.10** Self perception of body weight status and willingness to adopt healthy eating and activity behaviors among Kentucky adults. **C. Wang, L. Huang and C. Butler.** Kentucky State Univ.
- C137 I **819.11** Profiles of betaine and choline in cultivars of a set of staple crops. **M. Ariza-Nieto, R.P. Glahn, C.J. Ariza-Nieto, J. Yan, O.V. Malysheva and M.A. Caudill.** Cornell Univ., USDA, Ithaca and CORPOICA, Mosquera, Colombia.
- C138 II **819.12** Nutritional status, risky eating behaviors and body dissatisfaction in a population of Mexican artisans. **A. Parra, A. Perez-Lizaur, C. Masliah and T. Velasco.** Univ. Iberoamericana, Mexico.
- C139 I **819.13** Ascorbic acid-induced reduction in adiponectin is not improved by alpha tocopherol and is accompanied by a small reduction in protein levels of peroxisome proliferator-activated receptor gamma in 3T3-L1 adipocytes. **V. Narayanan, L. David and C. Kane.** Florida Intl. Univ.
- C140 II **819.14** Weight loss through a 12-week weight management program improves anthropometric and clinical characteristics. **A.J. Lee, K.J. Jeon and S.N. Han.** Seoul Natl. Univ.
- C141 I **819.15** Changes in dietary protein intake differentially affect glucose tolerance and lipid profile in adults with impaired versus normal glucose tolerance. **E.M. Janle, T.B. Conley, G.R. DePalma, E.M. Weinheimer, L.P. Sands and W.W. Campbell.** Purdue Univ.
- C142 II **819.16** A pilot study: soy protein may help decrease energy intake when consumed prior to meal. **M.B. Cope, A. Jenkins, R. Mukherjea, E. Krul, G. Hughes, K. Pawlik, J. Campbell and T. Wolever.** Solae LLC, St. Louis and Glycemic Index Labs., Toronto.
- C143 I **819.17** Acute effects of pistachios on glucose, insulin, gut hormones and satiety in persons with metabolic syndrome. **C.W.C. Kendall, J. Campbell, A.L. Jenkins and D.J.A. Jenkins.** Univ. of Toronto and Glycemic Index Labs., Toronto.
- C144 II **819.18** Genotype-based hierarchical clustering reveals a panel of polymorphisms in one carbon metabolism that are associated with obesity. **K.D. Corbin, M.D. Spencer, K-A. da Costa, W. Sha, M.F. Abdelmalek, Y. Pan, A. Suzuki, C.D. Guy, D.M. Cardona, A. Torquati, A.M. Diehl and S.H. Zeisel.** Univ. of North Carolina at Chapel Hill, Kannapolis and Chapel Hill, Univ. of North Carolina at Charlotte, Kannapolis and Duke Univ.
- C145 I **819.19** Non-alcoholic fatty liver disease reversal by a comprehensive nutritional-physical exercise intervention. **G.M. Trovato, D. Catalano, A. Pennisi, F.M. Trovato, P. Pace, G.F. Martines and C. Pirri.** Univ. of Catania, Italy.
- C146 II **819.20** Fat distribution, insulin resistance and serum adiponectin of older women with and without metabolic syndrome. **P. Chongwatpol, J.R. Hermann, A. Bogale and B.J. Stoecker.** Oklahoma State Univ.
- C147 I **819.21** The effect of beverage choice at an ad libitum meal caloric intake and post-meal appetite and glycemia in healthy young men. **D. El Khoury, S. Panahi, B.L. Luhovyy and G.H. Anderson.** Univ. of Toronto.

- C148 II **819.22** The effect of before meal consumption of fluid milks and substitutes on short-term food intake, appetite and glycemic response in healthy young men and women. **S. Panahi, B.L. Luhovyy, T.T. Liu, T. Akhavan and G.H. Anderson.** Univ. of Toronto and Mount Saint Vincent Univ., Canada.
- C149 I **819.23** Hyperglycemia, hyperadiposity and leukocytosis are independent risk factors for higher serum C-reactive protein in free-living adults. **F. Moreto, R.M. Manda, G.A. Torezan, O. Teixeira and R.C. Burini.** Univ. Estadual Paulista Med. Sch., Brazil.
- C150 II **819.24** BOLD (beef in an optimal lean diet) effects on metabolic syndrome: a preliminary analysis. **A.M. Hill, M. Rousell, S.G. West and P.M. Kris-Etherton.** Penn State and Univ. of South Australia.
- C151 I **819.25** Choline metabolism biomarkers predict the risk of metabolic unfitnes among young men. **J. Yan, L.B. Winter, B. Burns-Whitmore, F. Vermeylen and M.A. Caudill.** Cornell Univ. and California State Polytech Univ., Pomona.
- C152 II **819.26** Relationships between features of metabolic syndrome and fatty acid composition of the diet, plasma, and adipose tissue in older adults. **A.M. Rose, M. Asp, A. Collene and M.A. Belury.** The Ohio State Univ.
- C153 I **819.27** Is the serum level of 25-hydroxyvitamin D inversely associated with obesity and metabolic syndrome in Korean children and adolescents? **M-H. Kim and E-K. Kim.** Gangneung-Wonju Natl. Univ., South Korea.
- C154 II **819.28** Soybean or fish oil increases adiponectin and nitric oxide levels and decreases blood pressure in metabolic syndrome. **I. Dichi, A.N.C. Simão, M.A.B. Lovozoy, H.K. Morimoto, T.N.C. Simão and J.B. Dichi.** Univ. of Londrina, Brazil.
- C155 I **819.29** Activation of angiotensin type 2 receptor rescues high-fat diet-induced adipocyte size increase in young male mice. **S. Nag, M.A. Khan and T. Hussain.** Auburn Univ.
- C156 II **819.30** A moderate carbohydrate-restricted diet results in weight loss and improves clinical parameters of metabolic syndrome in adult men and women and addition of egg yolk further improves inflammation. **C.N. Blesso, C.J. Andersen, J. Barona, B. Volk, J.S. Volek and M.L. Fernandez.** Univ. of Connecticut.
- C157 I **819.31** Transcriptional attributes of constitutively active brown adipose tissue in nonhuman primates. **J-H. Ha, V. Gourineni, M.A. Lee, R. Temel and S. Chung.** Univ. of Florida and Wake Forest Univ. Hlth. Sci.
- C158 II **819.32** Effects of brown seaweed and licorice on blood glucose and weight loss in moderately overweight subjects. **S. Talbott, T. Talbott, E. Dinger and J. Talbott.** SupplementWatch, Draper, UT.
- C159 I **819.33** Impact of obesity on bone integrity and mesenchymal stem cell activity in Ossabaw swine. **B.S. Seabolt, J.W. Perfield II, R.S. Rector and C.H. Stahl.** North Carolina State Univ. and Univ. of Missouri-Columbia.
- C160 II **819.34** Postprandial response of bean consumption on inflammation, oxidative stress, glucose, and insulin in adults with metabolic syndrome. **E.J. Reverri, J.M. Randolph, F.M. Steinberg, C.T. Kappagoda, I. Edirisinghe and B. Burton-Freeman.** Univ. of California, Davis and Illinois Inst. of Technol.
- C161 I **819.35** Hepatoprotective activities of black soybean in high cholesterol diet-induced non-alcoholic fatty liver disease. **J-H. Jung, H-S. Cho, Y. Liu and H-S. Kim.** Sookmyung Women's Univ., South Korea.
- C162 II **819.36** Oxidative stress evaluation in overweight subjects with or without metabolic syndrome. **I. Dichi, T.N.C. Simão, D. Venturini, N.A. Sripes, P.A.S. Melo, F.M. Belinetti, M.A.B. Lovozoy and A.N.C. Simão.** Univ. of Londrina, Brazil.
- C163 I **819.37** Green tea polyphenols benefit bone health in obese female rats fed with high-fat and restricted diets. **C-L. Shen, J.J. Cao, R.Y. Dagda, M-C. Chyu and J-S. Wang.** Texas Tech Univ. Hlth. Sci. Ctr., USDA, Grand Forks and Univ. of Georgia.
- C164 II **819.38** Influence of exercise and weight loss on glucose tolerance and bone mass in young growing animals. **K.D. Hembree, E. Rendina, Y. Wang, K. Clark, M.R. Davis, S.K. Peterson, S.L. Clarke, E.A. Lucas and B.J. Smith.** Oklahoma State Univ.
- C165 I **819.39** Abdominal obesity and inflammation in tri-ethnic population with and without type 2 diabetes in South Florida. **D. Gundupalli, G.G. Zarini, J.A. Vaccaro and F.G. Huffman.** Florida Intl. Univ.
- C166 II **819.40** Metabolic comparison of weight matched obese male and female mice. **K.L. Stromsdorfer, K. Nickelson, R.T. Pickering, L.C. Ortinau and J.W. Perfield II.** Univ. of Missouri-Columbia.
- C167 I **819.41** Hypoglycemic and hypolipidemic effects of laver in db/db mice. **J-I. Kim, M-J. Kang, H-N. Choi, H. Kim and E. Choe.** Inje Univ. and Chungbuk Natl. Univ., South Korea.
- C168 II **819.42** Characterization of swine adipose tissue monocytic lineage cells. **R.J. Faris, J. Walker-Daniels, D.E. Jones and M.E. Spurlock.** Iowa State Univ.
- C169 I **819.43** Effect of dietary fat on carbohydrate response element binding protein in a rat model of fatty liver and insulin resistance. **Y-F. Kuo, M.A. Harper, S. Clarke, K. Axen and K. Axen.** Brooklyn Col. CUNY.
- C170 II **819.44** Dietary obesity impairs regulation of hepatic AMP-activated kinase in rats. **M.A. Harper, Y-F. Kuo, S.D. Clarke, K. Axen and K. Axen.** Brooklyn Col.
- C171 I **819.45** Oral administration of  $\alpha$ -ketoglutarate or interferon- $\tau$  reduces adiposity in diet-induced obese rats. **C.D. Tekwe, J. Lei, K. Yao, X. Li, R. Rezaei, S. Dahanayaka, C.J. Meininger, R.J. Carroll, F.W. Bazer and G. Wu.** Texas A&M Univ. and Texas A&M Hlth. Sci. Ctr.
- C172 II **819.46** HPMC supplementation reduces weight gain, intestinal permeability, inflammation, and insulin resistance in diet-induced obese mice. **H. Kim, G. Bartley, S.A. Young and W. Yokoyama.** Univ. of California, Davis, USDA, Albany, CA and The Dow Chem. Co., Midland, MI.
- C173 I **819.47** Hypoglycemic effect of *Saururus chinensis* Bail in ob/ob mice. **J-I. Kim, S-M. Jeong, M. Kim and M-J. Kang.** Inje Univ., South Korea.
- C174 II **819.48** Inhibition of HO-adiponectin-dependent pathways contributes to metabolic syndrome-like phenotype in spontaneously hypertensive rats on a high fat diet. **N. Puri, K. Sodhi and N.G. Abraham.** Univ. of Toledo.
- C175 I **819.49** Deletion of adipogenin gene in mice is effected to adipogenesis and deferred to growth. **S. Kyoung-Ha, T. Tachizaki, A. Aridiyanti, Y. Suzuki, S-H. Song, S-g. Roh and K. Katoh.** Tohoku Univ. and Shimane Univ., Japan.

- C176 II **819.50** Adipose tissue gene expression in adult rats fed with high-fructose diet: effects of EPA supplementation. **V. Leray, C. Jonchère, M-Q. Zaman and P. Nguyen.** Oniris Natl. Vet. Sch. Nantes, France.
- C177 I **819.51** In vivo administration of an EET agonist rescues diet-induced obesity and associated vascular and adipose tissue abnormalities in SD rats: contributions of the heme-heme oxygenase system. **K. Sodhi, K. Inoue and M.L. Schwartzman.** Univ. of Toledo and New York Med. Col.
- C178 II **819.52** Insulin sensitization in female ob/ob mice by an apo-lipoprotein-A1 mimetic are independent of effects on body weight. **A. Burgess and N.G. Abraham.** Univ. of Toledo.
- C179 I **819.53** Anti-obesity effect of microalgal oil supplementation in C57BL/6N mice fed a high fat diet. **S.H. Lee, J. Choi, E-G. Mun and Y-S. Cha.** Chonbuk Natl. Univ., South Korea.

## 820. ENERGY BALANCE, MACRONUTRIENT AND WEIGHT MANAGEMENT

### Poster

(Sponsored by: Energy and Macronutrient Metabolism RIS)

(Cosponsored by: Obesity RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C180 I **820.1** Impact of a combination of various functional food ingredients as TAlslim® Total Body System, weight management program: randomized, placebo-controlled, double-blind human clinical studies. **H. Amagase and R. Handel.** FreeLife Intl., Phoenix.
- C181 II **820.2** Effect of sugar, aspartame, or acesulfame potassium alone or in beverages on *C. elegans* model organism. **J. Zheng, J. King, M. King, S. Heymsfield, J. Finley and F.L. Greenway.** LSU AgCtr., Col. of Basic Sci. and Pennington Biomed. Res. Ctr., LSU.
- C182 I **820.3** A review of dietary energy density and obesity. **J.P. Karl and S.B. Roberts.** USDA at Tufts Univ.
- C183 II **820.4** Effects of a novel dietary portion control program on energy intake, energy density, and weight loss. **C. Freed, S. Fawcett, D. Weber-Dewitt and C. Melby.** Colorado State Univ.
- C184 I **820.5** Effect of dietary fibers on fecal fat excretion in overweight and obese humans. **S. Park, R. Scott, R. Schlottmann, D. Striegel, K.C. Maki, T. Rain and M. Witchger.** The Coca-Cola Co. and Biofortis-Provident Clin. Res., Glen Ellyn, IL.
- C185 II **820.6** Rates of weight loss in diabetics versus non-diabetics in subjects in an outpatient very low calorie diet program. **M.L. Deng, M. Wang, C-H. Tseng, Z. Li and D. Heber.** UCLA.
- C186 I **820.7** Dietary leucine and alanine supplementation have similar effects in the prevention of high-fat diet-induced obesity. **K.J. Petzke, A. Freudenberg and S. Klaus.** German Inst. of Human Nutr. in Potsdam-Rehbruecke.
- C187 II **820.8** Body weight reduction by exercise is more effective than by dietary restriction even when dietary condition is equal except for energy. **T. Yamada, S-i. Kurasawa, M. Matsuzaki and A. Tanaka.** Kanto Gakuin Univ. and Kagawa Nutr. Univ., Japan.

- C188 I **820.9** The impact of dietary glycemic load and physical activity on weight status of healthy college-aged female students in Oman. **M. Waly, A. Ali, A. Al-Nassri and H.A. Kilani.** Sultan Qaboos Univ., Oman.
- C189 II **820.10** Variability in results from predicted resting energy expenditure as compared to measured resting energy expenditure in Korean farmers. **A.F. Arif Tsani, S-Y. Ko, S-E. Yeon and E-K. Kim.** Gangneung-Wonju Natl. Univ., South Korea.
- C190 I **820.11** Smaller decreases in protein and greater decreases in fat may be associated with exercise training before body mass reduction. **A. Nakashima, R. Nishijima and K. Okamura.** Osaka Univ. of Hlth. and Sport Sci.
- C191 II **820.12** High-fat from butter and sesame oils based-diet have almost same effects on post-energy expenditure and satiety in healthy adults. **M-J. Lee, A.F. Arif Tsani and E-K. Kim.** Gangneung-Wonju Natl. Univ., South Korea.
- C192 I **820.13** Moderate caloric restriction results in significant loss of fat mass, limited decline in resting energy expenditure and preservation of fat-free mass. **J.C. Chezem, A. Thomas and J. Holden.** Ball State Univ. and Target Metabolism, Carmel, IN.
- C193 II **820.14** Is a low serum adiponectin or high serum leptin associated with a low resting energy expenditure in overweight or obese children and adolescents? **M-H. Kim and E-K. Kim.** Gangneung-Wonju Natl. Univ., South Korea.
- C194 I **820.15** Are the dietary reference intake values for estimated energy requirements accurate for girls in life stage group 9-13 years? **L.G. Bandini, K. Lividini and A. Must.** Boston Univ., Univ. of Massachusetts Med. Sch., HarvestPlus/Intl. Food Policy Res. Inst., Washington, DC and Tufts Univ. Sch. of Med.
- C195 II **820.16** Black pepper consumption does not influence 24-hour energy expenditure or respiratory quotient in overweight postmenopausal women. **A. O'Connor, K.D. Corbin, D.C. Nieman and A. Swick.** Univ. of North Carolina at Chapel Hill Nutr. Res. Inst. and Appalachian State Univ.
- C196 I **820.17** Ingestion of nutrition bars high in protein or carbohydrate do not impact 24-hour energy intakes in healthy young adults. **C.M. Trier and C.S. Johnston.** Arizona State Univ.
- C197 II **820.18** What data suggests that protein may be effective for weight loss? **C.M. Champagne, S. Broyles, V.H. Myers, K.L. Funk and P. Brantley.** Pennington Biomed. Res. Ctr., Baton Rouge and Kaiser Permanente Ctr. for Hlth. Res., Portland, OR.
- C198 I **820.19** Consuming a lentil-based sports nutrition bar affects metabolic and performance measures during endurance exercise. **G.A. Zello, J.T. Jochim, J. Rooke and P.D. Chilibeck.** Univ. of Saskatchewan Col. of Pharm. and Nutr. and Col. of Kinesiol.
- C199 II **820.20** Knowledge on dietary treatment for weight reduction and eating habits of patients attending an obesity clinic. **M. Kaufer-Horwitz, M. Villa, J. Pedraza, V. Vázquez, R. Reynoso, J. Domínguez, J.P. Méndez and E. García.** Natl. Inst. of Med. Sci. and Nutr. Salvador Zubirán, Mexico City and Natl. Autonomous Univ. of Mexico.
- C200 I **820.21** Skipping breakfast is associated with lower physical activity energy expenditure in young healthy women. **A.P. Marquez, S. Forester, M. Witbracht, C. Campbell, M. Gustafson and N. Keim.** Univ. of California, Davis and USDA, Davis.

- C201 II **820.22** Is peak bone mass achieved following recovery from reduced energy availability? **K.A. Camp, S.N. Swift, F. Lima, E.S. Greene, M.J. De Souza and S.A. Bloomfield.** Texas A&M Univ. and Penn State.
- C202 I **820.23** A nine month strength training program increases resting metabolic rate. **J.C. Aristizabal, D. Freidenreich, B. Volk, B. Kupchak, K. Ballard, W. Kraemer and J. Volek.** Univ. of Connecticut and Sch. of Nutr., Univ. of Antioquia, Colombia.
- C203 II **820.24** Impact of protein intake on exercise-induced changes in body composition in middle-aged, overweight adults. **T.B. Conley, E.M. Weinheimer, G.R. DePalma, E.M. Janle, L.P. Sands and W.W. Campbell.** Purdue Univ. and Univ. of Illinois at Chicago.
- C204 I **820.25** Macronutrient absorption from almonds: the measured energy value of almonds in the human diet. **S.K. Gebauer, J.A. Novotny and D.J. Baer.** USDA, Beltsville, MD.
- C205 II **820.26** Effects of protein quantity and source (animal versus plant) on indices of mood and fed-state large neutral amino acids and tryptophan profile. **J.A. Hogan, C.L.H. Armstrong, H.K. Wilson and W.W. Campbell.** Purdue Univ.
- C206 I **820.27** Comparison of predictive equations for resting energy expenditure in Chinese and Korean young adults. **A.F. Arif Tsani, S-Y. Ko, S-E. Yeon, M-H. Kim and E-K. Kim.** Gangneung-Wonju Natl. Univ., South Korea.
- C207 II **820.28** Is there a difference on appetite and thermic effects of food depending on the quality of the protein in healthy Korean women? **J-H. Kim, A.F.A. Tsani, S-E. Yeon, S-Y. Ko and E-K. Kim.** Gangneung-Wonju Natl. Univ., South Korea.
- C208 I **820.29** Effects of an energy-restricted, moderate-protein diet plan with non-fat dairy on weight changes: 12 weeks of weight loss (WL) followed by 12 weeks of WL maintenance. **J.D. Shlisky, C.M. Durward, M.K. Zack, J.K. Campbell, S.S. Jonnalagadda, C. Gugger and S.M. Nickols-Richardson.** Penn State and General Mills Inc., Minneapolis.
- C209 II **820.30** Evaluation of nutrient intake of patients on ketogenic therapy: a pilot study. **H.J. Allen, D.J. Lennon, N. Khiyani, J. Lukosaityte, R. Chowdhury and P.R. Borum.** Univ. of Florida.
- C210 I **820.31** The use of environmental cues to reduce obesity. **A.K. Thaw and M. Redhead.** Millsaps Col., MS.
- C211 II **820.32** Comparison of a higher protein yogurt versus other commonly consumed afternoon snacks on time to meal request. **L.C. Ortinau, J.M. Culp, H.A. Hoertel, S.M. Douglas and H.J. Leidy.** Univ. of Missouri-Columbia and General Mills Inc., Minneapolis.
- C212 I **820.33** Exploratory analysis of facilitators and barriers to weight loss maintenance in premenopausal women. **C.J. Metzgar, S.A. Nelson, A.G. Preston, D.L. Miller and S.M. Nickols-Richardson.** Penn State and The Hershey Co.
- C213 II **820.34** The effects of low versus higher protein yogurt consumed as afternoon snacks on appetite control and time to dinner request in healthy women. **L.C. Ortinau, J.M. Culp, H.A. Hoertel, S.M. Douglas and H.J. Leidy.** Univ. of Missouri-Columbia, General Mills Inc., Minneapolis.
- C214 I **820.35** Low-calorie sweetener use is increasing in the United States. **A.C. Sylvetsky, J.A. Welsh and M.B. Vos.** Emory Univ. and Children's Healthcare of Atlanta.
- C215 II **820.36** Reconsidering protein, energy, and diet-induced thermogenesis. **C. Moulton, G. Wilson, L. Norton and D. Layman.** Univ. of Illinois at Urbana-Champaign.
- C216 I **820.37** The effects of low, moderate, or high protein yogurt snacks on appetite control and subsequent eating in healthy women. **S.M. Douglas, L.C. Ortinau, H.A. Hoertel and H.J. Leidy.** Univ. of Missouri-Columbia.
- C217 II **820.38** Effects of protein quantity and source (animal versus plant) on appetite and plasma amino acid responses in energy-restricted subjects. **H.K. Wilson, C.L.H. Armstrong, J.A. Hogan and W.W. Campbell.** Purdue Univ.
- C218 I **820.39** Effect of resistance training on changes in body composition and macronutrient utilization after weight loss in older women. **J. Zhou and W.W. Campbell.** Purdue Univ.
- C219 II **820.40** Dietary fructose was not a causal factor in rise in obesity prevalence between 1970 and 2008. **T.P. Carr and T.J. Carden.** Univ. of Nebraska-Lincoln.

## 821. EFFECTS OF DIETARY BIOACTIVE COMPONENTS ON EXPERIMENTAL MODELS OF CHRONIC DISEASE RISK

### Poster

(Sponsored by: Dietary Bioactive Components RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C220 I **821.1** Pterostilbene inhibits dimethylnitrosamine-induced liver fibrosis in rats. **M-F. Lee, M-L. Liu, A-C. Cheng, M-H. Pan, H. Huang and M-D. Chen.** Chang Jung Christian Univ. and Natl. Kaohsiung Marine Univ., Taiwan.
- C221 II **821.2** Grape seed extract and delta tocotrienol alone and in combination ameliorates histopathological features in C57BL/J6 mouse fed high-fat diet. **S. Sodhani, S. Juma, P. Vijayagopal, C. Prasad, V. Imrhan and N. Mills.** Texas Woman's Univ.
- C222 I **821.3** Soy and curcumin supplementation inhibits dimethylnitrosamine-induced liver fibrosis in rats. **A-C. Cheng, L-L. Chien, M-F. Lee, M-H. Pan, Y-J. Guo and H. Huang.** Chang Jung Christian Univ. and Natl. Kaohsiung Marine Univ., Taiwan.
- C223 II **821.4** Effects of fermented *Pinus densiflora* extracts on obesity-related pro-inflammatory cytokine levels in KK-Ay mice. **E-M. Ahn, S-M. Yoo, J-S. Choi, H-R. Kim and M-S. Kang.** Natl. Acad. of Agr. Sci., Suwon, South Korea.
- C224 I **821.5** Consumption of dehydrated *Opuntia ficus-indica* (nopal) prevents the development of fatty liver by modifying hepatic lipid metabolism in obese Zucker *fa/fa* rats. **S. Moran-Ramos, P. López-Romero, A.R. Tovar and N. Torres.** Natl. Inst. of Med. Sci. and Nutr. Salvador Zubirán, Mexico City and UNAM, Mexico City.
- C225 II **821.6** Effects of fermented *Pinus densiflora* extracts on body weight gains and lipid metabolism in KK-Ay mice fed normal diet. **E-M. Ahn, S-M. Yoo, H-R. Kim and M-S. Kang.** Natl. Acad. of Agr. Sci., Suwon, South Korea.
- C226 I **821.7** Dose-response of ginger on indicators of oxidative stress and diabetes in STZ-induced diabetic rats. **M. Thomson, K. Al-Qattan, D. J.S. and M. Ali.** Kuwait Univ.

- C227 II **821.8** Evaluation of monoamine oxidase-B inhibitory activity of different plant sources. **S.E. Deiab, E.A. Mazzio and K.F.A. Soliman.** Florida A&M Univ. Col. of Pharm. and Pharmaceut. Sci.
- C228 I **821.9** The behavioral actions of creatine vary with duration of intake. **K.E. D'Anci, P.J. Allen and R.B. Kanarek.** Salem State Univ. and Tufts Univ.
- C229 II **821.10** Effect of the supplementation of *Prunus mume* concentrates on lipid peroxide levels and antioxidative enzyme activities in hyperlipidemic rats. **J.H. Chyun, J.H. Na, H.J. Park and Y. Yang.** Inha Univ., South Korea.
- C230 I **821.11** Fructooligosaccharides enhance beneficial effects of a flavonoid, quercetin-3-glucoside, on insulin sensitivity in rats fed high sucrose diet. **P. Phuwamongkolwiwat, T. Suzuki, T. Hira and H. Hara.** Grad. Sch. of Agr., Hokkaido Univ. and Grad. Sch. of Biosphere Sci., Hiroshima Univ., Japan.
- C231 II **821.12** CTL extract, histologic changes in subchondral bone and articular cartilage of mono-iodoacetate-induced arthritis rat model. **D-E. Nam, J-N. Ho, O-K. Kim, H-I. Jeon, S-J. Park, W. Jun and J. Lee.** Kyung Hee Univ. and Chonnam Natl. Univ., South Korea.
- C232 I **821.13** Anti-hyperglycemic effect of 2 Amadori rearrangement compounds, arginyl-fructose and arginyl-fructosyl-glucose. **Y-I. Kwon, K.S. Ha, S-H. Jo, E. Apostolidis, H-D. Jang and M.S. Lee.** Hannam Univ., South Korea and Framingham State Univ.
- C233 II **821.14** Cholesterol lowering activity of soy-derived glyceollins in golden hamster model. **H. Huang, Z. Xie, W. Yokoyama, S.M. Boue, L. Yu and T.T.Y. Wang.** Univ. of Maryland College Park and USDA, Albany, CA, New Orleans and Beltsville, MD.
- C234 I **821.15** Strawberry extract attenuates glucose and free fatty acid-mediated impaired insulin signaling in vitro in skeletal muscle cells. **A. Kangath, C. Chang, S. Krishnankutty, R.K. Tadapaneni, I. Edirisinghe and B. Burton-Freeman.** Illinois Inst. of Technol., USDA, Bedford Park, IL and Univ. of California, Davis.
- C238 II **822.4** Inhibitory mechanisms of wheat germ and wheat/soy germ extract fermented with *Aspergillus oryzae* on human colorectal cancer HCT116 cells. **H-D. Jang, J-H. Song, S-J. Choi, E-S. Kim and H-T. Choi.** Hannam Univ. and ShinwonFI Co. Ltd, South Korea.
- C239 I **822.5** Cinnamon extract inhibits angiogenesis in zebrafish and human endothelial cells by suppressing VEGF and PKC-mediated MAP kinase. **R.R. Bansode, P. Randolph and M. Ahmedna.** North Carolina A&T State Univ.
- C240 II **822.6** Effects of indole-3-carbinol on adipocyte-induced invasion-associated factors on breast cancer cells. **M.L. Wang and Y-H. Chen.** Taipei Med. Univ.
- C241 I **822.7** Involvement of AMPK in the regulation of CSK, COX-2 and mTOR in cancer cell growth control under EGCG treatment. **S.Y. Park, Y-K. Lee, W.S. Lee, Y-M. Kim and O.J. Park.** Hannam Univ., South Korea, SUNY Downstate Med. Ctr. and Gyeong-Sang Natl. Univ. Hosp., South Korea.
- C242 II **822.8** Effect of ketone treatment and glycolysis inhibition in brain cancer cells (U87MG) and rat primary cultured neurons exposed to hyperbaric oxygen and amyloid beta. **A. Bennett, C. Ari, S. Kesli, J. Luke, D. Diamond, J.B. Dean and D. D'Agostino.** Univ. of South Florida, Byrd Alzheimer's Inst. and James A. Haley Veterans Hosp., Tampa.
- C243 I **822.9** Parthenolide's anti-leukemic stem cell activity is enhanced by the inhibition of dipeptidyl peptidase 8 and 9. **P. Spagnuolo, R. Hurren, M. Gronda, N. MacLean and A. Schimmer.** Princess Margaret Hosp., Toronto.
- C244 II **822.10** Broccoli-derived compounds modulate androgen upregulation of C-C chemokine ligand 2 and enhancement of monocyte attraction to prostate cancer cells. **E-K. Kim, Y.S. Kim, L. Yu, J.A. Milner and T.T.Y. Wang.** Univ. of Maryland College Park, NCI/NIH, Rockville and USDA, Beltsville.
- C245 I **822.11** The effect of beta-carotene on neuroblastoma stemness. **H-A. Lee, Y-S. Kim and Y. Kim.** Ewha Womans Univ., South Korea.
- C246 II **822.12** PH-427 reduces the survival of fat-treated pancreatic cancer cells. **M.J.C. Cantoria and E. Meuillet.** Univ. of Arizona.
- C247 I **822.13** Resveratrol and grape seed extract combination elevates apoptosis in the colon cancer stem cells, even in the presence of IGF-1, via P53-dependent pathway. **J. Vanamala, V. Charepalli, S. Radhakrishnan and L. Reddivari.** Colorado State Univ.
- C248 II **822.14** Magnolol inhibits cyclooxygenase-2 activity via suppression of matrix metalloproteinase-2/-9 activities in PC-3 human prostate carcinoma cells. **E-S. Hwang and K-K. Park.** Hankyong Natl. Univ. and Yonsei Univ., South Korea.
- C249 I **822.15** Medicinal herbs inhibit castrate-resistant prostate cancer via mechanisms involving AMPK. **Y. Zhao and J. Whelan.** Univ. of Tennessee, Knoxville.
- C250 II **822.16** Anti-angiogenic effects of citrus polymethoxyflavones and their major metabolites. **W. Nutakul, J. Zheng, R. Shao and H. Xiao.** Univ. of Massachusetts Amherst and Pioneer Valley Life Sci. Inst., Springfield, MA.
- C251 I **822.17** (-)-Epigallocatechin-3-gallate sensitizes human promyelocytic HL-60 cells to X-ray irradiation and alters expression of pro-apoptotic genes. **C. Pollard, B. Liu, L. Zhou and S.S. Percival.** Univ. of Florida.

## 822. DIET AND CANCER: MOLECULAR TARGETS

### Poster

(Sponsored by: Diet and Cancer RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C235 I **822.1** The role of Aurora-A in curcumin-treated human bladder T24 and breast MCF-7 cancer cells. **C-L. Su, C-H. Yen, C-S. Ke, H-S. Liu, H-C. Cheng and C-Y.F. Huang.** Natl. Taiwan Normal Univ., Chang Jung Christian Univ., Col. of Med., Natl. Cheng Kung Univ. and Natl. Yang-Ming Univ., Taiwan.
- C236 II **822.2** 1,25 Dihydroxyvitamin D regulation of energy metabolism in MCF10 human breast epithelial cells. **W. Zheng, F. Tayyari, N. Gowda, D. Raftery, J. Shi, M. Porterfield, B. Bequette, S. Donkin and D. Teegarden.** Purdue Univ. and Univ. of Maryland College Park.
- C237 I **822.3** Combination of polymethoxyflavones and atorvastatin for colon cancer inhibition. **M. Song, P. Qiu, J. Zheng, N. Charoensinphon and H. Xiao.** Univ. of Massachusetts Amherst and Ocean Univ. of China.



- C252 II **822.18** Indole compounds inhibits migration of breast cancer cell by suppressing MMPs via reduction of FAK expression. **S.J. Park, J-N. Ho, D-E. Nam, O.K. Kim, W. Jun and J. Lee.** Kyung Hee Univ. and Chonnam Natl. Univ., South Korea.
- C253 I **822.19** Antiproliferative effects of thioflavanone through p53-dependent apoptosis induction in human breast cancer cells. **G-H. Kim, E.J. Choi and K.H.J. Kim.** Duksung Women's Univ., South Korea.
- C254 II **822.20** Mulberry leave extracts inhibit stem cell-like human neuroblastoma cells through induction of differentiation, downregulation of delta-like 1 homologue, and inhibition of ERK pathway. **S. Park, J. Kim and Y. Kim.** Ewha Womans Univ., South Korea.
- C255 I **822.21** Evaluation for antioxidant and anticancer activity of *Artemisia princeps* var. orientalis in vitro. **G-H. Kim, E.J. Choi and J.I. Lee.** Duksung Women's Univ., South Korea.
- C256 II **822.22** Benzyl isothiocyanate targets chemoresistant and metastatic head and neck squamous carcinoma cells. **M.A. Wolf, A. Palumbo, W.E. Hardman and P.P. Claudio.** Marshall Univ. Translational Genome Res. Inst.
- C257 I **822.23** Delta-tocotrienol enhances cisplatin-induced inhibition of growth and invasion of non-small cell lung cancer cells. **X. Ji and S. Gupta.** Wayne State Univ.
- C258 II **822.24** Antiproliferative effects of vitamin D, DHA and 5-fluorouracil on breast cancer. **S.N. Hawk and L. Engelsen.** Central Washington Univ.

### 823. ANTIOXIDANT AND ANTI-INFLAMMATORY EFFECTS OF DIETARY BIOACTIVE COMPONENTS

#### Poster

(Sponsored by: Dietary Bioactive Components RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C259 I **823.1** Antioxidant and proteolytic activity of ethanol extract from *Crataegi fructus*. **S-J. Park, S-M. Yoo and H-R. Kim.** Hallym Col. and Rural Develop. Admin., Suwon, South Korea.
- C260 II **823.2** Anthocyanins affect glutathione S-transferase activity in human HepG2 cells. **A.G. Galambos and J.G. Fischer.** Univ. of Georgia.
- C261 I **823.3** Effect of oregano essential oils on lipid oxidation in storage eggs enriched with dietary omega-3 fatty acids. **C. Ariza-Nieto, R. Ortiz, D. Vasquez, O. Mayorga and G. Afanador.** CORPOICA, Bogota and Natl. Univ. of Colombia.
- C262 II **823.4** Antioxidant and anti-inflammatory properties of tamarillo fruit (*Cyphomandra betacea* Sendt.) extracts on LPS-activated RAW 264.7 macrophages. **X. Villegas-Ruiz, G.K. Harris, M.E. Barcenas-Pozos and C. Jordan.** Univ. de las Americas Puebla, Mexico and North Carolina State Univ.
- C263 I **823.5** Purple potato, even after processing, suppress oxidative stress and inflammatory markers in high-fat diet consuming pigs. **S. Radhakrishnan, L. Reddivari, S.B. Smith, S.W. Kim and J. Vanamala.** Colorado State Univ., Texas A&M Univ. and North Carolina State Univ.
- C264 II **823.6** Effects of aromatic alcohols on inflammatory response in RAW 264.7 cells. **C. Jordan and G.K. Harris.** North Carolina State Univ.
- C265 I **823.7** Anti-oxidant and anti-inflammatory activity of tocopherol isomers modulates the Nrf-2 and NfκB activation in Caco-2 human intestinal cell line. **I. Elisia and D. Kitts.** Univ. of British Columbia.
- C266 II **823.8** Inhibitory effect of *Curdrania tricuspidata* extract on gastric inflammation induced by acute alcohol treatment in SD rats. **O.K. Kim, J-N. Ho, D-E. Nam, H-I. Jeon, S.J. Park, W. Jun, J.E. Kang and J. Lee.** Kyung Hee Univ., Chonnam Natl. Univ. and Barammaji Inc., Gangwondo, South Korea.
- C267 I **823.9** Protective effects of emodin against cisplatin-induced oxidative stress in cultured human kidney (HEK 293) cells. **M. Waly, B.H. Ali, I. Al-Lawati and A. Nemmar.** Sultan Qaboos Univ., Oman and Fac. of Med., United Arab Emirates Univ.
- C268 II **823.10** Raw and cooked African green leafy vegetables have greater antioxidant and cellular protective properties than spinach. **A. Oelofse, N.P. Mavhungu, J. Serem, M. Bester and K.G. Duodu.** Univ. of Pretoria, South Africa.
- C269 I **823.11** Neuroprotective effects of papaya epicarp extract against aluminum-induced oxidative stress in human neuronal (SH-SY5Y) cells. **M. Waly, N. Guizani, A. Ali, M. Shafiur Rahman and R.C. Deth.** Sultan Qaboos Univ., Oman and Northeastern Univ.
- C270 II **823.12** Resveratrol decreases inflammation and oxidative stress in the mdx mouse model of Duchenne muscular dystrophy. **B.S. Gordon, P. Weed, E. Learner, D. Schoenling and M.C. Kostek.** Univ. of South Carolina.
- C271 I **823.13** In vitro evidence of hepato- and neuro-protective effects of fish press juices against hydrogen peroxide-induced oxidative stress. **M. Waly, M. Al-Rizeiqi, J. Al-Sabahi and B. Soussi.** Sultan Qaboos Univ., Oman and Goteborg Univ., Sweden.
- C272 II **823.14** Antioxidant properties of *Coriandrum sativum* (coriander). **V. Davar, S. Rathi and A. Dua.** Kurukshetra Univ., India.
- C273 I **823.15** Anti-inflammatory effects of cocoa procyanidins. **Y. Gu, S. Yu and J. Lambert.** Penn State.
- C274 II **823.16** The major metabolites of 5-hydroxy nobiletin inhibit lipopolysaccharide-induced inflammation in macrophages. **H. Xiao, S. Guo, J. Zheng and X. Wu.** Univ. of Massachusetts Amherst and Ocean Univ. of China, Qingdao.
- C275 I **823.17** A comparison of lycopene, anthocyanins, and proanthocyanidins consumption between college students and their respective older generations living in the same household. **K. Li and C.F. Tam.** Sch. of Kinesiol. and Nutr. Sci., California State Univ., Los Angeles.
- C276 II **823.18** Influence of dietary red palm oil on antioxidant status in male Wistar rats. **A. Ayeleso, O. Oguntibeju and N. Brooks.** Cape Peninsula Univ. of Technol., South Africa.
- C277 I **823.19** Polyphenols suppress oxidative stress in bovine articular chondrocytes. **H. Yagi, V. Ulici and R.S. Tuan.** Univ. of Pittsburgh Sch. of Med.
- C278 II **823.20** Effects of blackberry and blueberry polyphenol extracts on NO, TNF-α, and COX-2 production in LPS-stimulated RAW264.7 macrophages. **R. Feresin, J. Zhang, M. Elam, S. Hooshmand, J-S. Kim and B.H. Arjmandi.** Florida State Univ., Cornell Univ. and Sch. of Exer. and Nutr. Sci., San Diego State Univ.

- C279 I **823.21** Involvement of AMPK on the synergistic upregulation of phase II detoxifying enzyme activities by 1'-acetoxychavicol acetate and sodium butyrate. **K. Yaku, I. Matsui-Yuasa and A. Kojima-Yuasa.** Grad. Sch. of Human Life Sci., Osaka City Univ. and Wakayama Univ., Japan.
- C280 II **823.22** The increase in flow-mediated vasodilation induced by grape polyphenols is positively correlated with increased expression of inducible nitric oxide. **J. Barona, J. Lee, Y. Park and M.L. Fernandez.** Univ. of Connecticut and Univ. of Antioquia, Colombia.
- C281 I **823.23** The photoprotective effects of almond phytonutrients in a three-dimensional human skin tissue model. **J.A. Evans, J. Garlick, E.J. Johnson, X-D. Wang and C-Y.O. Chen.** USDA and Tufts Univ.
- C282 II **823.24** Tert-butyl-hydroquinone augments intracellular glutathione concentrations and induces antioxidant gene expression in organogenesis-stage rat conceptuses grown in whole embryo culture. **K.E. Sant, J.M. Hansen and C. Harris.** Univ. of Michigan and Emory Univ.
- C283 I **823.25** Functional cleavage of selenoprotein K is regulated by calpain/calpastatin system in Toll-like receptor activated macrophages. **Z. Huang, F.W. Hoffmann, A.S. Hashimoto and P.R. Hoffmann.** John A. Burns Sch. of Med., Univ. of Hawaii.
- C284 II **823.26** Anti-inflammatory effects of 4'-hydroxy nobiletin, the major metabolite of nobiletin. **X. Wu, S. Guo, G. Xu, J. Zheng and H. Xiao.** Univ. of Massachusetts Amherst and Ocean Univ. of China.
- C285 I **823.27** Effects of blueberry extract supplementation on antioxidant activity in chronically stressed rats. **B-H. Lee, M.Y. Kim, E.J. Kim, J-Y. Choi, M. Yu and C-K. Han.** Chung-Ang Univ., South Korea and Korea Food Res. Inst., Seongnam.
- C286 II **823.28** Effect of n-3 polyunsaturated fatty acids on peroxisome proliferator-activated receptor gamma expression in adults. **S. Rajaram, J. Sabaté and S. Mohan.** Loma Linda Univ. and Jerry L. Pettis VA Med. Ctr.
- C287 I **823.29** Hepatoprotective effects of *Rubus coreanus* Miquel concentrates on liver injuries induced by carbon tetrachloride in rats. **J-H. Chyun, H-J. Chae and J-E. Yim.** Inha Univ. and Changwon Natl. Univ., South Korea.
- C288 II **823.30** Diverse effects of a low dose supplement of lipidated curcumin in healthy middle aged people. **R.A. DiSilvestro, E. Joseph and J. Bomser.** The Ohio State Univ.
- C289 I **823.31** Anthocyanins-rich purple corn extract alleviated diabetes-associated inflammatory glomerulosclerosis and monocyte macrophage infiltration: role of interleukin-8. **M-K. Kang and Y-H. Kang.** Hallym Univ., South Korea.
- C290 II **823.32** Comparison of the effects of paired organic and conventional wines with different total polyphenol concentrations on plasma antioxidant status. **K. Ricklefs, K. Rasmussen and K.R. Martin.** Arizona State Univ.
- C291 I **823.33** Anti-inflammatory action of black garlic through downregulation of NF- $\kappa$ B activation and MAP kinase phosphorylation. **H.L. Oh, M.J. Kim, B.R. You and M.R. Kim.** Chungnam Natl. Univ., South Korea.
- C292 II **823.34** Sorghum genotype decrease low-grade inflammation, oxidative stress and maintained intestinal morphology in rats fed with high-fat diet. **H.S.D. Martino, E.A. Moraes, D.I.G. Natal, V.A.V. Queiroz, R.E. Schaffert and S.M.R. Ribeiro.** Fed. Univ. of Vicosa and Embrapa Milho e Sorgo, Sete Lagoas, Brazil.
- C293 I **823.35** Anti-inflammatory action of *Liriope platyphylla* on LPS-stimulated RAW 264.7 macrophage. **N. Kim, M.J. Kim and M.R. Kim.** Chungnam Natl. Univ., South Korea.
- C294 II **823.36** Novel sorghum brans containing bioactive compounds alter the production of microbial secondary metabolites in response to a DSS-induced chronic inflammatory state. **L.E. Ritchie, R.J. Carroll, B. Weeks, L. Rooney and N.D. Turner.** Texas A&M Univ.
- C295 I **823.37** Broccoli seedlings prevent glucose-induced inflammation of peripheral blood mononuclear cells in humans. **K. Meijer, I. de Jong, M. Koehorst, M. Priebe, H. Roelofsen and R. Vonk.** Univ. Med. Ctr. Groningen, Netherlands.
- C296 II **823.38** Examining the anti-inflammatory properties of blueberry polyphenols using MC3T3-E1 cells. **M. Elam, J. Zhang, R. Feresin, S. Hooshmand and B.H. Arjmandi.** Florida State Univ., Cornell Univ. and San Diego State Univ. Sch. of Exer. and Nutr. Sci.
- C297 I **823.39** Suppressive effect of *Petasites japonicas* extract on TPA-induced ear edema in mouse model. **E.Y. Seo, H. Kim and M.R. Kim.** Chungnam Natl. Univ., South Korea.
- C298 II **823.40** Effects of quercetin and epigallocatechin gallate on the inflammatory response of stimulated human peripheral blood mononuclear cells. **J. Warren, K. Kennerly, D. Henson, D.C. Nieman and R.A. Shanely.** Appalachian State Univ., Boone and Kannapolis.
- C299 I **823.41** Usefulness of dietary flaxseed in abrogating lung damage associated with space exploration: antioxidant and anti-inflammatory effects of flaxseed in a murine model of repeated double-hit low-level radiation and hyperoxia exposure. **R.A. Pietrofesa, F. Dukes, S. Tyagi, E. Arguiri, C.C. Solomides and M. Christofidou-Solomidou.** Univ. of Pennsylvania and Jefferson Univ. Hosp.
- C300 II **823.42** Antioxidant activity of *Ribes diacanthum* Pall extracts in the northern region of Mongolia. **B. Birasuren and M.R. Kim.** Chungnam Natl. Univ., South Korea.
- C301 I **823.43** Impact of brewing conditions on the antioxidant capacity of green tea. **E. Sharpe and R. Bradley.** Clarkson Univ., NY and Bastyr Univ. Res. Inst., WA.
- C302 II **823.44** Lipid extracts from edible blue-green algae reduce the production of pro-inflammatory cytokines by inhibiting nuclear translocation of NF- $\kappa$ B in RAW 264.7 macrophages. **C.S. Ku and J. Lee.** Univ. of Connecticut.

## 824. OBESITY, INFLAMMATION AND NUTRIGENOMICS

### Poster

(Sponsored by: Diet and Cancer RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C303 I **824.1** Liuwei Dihuang aqueous extract reduces weight gain in obese-prone rats through multi-mechanisms. **Y. Wang, S. Nair, J. Zhang and C. Sun.** Natl. Res. Council Canada, Charlottetown, Univ. of Prince Edward Island and Harbin Med. Univ., China.
- C304 II **824.2** Pomegranate vinegar feeding enhances fatty acid oxidation: in vitro and in vivo. **Y. Park, E. Ok, H.J. Lee, J.Y. Kim, M.K. Kim and O. Kwon.** Ewha Womans Univ., South Korea.
- C305 I **824.3** Turmeric and black pepper inhibit lipid peroxidation in cooked burger. **Y. Zhang, Z. Li, R-P. Lee, J. Huang, S. Henning and D. Heber.** UCLA Ctr. for Human Nutr.
- C306 II **824.4** Gene expression profiles of the colonic mucosa associated with phenotypic changes in mice fed high-fat diet. **Y.J. Bae, Y-K. Bak, T. Park, M-S. Choi, J. Kim and M-K. Sung.** Hanbuk Univ., Sookmyung Women's Univ., Yonsei Univ., Kyungpook Natl. Univ. and Natl. Cancer Ctr., Gyonggi, South Korea.
- C307 I **824.5** Kaempferol supplementation enhances insulin sensitivity via regulation of plasma cytokine level and hepatic transcriptional response. **S-K. Shin, Y-Y. Cho, E-Y. Kwon, U.J. Jung, Y.B. Park and M-S. Choi.** Kyungpook Natl. Univ., South Korea.
- C308 II **824.6** Angiotensinogen gene silencing in adipocytes reduces markers of inflammation and lipid accumulation. **W. Xin, N.S. Kalupahana, S.L. Booker, N. Siriwardhana, A.M. Saxton and N. Moustaid-Moussa.** Univ. of Tennessee Inst. of Agr.
- C309 I **824.7** Association between single nucleotide polymorphism Ala-9-Val of manganese-superoxide dismutase and normal weight, overweight and obesity in Mexican population. **C. Hernandez-Guerrero, A. Parra-Carriedo, F. Isoard-Acosta, A. Perez-Lizaur, D. Galindo-De Noriega and L. Cherem-Cherem.** Univ. Iberoamericana, Mexico.
- C310 II **824.8** Differential effects of added dietary fructose or/and fat on adipose tissue gene expression in a juvenile pig obesity model. **G. Solano-Aguilar, S. Jang, S. Laskman, A. Molokin, G. Bruna, A. Mitchell and J. Urban.** USDA, Beltsville, MD and Seysa, Toledo, Spain.
- C311 I **824.9** Influence of fructose consumption on inflammatory gene expression in liver and brain in a pig model of juvenile obesity. **S. Jang, A. Molokin, S. Laskman, K. Panickar, G. Bruna, J.F. Urban, Jr. and G. Solano-Aguilar.** USDA, Beltsville, MD and Seysa, Toledo, Spain.
- C312 II **824.10** Anti-atherosclerotic property of emu oil in diet-induced obese rats. **P.B.T. Pichiah and Y-S. Cha.** Chonbuk Natl. Univ., South Korea.
- C313 I **824.11** Anti-obesity and inflammatory effects of *Lactobacillus* sp. OPK-3 isolated from kimchi in cell line and in animal model. **J-E. Park, Y-J. Moon, S-H. Oh and Y-S. Cha.** Chonbuk Natl. Univ. and Woosuk Univ., South Korea.

- C314 II **824.12** Mechanism of D-psicose absorption is through glucose transporter or not: in vivo and in vitro studies. **M.S. Moon, H.I. Jang, Y.J. Kim, J.Y. Kim and O. Kwon.** Ewha Womans Univ., South Korea.
- C315 I **824.13** Single nucleotide polymorphisms in the  $\beta$ -carotene 15,15'-monooxygenase coding gene and health outcomes in Korean adults. **Y.J. Kim, M.S. Moon, Y.J. Yang, J.Y. Kim and O. Kwon.** Ewha Womans Univ. and Dongduk Women's Univ., South Korea.

## 825. INTESTINAL PHYSIOLOGY AND DIGESTIVE FUNCTION

### Poster

(Sponsored by: Experimental Animal Nutrition RIS)

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C316 I **825.1** Tolerance and safety of an avocado-based ingredient for adult dogs. **G.M. Davenport, A.K. Shoveller, M. Hayek, S. Massimino, L. Halsey, D. Minikhiem, E. Flickinger, G. Roth and D. Ingram.** Procter & Gamble, Mason, OH, GeroSci. Inc., Pylesville, MD and Pennington Biomed. Res. Ctr., Baton Rouge.
- C317 II **825.2** Nutritional evaluation of black cumin seed (*Nigella sativa*) seed proteins products. **M.A. Osman and I.E. Abdelrahman.** King Saud Univ. and IDAC Labs., Al-Kharj, Saudi Arabia.
- C318 I **825.3** Intestinal damage in weanling pigs following a nutritional insult is transient. **C.L. Levesque, K. de Ridder, L.D. Skinner and C.F.M. de Lange.** Univ. of Guelph, Canada.
- C319 II **825.4** Effects of resistant starch of common and native potato on broiler performance. **C. Ariza-Nieto, D. Rodriguez, M. Ariza-Nieto and G. Afanador.** CORPOICA, Bogota, Natl. Univ. of Colombia and Cornell Univ.
- C320 I **825.5** Whey-based formula reduces intestinal atrophy and enhances antioxidant defenses against sepsis. **R. Tsutsumi, S. Sasaga, M. Takegawa, T. Sakai, Y. Nakaya and Y.M. Tsutsumi.** Univ. of Tokushima, Japan.
- C321 II **825.6** Ethanol and unsaturated fat diet-induced liver injury is associated with intestinal inflammation in a mouse model of alcoholic liver disease. **I. Kirpich, W. Feng, Y. Wang, Y. Liu, S. Barve and C. McClain.** Univ. of Louisville.

## 826. MEASURING DIET AND NUTRITIONAL STATUS

### Poster

(Sponsored by: International Nutrition Council (INC))

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C322 I **826.1** Development and application of a diet quality indicator for vulnerable households in El Salvador. **M. Fuster, R. Houser, E. Messer, P. Palma de Fulladolsa, H. Deman and O. Bemudez.** friedman Sch. of Nutr. Sci. and Policy, Tufts Univ., Prog for Food Security and Nutr. for Central America (PRESANCA), El Salvador and Tufts Univ. Sch. of Med.

- C323 II **826.2** A novel food frequency questionnaire to assess usual seasonal intakes in rural Nepalese women. **R. Kramer, K.P. West, S.A. Tategawkar and P. Christian.** Johns Hopkins Bloomberg Sch. of Publ. Hlth.
- C324 I **826.3** Validation of a novel food/nutrient intake instrument in Georgian tuberculosis patients. **J.K. Frediani, N. Tukvadze, E. Sanikidze, M. Kipiani, G. Hebbar, U. Ramakrishnan, R. Martorell and T.R. Ziegler.** Emory Univ. and Natl. Ctr. for Tuberculosis and Lung Dis., Tbilisi, Georgia.
- C325 II **826.4** Association between dietary acid-based load and obesity in Chinese adults. **Y. Li, Y. He, D. Wang and X. Gao.** Brigham and Women's Hosp., Harvard Med. Sch., Chinese Ctr. for Dis. Control and Prevent., Beijing and Harvard Sch. of Publ. Hlth.
- C326 I **826.5** Hand grip strength and estimates of body composition in HIV-infected rural Kenyan women. **J.A. Ernst, G. Etyyang, C. Johnson, A. Siika, W. Nyandiko and C. Neumann.** Indiana Univ., Indianapolis, Moi Univ. Schs. of Publ. Hlth. and Med., Kenya and UCLA Schs. of Publ. Hlth. and Med.
- C327 II **826.6** Association between ferritin, transferrin receptor and retinol biomarkers obtained from dried blood spots and anthropometric measures in Kenyan children. **E.H. Haddad, M. Ndiku, V.H. Haddad, K. Bahjri and J. Sabaté.** Loma Linda Univ. and Univ. of Eastern Kenya.
- C328 I **826.7** Which one to choose? Selecting food consumption measurement methods for decision-making in nutrition and food security programs. **J. Coates, B. Colaiezzi, J. Fiedler, J. Wirth, K. Lividini and B.L. Rogers.** Friedman Sch. of Nutr. Sci. and Policy, Tufts Univ., Intl. Food Policy Res. Inst./Harvest Plus, Washington, DC and Global Alliance for Improved Nutr., Geneva.

## 827. NUTRITION-RELATED CHRONIC DISEASE

### Poster

(Sponsored by: International Nutrition Council (INC))

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C329 I **827.1** A comparison of attitudes and reports of health-related behavior of type 2 diabetes patients between the United States and Mexico City. **E.M.G. Veringa, C. Cháirez-Jiménez, M. Glasser and A.B. Pérez-Lizaur.** Univ. of Illinois Col. of Med., Rockford and Univ. Iberoamericana, Mexico.
- C330 II **827.2** U.S.-born Blacks have more dietary and inflammatory risks for coronary heart disease than foreign-born Blacks in South Florida. **E. Davis and F. Huffman.** Duplin County Hlth. Dept., Kenansville, NC and Floria Intl. Univ.
- C331 I **827.3** Prevalence of dyslipidemia and cardiovascular disease risk factors among young Mexican college students. **I. Vazquez-Vidal, F.C.D. Andrade, M. Teran-García, C. Aradillas-García and J.M. Vargas-Morales.** Univ. of Illinois at Urbana-Champaign and Autonomous Univ. of San Luis Potosí, Mexico.
- C332 II **827.4** Dietary risk factors associated with hypertension and diabetes among Filipino women. **N.R. Lee, P.L. Duazo, I.N. Bas, D.B. Carba and L.S. Adair.** Univ. of San Carlos Ofc. of Popul. Studies, Philippines and Univ. of North Carolina at Chapel Hill.

- C333 I **827.5** Perceptions of diabetic/hypertensive patients and primary healthcare providers regarding disease management (San José, Costa Rica-Chiapas, México). **N. Alvarado, A.L. Dengo, E. López, M. Castro, L. Peña, I. deBeausset, H. Martínez and S. Murillo.** INCAP, Guatemala City, Univ. of Costa Rica Sch. of Nutr., UNICACH Sch. of Nutr., Mexico and RAND, Santa Monica.
- C334 II **827.6** Impaired physical function as barrier to glycemic control in older Panamanians with type 2 diabetes. **O. Bermudez, K.E. Dmytrasz and L.M. Cornejo.** Tufts Univ. Sch. of Med., Maine Med. Ctr. and Sch. of Med., Natl. Univ. of Panama.
- C335 I **827.7** Nutrition and spatial characteristics among women living in Kurdistan, Iraq. **L.R. Pawloski, K. Curtin, H. Ahmad and T. Rasheed.** George Mason Univ., Col. of Nursing, Hawler Med. Univ., Iraq and Univ. of Salahhadin, Iraq.

## 828. DIET, PHYSICAL ACTIVITY, FOOD SECURITY TRENDS AND PATTERNS

### Poster

(Sponsored by: International Nutrition Council (INC))

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C336 I **828.1** Shifts in consumption of food between 1998 and 2009 in Korea. **H-S. Lee and B.M. Popkin.** Korea Hlth. Indust. Develop. Inst., Osong and Univ. of North Carolina at Chapel Hill.
- C337 II **828.2** Assessment of nutrition status and pulse consumption patterns in adolescent girls from Huletegna Choroko Keble, Halaba Special Woreda - Southern Ethiopia. **G.A. Zello, K. G/Michael, A. Chala and J. Jaffe.** Col. of Pharm. and Nutr., Univ. of Saskatchewan, Hawassa Univ., Ethiopia and Univ. of Regina, Canada.
- C338 I **828.3** Energy contribution on non-breast milk items reported for 5-month-old, low-income infants in metropolitan Quetzaltenango, Guatemala. **J. Alvey, M. Vossenaar, C.M. Doak and N.W. Solomons.** CeSSIAM, Guatemala City and VU Univ., Amsterdam.
- C339 II **828.4** The pattern of initiating mixed feeding by Guatemalan infants and toddlers: reported age of introduction of drinks and foods in breastfeeding children. **M. Vossenaar, I. van Beusekom, G. Montenegro-Bethancourt, C.M. Doak and N.W. Solomons.** CeSSIAM, Guatemala City and VU Univ., Amsterdam.
- C340 I **828.5** Physical activity in normal weight/overweight, non-stunted/stunted school-age Guatemalan children. **A.V. Chacon, M. Ramirez-Zea, M.F. Kroker, P. Letona, D. Roche, K. Schlosser and B. Caballero.** INTA, Santiago, INCAP, Guatemala City, INSP, Cuernavaca, Rafael Landivar Univ., Guatemala and Johns Hopkins Bloomberg Sch. of Publ. Hlth.
- C341 II **828.6** The pattern of offering ritual fluids (agüitas) to infants and toddlers in the Guatemalan highlands in metropolitan Quetzaltenango. **C.M. Doak, R. van der Staare, I. van Beukoms, M. Campos, M. Vossenaar and N.W. Solomons.** VU Univ., Amstersam and CeSSIAM, Guatemala City.

C342 **I** **828.7** An examination of wealth and food security in four countries. **B. Crookston, B. Gray, M. Gash, J. Kim, J. Brett and R. Hamad.** Brigham Young Univ., Freedom From Hunger, Davis, Univ. of Utah, Univ. of Colorado Denver and Contra Costa Family Med. Residency, Martinez, CA.

## 829. PRENATAL NUTRIENT PROGRAMMING

### Poster

(Sponsored by: Medical Nutrition Council (MNC))

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C343 **I** **829.1** Maternal fructose consumption during gestation increases body weight and fat mass in young adult offspring. **R.C. Bell, N. Patel, C. Lineker, A. Hoedl, H. Budge and M.E. Symonds.** Univ. of Alberta and Univ. of Nottingham, U.K.

C344 **II** **829.2** Impact of maternal and postnatal nutrition on femoral artery vascular function of offspring. **P. Taheripour, K.M. Ajuwon, S.S. Donkin, R.D. Sheldon, M. Bahls, E.J. Arentson, D. Ragland and S.C. Newcomer.** Purdue Univ.

C345 **I** **829.3** Maternal Western style diet programs the development of fatty liver in mice. **T. Plösch, M. Pruis, A. Lendvai, M. Zwier and B. Groen.** Univ. Med. Ctr. Groningen, Netherlands.

C346 **II** **829.4** Fetal overgrowth is associated with early perturbations in amniotic fluid glucose, insulin and insulin like growth factors in mothers with and without gestational diabetes. **D.K. Tisi and K.G. Koski.** Sch. of Dietetics and Human Nutr., McGill Univ.

C347 **I** **829.5** Renal adaptation in gestational iron deficiency. **M. Sun, J.C. Woolley, K.A. Drake, A.J.M. Siddappa, M.K. Georgieff, R.R. Magness and P.J. Kling.** Univ. of Wisconsin-Madison and Univ. of Minnesota, Minneapolis.

C348 **II** **829.6** Stunting in the first year of life is associated with unfavorable lipid profile in early childhood. **D.J. Hoffman, M.R. Vitolo and P. Dal Bo Campagnolo.** Rutgers, The State Univ. of New Jersey and Fed. Univ. of Hlth. Sci. of Porto Alegre, Brazil.

C349 **I** **829.7** Maternal serum antioxidant vitamins and pregnancy outcomes. **J.M. Kerver, C.B. Holzman, Y. Tian, M.R. Shroff and R.W. Evans.** Michigan State Univ., Michigan Publ. Hlth. Inst., Okemos and Univ. of Pittsburgh.

## 830. NUTRITION AND THE MICROBIOME

### Poster

(Sponsored by: Medical Nutrition Council (MNC))

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C350 **I** **830.1** Vitamin D supplementation results in higher numbers of *Clostridium coccoides* in the feces of female but not male mice with intestinal inflammation. **A.J. Glenn, K.A. Fielding, J.C. Chen, E.M. Comelli and W.E. Ward.** Fac. of Med., Univ. of Toronto and Fac. of applied Hlth. Sci., Brock Univ., Canada.

C351 **II** **830.2** Comparison of sterculic oil induced changes in the gut microbiota of lean and obese mice. **S. Ghosh, J.W. Perfield II, P.E. Saikaly and D.B. Oerther.** Missouri Univ. of Sci. and Technol., Univ. of Missouri-Columbia and King Abdullah Univ. of Sci. and Technol., Saudi Arabia.

C352 **I** **830.3** 454 Pyrosequencing reveals a beneficial shift in fecal microbiota of healthy adult men consuming polydextrose or soluble corn fiber. **S. Hooda, B.M. Vester Boler, M.C. Rossoni Seroo, M.A. Staeger, T.W. Boileau, S.E. Dowd, G.C. Fahey, Jr. and K.S. Swanson.** Univ. of Illinois, Urbana, General Mills Inc., Minneapolis and Res. and Testing Lab., Lubbock, TX.

C353 **II** **830.4** Omega-3 supplementation prevents intestinal inflammation by inhibiting the expansion of an intestinal pathobiont in IL-10<sup>-/-</sup> mice. **S. Devkota, V. Leone, Y. Wang, M. Musch, D. Antonopoulos and E. Chang.** Univ. of Chicago and Argonne Natl. Lab.

C354 **I** **830.5** Gut microbiota modulates metabolic and nutrient sensing signaling pathways in obesity. **F. Duca, Y. Sakar and M. Covasa.** INRA, Jouy en Josas, France and Western Univ. of Hlth. Sci.

C355 **II** **830.6** Human gut microbiota changes after consumption of almonds or pistachios. **V. Mai, M. Fredborg, M. Ukhanova, W. Xiaoyu, S. Daniel, J.A. Novotny, S. Gebauer and D. Baer.** Univ. of Florida, Univ. of Aarhus, Denmark and USDA, Beltsville, MD.

C356 **I** **830.7** Dietary conjugated linoleic acid reshapes high fat diet-induced microbiota and reduces its immunogenicity. **V.A. Leone, Y. Wang, S. Devkota, M.W. Musch, D. Antonopoulos, M.E. Cook and E.B. Chang.** Univ. of Chicago, Argonne Natl. Lab. and Univ. of Wisconsin-Madison.

C357 **II** **830.8** Comparison of diets containing whole grain oats versus low bran oat flour on insulin sensitivity and fecal microbiota composition in C57BL/6J mice. **M. Lefevre, N. Hergert and G. Rompato.** Utah State Univ.

C358 **I** **830.9** Two prebiotics are effective in promoting fermentation in rats fed a high fat diet. **F. Goldsmith, R.J. Martin, A.M. Raggio, K.L. McCutcheon, M. Goita, C.C. Williams, C. Pelkman, J. Finley and M.J. Keenan.** LSU AgCtr. and Natl. Starch and Chem. Co., Bridgewater, NJ.

C359 **II** **830.10** Effects of galactooligosaccharides on the gut microbiota of aged adults. **T. Culpepper, S-A. Girard, W.J. Dahl, B. Langkamp-Henken and V. Mai.** Univ. of Florida.

C360 **I** **830.11** Enteric microbiome of breastfed infants on complementary feeding regimens with different iron exposure. **N.F. Krebs, L. Sherlock, C.E. Robertson, J. Westcott, D. Culbertson, L. Feazel and D. Frank.** Univ. of Colorado Denver, Aurora and Univ. of Colorado Boulder.

C361 **II** **830.12** Calcium effects on bodyweight appear to be mediated in part by changes in gut microflora and altered by dietary matrix. **R.L. Walzem, S.E. Dowd, A.P. Thomas, T.N. Dunn, S.H. Adams and S.D. Pillai.** Texas A&M Univ., Univ. of California, Davis and USDA, Davis.

### 831. DIET-GENE INTERACTIONS IN THE ETIOLOGY OF OBESITY AND WEIGHT-RELATED COMORBIDITIES

#### Poster

(Sponsored by: Medical Nutrition Council (MNC))

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C362 I **831.1** Fructose, high fructose corn syrup and sucrose solutions: a comparison of their effects on the hypothalamic control of food intake. **T.W. Castonguay and D. Colley.** Univ. of Maryland College Park.

C363 II **831.2** Comparison of physiological, sensory, and personality attributes in 6-n-propylthiouracil tasters and non-tasters. **M-J. Ludy, M. Patil and R.D. Mattes.** Bowling Green State Univ. and Purdue Univ.

C364 I **831.3** The association of ADIPOQ gene polymorphisms and clinical risk factors with nephropathy progression in type 2 diabetes. **H-F. Chung, P-S. Chen, K. Long, C-C. Hsu and M-C. Huang.** Sch. of Popul. Hlth., Univ. of Queensland, Australia, Sch. of Med., Kaohsiung Med. Univ., Taiwan and Natl. Hlth. Res. Inst., Maioli Cty., Taiwan.

C365 II **831.4** A high-fat diet impairs alternative splicing of the troponin T pre-mRNA in skeletal muscle. **S.R. Kimball, R.J. Schilder, E.A. Charleston and L.S. Jefferson.** Penn State Col. of Med., Penn State and York Country Day Sch., PA.

## Pathology

### 832. ANGIOGENESIS, THROMBOSIS AND COAGULATION

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 11:30 AM-1:30 PM

B169 **832.1** Fibrinolytic resistance and prothrombotic phenotype is altered in mice lacking  $\alpha(1,3)$ -fucosyltransferase-IV and -VII. **H. Wang, L.C. Mackey, J.M. Rose and J.W. Homeister.** Univ. of North Carolina at Chapel Hill.

B170 **832.2** A novel role for thiol isomerase ERp72 in platelet activation, thrombosis and hemostasis. **L. Wang, J. Zhou and Y. Wu.** Soochow Univ., China and Temple Univ.

B171 **832.3** Evaluation of the antithrombotic and hemorrhagic effects of a novel ultra low molecular weight heparin. **A. Gray, D. Hoppensteadt, W. Jeske and J. Fareed.** Loyola Univ. Med. Ctr.

B172 **832.4** Differential binding of low molecular weight heparins with antithrombin and platelet factor 4 as measured by surface enhanced laser desorption ionization. **D. Kahn, D. Hoppensteadt, M. Hejna, W. Jeske, J.M. Walenga and J. Fareed.** Loyola Univ. Med. Ctr.

B173 **832.5** Non-antithrombin affinity semuloparin and its component oligosaccharides release endogenous TFPI in a molecular weight dependent fashion. **J. Fareed, H. Khan, E. Litinas, J. Cunanan, D. Hoppensteadt and C. Viskov.** Loyola Univ. Med. Ctr. and Sanofi-Aventis, Paris.

B174 **832.6** Despite pharmaceutical equivalence, generic versions of enoxaparin may differ in their pharmacodynamic actions: potential clinical implications. **W. Jeske, J.M. Walenga, D. Hoppensteadt, E. McGeehan, J. Harenberg, E. Ramacciotti and J. Fareed.** Loyola Univ. Med. Ctr., Ruprecht Karls Univ. Heidelberg and Bristol-Myers Squibb, Squibb.

B175 **832.7** Effect of dabigatran and rivaroxiban on thrombomodulin-mediated activation of protein C and thrombin-activated fibrinolysis inhibitor. **J. Fareed, D. Hoppensteadt, J. Cunanan and B. Lewis.** Loyola Univ. Med. Ctr.

B176 **832.8** Exchange transfusion therapy and its effects on real-time microcirculation in pediatric sickle cell anemia patients. **W.J. To, J.W. Miller, M.G. Miguelino, J. Li, X. Lin, P. Chen, R. Green and A.T.W. Cheung.** Univ. of California, Davis Med. Ctr. and UCSD.

B177 **832.9** Fatty acid binding protein 4-deficient mice are protected from oxygen-induced retinal neovascularization. **M. Saint-Geniez, E. Ghelfi, P. D'Amore, G. Hotamisligil and S. Cataltepe.** Schepens Eye Res. Inst., Children's Hosp., Boston and Harvard Sch. of Publ. Hlth.

B178 **832.10** Black raspberry powder inhibits IL-8-mediated angiogenesis in human intestinal microvascular endothelial cells role of: MAPK, Bcl2, Akt and COX-2. **B. Link, R. Medda, L. Nie, J. Schmidt, N. Jovanovic, M.F. Otterson and P. Rafiee.** Med. Col. of Wisconsin.

B179 **832.11** Cavin1 deficiency results in abnormal vascular function in mice. **C. Rippe, S. Albinsson and K. Swärd.** Lund Univ., Sweden.

B180 **832.12** Increased microvessel density in the pituitaries of pregnant women. **F. Rotondo, A. Rotondo, B.W. Scheithauer, L.V. Syro, M. Cusimano and K. Kovacs.** St. Michael's Hosp., Toronto, Mayo Clin. and Hosp. Pablo Tobon Uribe, Medellin, Colombia.

B181 **832.13** Expression of vascular endothelial growth factor receptor 2 correlates with metastatic potential in prostate tumor cells. **G.W. Brown, A. Shimizu, S. Coma, R. Adam and D. Bielenberg.** Children's Hosp. Boston.

### 833. EPITHELIAL BIOLOGY

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

#### Epithelial Pathobiology

Presentation time: 11:30 AM-1:30 PM

B182 **833.1** Overexpression of claudin-6, -7 or -9 modifies the activation of MMP-2 and MMP-9. **A.C. Torres Martinez, L.F. Montaña Estrada and E.P. Rendon-Huerta.** Fac. of Med., UNAM, Mexico City.

- B183 **833.2** Differential contribution of desmoglein 2 and 3 to cell adhesion and intracellular signaling in keratinocytes. **E. Hartlieb, V. Spindler and J. Waschke.** Ludwig Maximilians Univ., Munich.
- B184 **833.3** 4-Methylumbelliferone prevents E-cadherin downregulation induced by cigarette smoke in airway epithelial cells. **M.E. Monzon Medina, M. Valencia, R. Malbran Forteza and M. Casalino-Matsuda.** Univ. of Miami.
- B185 **833.4** Integrin- $\beta$ 1 participates in the spreading, adhesion, and migration of human adipose tissue-derived stem cells. **X. Bai, Y. Yan and Z. Bosnjak.** Med. Col. of Wisconsin.
- B186 **833.5** L-Glutamine enhances wound healing in human colonic epithelial cells. **S. Benton, L. Hao, D. Merlin, H. Laroui and T.R. Ziegler.** Emory Univ. and Georgia State Univ.
- B187 **833.6** Anti-inflammatory peptide F markedly reduces oxidized fatty acids in the brain of LDL receptor deficient mouse on a high fat diet. **S. Vazirian, A.D. Navab, L. Vakili, S. Safarpour, M. Haghnegahdar, G. Marvizi, P. Bakhtiari and J. Swartz.** UCLA and UCLA, Bakersfield.
- B188 **833.7** Reduction in the intestinal epithelial glutathione redox potential may regulate proliferation in the neonatal murine gut. **A. Richardson, L.S. Myers, S-C. Song, L. Ray, A. Berardinelli, J. Hansen and P.W. Denning.** Emory Univ. Sch. of Med.
- B189 **833.8** Effects of claudins-6, -7 or -9 overexpression on migration and invasiveness of breast and hepatocellular cancer cells. **B. Salas, E.P. Rendón-Huerta and L.F. Montañó-Estrada.** UNAM, Mexico City.
- B190 **833.9** Clozapine induces mitochondrial alterations and the secretion of proinflammatory cytokines in insulin-sensitive cell types. **V. Contreras-Shannon, D.L. Heart, S. Maffi, G. Catano and C. Walss-Bass.** St. Mary's Univ. and Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- B191 **833.10** Prognostic impact of CD44/CD24 immunophenotypes on salivary gland malignant neoplasms. **D.F. Soave, J.P.O. Costa, G.G. Silveira, L.R. Oliveira and A.R. Silva.** Ribeirão Preto Med. Sch., Univ. of São Paulo.
- B192 **833.11** Differential expression of insulin receptor isoforms A and B in highly proliferative stem and tumor cells versus differentiated intestinal epithelial cells. **S.F. Bortvedt, A.T. Mah, L. Van Landeghem, M.A. Santoro, S.T. Magness and P.K. Lund.** Univ. of North Carolina at Chapel Hill.
- B193 **833.12** The effect of the antipsychotic, clozapine, on monocyte mitochondria function and cytokine production. **D.L. Heart, V. Contreras-Shannon and C. Walss-Bass.** St. Mary's Univ. and Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- B194 **833.13** Effect of naphthalene and copper nanoparticles on three-spined stickleback (*Gasterosteus aculeatus*). **F. Villarreal, E. Falisse, D. Morin, A. Buckpitt and D. Kültz.** Univ. of California, Davis and Univ. of Namur, Belgium.
- B195 **833.14** Accumulation and biochemical effects of microcystin-LR on Patagonian silverside (*Odontesthes hatcheri*) fed with *Microcystis aeruginosa* cells. **C.M. Luquet, F. Bieczynski and V.A. Bianchi.** CONICET, Junin de los Andes, Argentina.
- B196 **833.15** Initial lesions of the elastic fibers and extracellular matrix in varicose veins: an immunohistochemical and confocal microscopy study. **J. Regadera, P. Prachaney, G. España, L. Condezo-Hoyos, M. Rubio, M.C. Gonzalez, A.L. Lopez de Pablo and S.M. Arribas.** Autonomous Univ. of Madrid, Fac. of Med., Khon Kaen Univ., Thailand and Hosp. Moncloa, Madrid.
- B197 **833.16** Potentially protective dual oxidase enzymes (Duox1 and Duox2) in the normal murine and bovine reproductive tracts. **B. Adu-Addai, C.D. Mackenzie, A.J. Langerveld and D.W. Agnew.** Col. of Vet. Med., Michigan State Univ. and Genemarkers LLC, Kalamazoo.
- B198 **833.17** Adult stem cells in therapy: a practical approach. **F. Curcio, A. Fontanini, G. Cattaruzzi, F. Vitrani, M. Moretti, M. Campolo, A. Soldati and F.S. Ambesi-Impiombato.** Univ. of Udine, Azienda Hosp. Udine and VBC spa, Udine, Italy.

### 834. MOLECULAR PATHOGENESIS AND TREATMENT OF BREAST CANCER

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 11:30 AM-1:30 PM

- B199 **834.1** A new immunohistochemistry-based assay SBrc5 classifies invasive breast cancer subtypes? profiling five biomarkers in one single test. **L. Haiping and S. Muralitharan.** Thermo Fisher Scientific.
- B200 **834.2** Progesterone receptor B through Sp1 induces the phosphatase and tensin homologue deleted from chromosome 10 (PTEN) gene promoter activity and cell death in breast cancer cell lines. **C. Guido, F. De Amicis, M. Santoro, P. Avena, I. Perrotta, I. Casaburi, S. Panza, S. Marsico and S. Andò.** Univ. of Calabria, Italy.
- B201 **834.3** Leptin increases HER2 stability through HSP90 in breast cancer cells. **C. Giordano, D. Vizza, D. Rovito, I. Barone, D. Bonofiglio, S. Panza, M. Lanzino, S. Fuqua, S. Catalano and S. Andò.** Univ. of Calabria, Italy and Baylor Col. of Med.
- B202 **834.4** FoxO3a transcription factor differentially modulates the metastatic potential of ER+ and ER- breast tumors. **C. Morelli, P. Maris, W. Anselmo, M.G. Cesario, M. Lanzino, D. Sisci and S. Andò.** Univ. of Calabria, Italy and Thomas Jefferson Univ.
- B203 **834.5** Mono-ubiquitination of annexin A1, acetylation of PML and apoptosis of MCF7 cells treated by HDAC inhibitors. **A. Hirata, T.H. Senanayake, P.M. Woster and F. Hirata.** Wayne State Univ.
- B204 **834.6** Polychlorinated biphenyls enhance the neoplastic progression of human breast epithelial cells in a xenograft model. **H. Pang, F.R. Miller, T.A. Kocarek and M. Runge-Morris.** Wayne State Univ.
- B205 **834.7** Detection of nanoparticles in mice using an integrated photoacoustic micro-ultrasound system. **J. Sun, A. Heinmiller, D. Bates, A. Needles and C. Theodoropoulos.** VisualSonics, Toronto.
- B206 **834.8** Lapatinib for breast cancer's systematic review and meta-analysis. **D. Li, W. Shi, Jj. Li, J. Wang, K. Su and L. Wei.** Basic Med. Sch. of Wuhan Univ., China.

## 835. INNATE IMMUNITY

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 11:30 AM-1:30 PM

- B207 **835.1** Structural determinants of  $\alpha$ -defensin mediated anti-inflammatory activities. **P. Schmitt Rivera, K. Kamdar, J. Schaal, K. Roberts, D. Tran, M.E. Selsted and A.J. Ouellette.** Keck Sch. of Med. of Univ. of Southern California.
- B208 **835.2** Role and contribution of conserved p38 MAP kinase pathway in *Caenorhabditis elegans* immunity during *Proteus vulgaris* infection. **K. Balamurugan and G. JebaMercy.** Alagappa Univ., India.
- B209 **835.3** HMGB1 guides cytokines in early carbon nanoparticle lung exposure. **B.L. Herndon, M. Das, E. Nalvarte, A. Molteni, T. Quinn and E. Fibuch.** Univ. of Missouri-Kansas City Sch. of Med.
- B210 **835.4** TLR9 signaling regulates tissue factor and tissue factor pathway inhibitor expression and activity in human coronary artery endothelial cells. **D. El Kebir and J.G. Filep.** Univ. of Montreal.
- B211 **835.5** Inflammatory response is elicited in human cerebrovascular endothelial cells stimulated with blood plasma obtained from severe sepsis patients. **C.J. Blom, D.D. Fraser, C. Martin, E.K. Patterson and G. Cepinskas.** Lawson Hlth. Res. Inst. and Children's Hlth. Res. Inst., London, ON and Univ. of Western Ontario.
- B212 **835.6** Role of interleukin-33 in sepsis-induced myocardial dysfunction. **Y. Choe, R. Kao, A. Xenocostas, C.M. Martin and T. Rui.** Univ. of Western Ontario, Canadian Forces Med. Gp., Ottawa, London Hlth. Sci. Ctr., Canada and Lawson Hlth. Res. Inst., London, Canada.
- B213 **835.7** Aryl hydrocarbon receptor-dependent IL-10 production in response to BCG exposure: a novel immune modulatory pathway. **E.S. Gray, R.S. Gonzalez and J. Aliberti.** Cincinnati Children's Hosp.
- B214 **835.8** Expression of peroxisome proliferator activated receptor gamma coactivator 1 on the immune response to bacteria. **L.G. Del Nero, G. Marta, T. Lima-Salgado, S. Kubo, F. Llimona, I.T. Velasco and H. Souza.** Fac. of Med., Univ. of São Paulo.
- B215 **835.9** Expression of pentraxin 3 in the lungs of human, horse, cattle and pig. **M. Soron and B. Singh.** Univ. of Saskatchewan.
- B216 **835.10** Anti-inflammatory benefits of retinoids: retinoic acid and oxidatively-transformed  $\beta$ -carotene induce neutrophil apoptosis and inhibit leukotriene B<sub>4</sub> synthesis. **S. Duquette, C.D. Fischer, D.W. Morck, D.R. Barreda, J.G. Nickerson and A.G. Buret.** Univ. of Calgary, Univ. of Alberta and Chemaphor Inc., Charlottetown, Canada.
- B217 **835.11** Expression of TLR10 in human lungs and neutrophils. **Y. Balachandran, S. Knaus and B. Singh.** Univ. of Saskatchewan.
- B218 **835.12** Chronic heart failure is associated with elevated skeletal muscle inflammation and Toll-like receptor 4 signaling. **K.L. Timmerman, J.N. West, M.M. Markofski, S. Dhanani, B.B. Rasmussen, K.B. Ckoxi, N.A. Barbagelata and E. Volpi.** Univ. of Texas Med. Branch.
- B219 **835.13** IL-6 initiated *cis*-signaling in cultured podocytes causes glomerular injury. **M. Sharma, J. Zhou, T. Srivastava, E. McCarthy and J-F. Gauchat.** Kansas City VA Med. Ctr., MO, Univ. of Missouri-Kansas City, Univ. of Kansas Med. Ctr. and Univ. of Montreal.
- B220 **835.14** The effects of site of surgical implantation on the delivery profiles of anti-trypanosomal agent (DFMO). **H.A. Benghuzzi, M.A. Tucci and J.A. Cameron.** Univ. of Mississippi Med. Ctr. and Jackson State Univ.
- B221 **835.15** Calcium channel blocking drugs ameliorates the experimental septic cardiomyopathy induced by cecal ligation and puncture in mice. **M.R.N. Celes, C.M. Prado, E.C. Campos, L.M. Malvestio, P. Ferezin, A.C.S. Freitas, P.P. Dias, H.B. Tanowitz and M.A. Rossi.** Univ. of São Paulo, Ribeirão Preto and Albert Einstein Col. of Med.
- B222 **835.16** Inhibition of myeloperoxidase by a carbon monoxide-releasing molecule, CORM-3. **E.K. Patterson, F. Serzawa, A. Capretta, D.D. Fraser, R.F. Potter and G. Cepinskas.** Lawson Hlth. Res. Inst., London, Canada and McMaster Univ., Canada.
- B223 **835.17** Resolvin D1 limits PMN recruitment to inflammatory loci: receptor-dependent bioactions. **L.V. Norling, J. Dalli, R.J. Flower, C.N. Serhan and M. Perretti.** Barts & The London Med. Sch. and Brigham and Women's Hosp., Harvard Med. Sch.
- B224 **835.18** *Escherichia coli* antihistone activity can modify the chromatin organization in rat testicular germ cells. **A.K. Loginova, A.O. Plotnikov, N.V. Nemtseva, A.V. Klimushkin and A.A. Stadnikov.** Orenburg State Med. Acad. and Inst. of Cell. and Intracell. Symbiosis, Russian Acad. of Sci., Orenburg.
- B225 **835.19** Programmed cell death by *S. pneumoniae* D39 and its PspA mutant in microglial and neuronal cells. **J.Y. Kim, D-K. Rhee and S. Pyo.** Sungkyunkwan Univ., South Korea.
- B226 **835.20** Cleaved high molecular weight kininogen stimulates JNK/FOXO4/MnSOD pathway for induction of endothelial progenitor cell senescence. **X. Zhu, A. Yang, Z. Xie and Y. Wu.** Soochow Univ., China and Temple Univ.
- B227 **835.21** Changes in the expression of phosphate transporters, inflammatory markers, and bone cytokines with increasing age. **M.S. Loayza, L. Shum, V. Ferguson, M. Levi and K. King.** Univ. of Colorado Sch. of Med. and Univ. of Colorado Boulder.
- B228 **835.22** Prostate specific antigen: enhancing the anti-microbial response of the prostate during urinary tract infection. **C.L. Townes, A. Ali, M. Lanz, N. Gross, C. Robson, R. Pickard and J. Hall.** Newcastle Univ., U.K.
- B229 **835.23** Pronounced and persistent inflammatory response induced through polymicrobial sepsis is exacerbated by second insult by *Pseudomonas aeruginosa*: a two-hit model of sepsis. **M.J. Figueiredo, M.R.N. Celes, D. Nascimento, P.P. Dias, F.Q. Cunha, J.C.A. Filho and M.A. Rossi.** Univ. of São Paulo, Ribeirão Preto.
- B230 **835.24** In vivo 129 murine model of salmonella infection is a powerful tool to examine human clinical isolates. **J. Harrington, L. Eckmann and D. Guiney.** UCSD.
- B231 **835.25** Immune brinksmanship: a conceptual model of endogenous stressors of the acute-phase response. **E.K. LeGrand and J. Alcock.** Col. of Vet. Med., Univ. of Tennessee and Univ. of New Mexico.



## Pharmacology and Experimental Therapeutics

### 836. GPCR LIGAND DEVELOPMENT

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B1 **836.1** [Dmt1]N/OFQ(1-13)-NH<sub>2</sub>, a potent NOP/MOP receptor mixed agonist. **G. Calo', S. Molinari, V. Camarda, A. Rizzi, G. Marzola, S. Salvadori, E. Marzola, P. Molinari, J. McDonald, M-C. Ko, D. Lambert and R. Guerrini.** Univ. of Ferrara, Italy, Superior Inst. of Hlth., Rome, Univ. of Leicester, U.K. and Univ. of Michigan.
- B2 **836.2** High affinity binding of dynorphin A-(2-13) at the bradykinin-2 receptor. **S.M. Hall, D.R. Rankin, A. Cai, V.J. Hruby, Y.S. Lee and J. Lai.** Univ. of Arizona.
- B3 **836.3** Structure-activity relationships of free fatty acid receptors GPR40 and GPR120 agonists based on a docking simulation. **T. Hara, A. Hirasawa, M. Takeuchi, K. Ayukawa, R. Shirai, I. Kimura, T. Suzuki, N. Miyata and G. Tsujimoto.** Kyoto Univ., Kyoto Prefect. Univ. of Med. and Nagoya City Univ., Japan.
- B4 **836.4** Pseudopterostin A?an atypical antagonist of adenosine A<sub>2B</sub> receptors that accelerates angiogenesis. **D.R. Day, R.D. Little and R.S. Jacobs.** Univ. of California, Santa Barbara.
- B5 **836.5** Identification of a novel dopaminergic agonist that selectively activates the D<sub>2</sub> dopamine receptor. **J.L. Conroy, R.B. Free, T.B. Doyle, N. Southall, M. Ferrer, Y. Han, J.A. Javitch and D.R. Sibley.** NINDS/NIH, NHGRI/NIH and Columbia Univ. Col. of P&S.
- B6 **836.6** Allosteric modulation of cannabinoid CB1 receptor. **R.A. Ross, G.L. Baillie and R.G. Pertwee.** Univ. of Aberdeen, U.K.
- B7 **836.7** In vitro pharmacological characterization of RXFP3 allosterism: an example of probe dependency. **L. Alvarez-Jaimes, S.W. Sutton, D. Nepomuceno, S.T. Motley, M. Cik, E. Stocking, J. Shoblock and P. Bonaventure.** Johnson & Johnson PR&D, San Diego and Beerse, Belgium.

### 837. GPCR MODIFICATIONS AND TRAFFICKING

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B8 **837.1** A novel ER export motif modulates the ER-to-cell surface traffic of  $\alpha_{2B}$ -adrenergic receptor. **C. Dong, C.D. Nichols and G. Wu.** LSU Hlth. Sci. Ctr., New Orleans and Georgia Hlth. Sci. Univ.
- B9 **837.2** REEPs, an ER adapter protein family, have differential effects on GPCR expression. **T. Angelotti, V. Ho and C. Hurt.** Stanford Univ.
- B10 **837.3** Interaction of the human prostacyclin receptor with the PDZ adapter protein PDZK1: role in endothelial cell migration and angiogenesis. **B.T. Kinsella, E.P. Mulvaney, E.C. Turner and H.M. Reid.** University Col. Dublin Sch. of Biomolec. & Biomed. Sci.

- B11 **837.4** Modulation of CB1R expression, trafficking and signaling by HSP90 isoforms. **C. Filipeanu and E.M. Bailey.** LSU Hlth. Sci. Ctr., New Orleans.
- B12 **837.5** Cannabinoid receptor interacting protein 1a regulates CB1 signaling and transcriptional activity. **L.C. Blume, C.E. Bass, G.D. Dalton, D.E. Selley and A.C. Howlett.** Wake Forest Baptist Hlth. and Virginia Commonwealth Univ.
- B13 **837.6** Regulation of the cell surface traffic of  $\alpha_2$ -adrenergic receptors by small GTPases. **S. Zhu, C. Li and G. Wu.** Georgia Hlth. Sci. Univ.
- B14 **837.7** Elucidation of the phosphorylation profiles of the long and short isoforms of the omega-3 fatty acid receptor-1 (GPR120). **R.N. Burns and N.H. Moniri.** Col. of Pharm. and Hlth. Sci., Mercer Univ.

### 838. AGS/RGS PROTEINS

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B15 **838.1** Regulator of G-protein signaling 2 blunts cellular viability mediated by a stabilized lysophosphatidic acid analogue in the presence of chemotherapy in an ovarian cancer cell model of chemoresistance. **M.K. Altman, P. Callihan, M. Ali, S. Hooks and M. Murph.** Univ. of Georgia.
- B16 **838.2** Epigenetic regulation of regulators of G-protein signaling RGS10 and RGS17 expression in chemoresistant ovarian cancer cells. **M.W. Ali, P. Callihan, M. Altman, M. Murph and S.B. Hooks.** Univ. of Georgia.
- B17 **838.3** Behavioral and metabolic changes in mice lacking G $\beta$ 5-R7 complex. **Q. Wang, K. Levay and V. Slepak.** Univ. of Miami.
- B18 **838.4** Neurabin scaffolding of adenosine receptor and RGS4 regulates anti-seizure effect of endogenous adenosine. **Y. Chen, Y. Liu, C. Cottingham, L. McMahon, K. Jiao, P. Greengard and Q. Wang.** Univ. of Alabama at Birmingham and Rockefeller Univ.
- B19 **838.5** Mechanisms involved in the translocation of AGS3 from cell cortex to the Golgi apparatus following activation of a G-protein coupled receptor. **S.S. Oner and S.M. Lanier.** Med. Univ. of South Carolina.
- B20 **838.6** Factors regulating the subcellular localization of activators of G-protein signaling 3: the role of serine/threonine residues in the G-protein regulatory domain. **F.M. Kelesoglu, S.S. Oner, D. Ma and S.M. Lanier.** Med. Univ. of South Carolina and Univ. of California, Santa Barbara.
- B21 **838.7** Defective migration in activator of G protein signaling 3-null leukocytes in response to CXCL12 and CCL19 stimulation. **M. Branham-O'Connor, E.M. Maher, X. Zhang, S.M. Lanier and J.B. Blumer.** Med. Univ. of South Carolina.
- B22 **838.8** Structural studies of RGS inhibitors. **C.A. Higgins, E. Fuentes and D.L. Roman.** Univ. of Iowa.
- B23 **838.9** Targeting degradation pathways of RGS2 using high-throughput siRNA screening. **B. Sjogren, S. Swaney and R. Neubig.** Univ. of Michigan.
- B24 **838.10** Withdrawn.
- B25 **838.11** Increased G $\alpha_o$  activity in C57BL/6J mice enhances sensitivity to a model of epilepsy. **J. Kehrl, H. Dalton, K. Kohut, M. Stern and R. Neubig.** Univ. of Michigan.

B26 **838.12** Oxidative stress regulation of regulator of G-protein signaling 4. **C.A. Monroy and D.L. Roman.** Univ. of Iowa.

### 839. KINASES AND PHOSPHATASES

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

B27 **839.1** The molecular mechanism of betacellulin-induced corneal epithelial wound healing. **J.L. Peterson, E.D. Phelps and B.P. Ceresa.** Univ. of Oklahoma Hlth. Sci. Ctr. and Oklahoma Christian Univ.

B28 **839.2** Enhancement of antioxidant capacity by novel dithiolethiones as a consequence of Fyn inhibition. **J.H. Koo, W.H. Lee and S.G. Kim.** Seoul Natl. Univ. Col. of Pharm.

B29 **839.3** The CB1 cannabinoid receptor stimulates cooperative signaling between integrin receptors and Flk-1 vascular endothelial growth factor receptors to regulate FAK tyrosine phosphorylation in neuronal cells. **G.D. Dalton and A.C. Howlett.** Wake Forest Sch. of Med.

B30 **839.4** A fostriecin sensitive protein phosphatase, serine/threonine protein phosphatase 4 is required for faithful chromosome segregation and mitotic progression into anaphase. **R. Honkanen, B. Theobald and K. Bonness.** Univ. of South Alabama.

B31 **839.5** Maturation of protein kinase C masks its C1 domains. **C.E. Antal, S. Skovso and A.C. Newton.** UCSD and Univ. of Copenhagen, Frederiksberg.

B32 **839.6** Activation of PKC $\alpha$  or PKC $\epsilon$  as an approach to increase morphine tolerance in respiratory depression and lethal overdose. **H-Y. Lin, P-Y. Law and H.H. Loh.** Univ. of Minnesota, Minneapolis.

B33 **839.7** Scaffolding of the cofilin pathway by  $\beta$ -arrestins. **A. Lin and K. DeFea.** Univ. of California, Riverside.

### 840. ENDOTHELIUM DYSFUNCTION

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

B34 **840.1** Endothelial NOS-independent release of nitric oxide in the aorta of the spontaneously hypertensive rat. **Y. Zhao, S.W.S. Leung and P.M. Vanhoutte.** Univ. of Hong Kong.

B35 **840.2** Hypertension and CaMKII isoforms in the endothelium of murine mesenteric arteries. **C. Charbel, F. Toussaint, A. Blanchette, L.R. Villeneuve and J. Ledoux.** Montreal Heart Inst. and Univ. of Montreal.

B36 **840.3** Etanercept, a tumor-necrosis factor (TNF- $\alpha$ ) inhibitor, improves endothelial function of contralateral middle cerebral artery after cerebral ischemia in hypertensive rats. **S.S. Girgla, P.W. Pires, J.L. McClain and A.M. Dorrance.** Michigan State Univ.

B37 **840.4** Differential effect of low and standard dose of conjugate equine estrogen treatment in mesenteric venular response to angiotensin II from ovariectomized spontaneously hypertensive rats. **P.X. de Araujo, G.S. Ceravolo, T.J. Costa, R.A. DoSantos, M.A. Oliveira, E.H. Akamine, R.C. Tostes, Z.B. Fortes and M.H.C. Carvalho.** Univ. of São Paulo and Fac. of Med. of Ribeirão Preto, Brazil.

B38 **840.5** Effect of aging in the mechanisms of endothelium-dependent and -independent vasorelaxation of [Ru(terpy)(bdq)NO $^{+}$ ] $^{3+}$  (TERPY) in spontaneously hypertensive rats. **F.C. Munhoz, S.R. Potje, R.S. Silva, L.M. Bendhack and C. Antoniali.** State Univ. of São Paulo, Araçatuba and Univ. of São Paulo, Ribeirão Preto.

B39 **840.6** Mechanisms of oxLDL on endothelial biomechanics. **M-J. Oh, T-P. Shentu and I. Levitan.** Univ. of Illinois at Chicago, Univ. of California, Riverside.

B40 **840.7** In vivo administration of LPS reduces dexmedetomidine-induced contraction in isolated rat aortae. **M.M. Manio, R.Y.K. Man, P.M. Vanhoutte and J.K.F. Ng.** The Univ. of Hong Kong.

B41 **840.8** Underlying mechanisms of tert-butyl hydroperoxide induced vascular cell dysfunction and senescence in rats: in vivo and in vitro studies. **Y-C. Yeh, T-J. Liu, J-C. Lo, L-C. Wang, C-Y. Peng and R-C. Wang.** Nanhua Univ. and Taichung Veterans Gen. Hosp., Taiwan.

B42 **840.9** Lipocalin-2 mediates linoleic acid-induced endothelial dysfunction. **E. Song, P. Fan, A. Xu, P.M. Vanhoutte and Y. Wang.** The Univ. of Hong Kong.

B43 **840.10** A role for PKC $\beta$  in altering calcium homeostasis under hyperglycemic conditions in human endothelial cells. **R. Zhang, D. Thor, P. Chaharmahali, L. Anderson and R. Rahimian.** Sch. of Pharm. and Sch. of Dent., Univ. of Pacific.

B44 **840.11** Endothelium-derived nitroxyl-mediated relaxation is resistant to superoxide scavenging and preserved in diabetic rat aorta. **O.L. Woodman, C-H. Leo and J.L. Hart.** Sch. of Med. Sci., RMIT Univ., Australia.

B45 **840.12** Arginase 1 as a therapeutic target in diabetic retinopathy. **S.C. Elms, H. Flores-Toque, R.W. Caldwell and R. Caldwell.** Georgia Hlth. Sci. Univ. and Charlie Norwood VA Med. Ctr.

B46 **840.13** Gender differences in aortic endothelial function of streptozotocin-induced diabetic rats: possible involvement of protein kinase C beta and nitric oxide production. **X. Han, L. Anderson and R. Rahimian.** Thomas J. Long Sch. of Pharm., Univ. of Pacific and Arthur A. Dugoni Sch. of Dent., Univ. of Pacific.

B47 **840.14** Insulin-mediated Akt/eNOS signaling is defective in ob/ob mouse aorta due to negative regulation by translocated GRK2. **T. Matsumoto, K. Taguchi, K. Kamata and T. Kobayashi.** Hoshi Univ., Japan.

### 841. VASCULAR CELL PROLIFERATION AND ANGIOGENESIS

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

B48 **841.1** Tie-2-Cre-mediated inactivation of lipid phosphate phosphatase-3 results in vascular defects. **I. Chatterjee and K.K. Wary.** Univ. of Illinois at Chicago.

B49 **841.2** Sphingosine kinase-1 regulates VEGF-A induced angiogenesis by mediating the interaction between VEGFR2 and S1P1. **A.M. Chavez, K.R. Chava and D. Mehta.** Univ. of Illinois at Chicago.

B50 **841.3** Impact of substrate stiffness and hypoxia on endothelial spreading and contractility. **F.K. Kuhr, D.E. Schraufnagle, J.W. Christman, J.X-J. Yuan and I. Levitan.** Univ. of Illinois at Chicago.

- B51 **841.4** Angiopoietin like-2 stimulates leukocytes adhesion to the native aortic endothelium in LDLR<sup>-/-</sup>; hApoB<sub>100</sub><sup>+/+</sup> mice. **N. Farhat, N. Thorin-Trescases, L. Villeneuve, B.G. Allen and E. Thorin.** Univ. of Montreal and Montreal Heart Inst.
- B52 **841.5** Elucidating the molecular mechanisms of the inhibitory effects of viscolin on neointimal hyperplasia. **Y-N. Hsieh, C-H. Wu and T-S. Wu.** China Med. Univ., Taiwan.
- B53 **841.6** The effects of caffeine on vascular injury-induced neointimal hyperplasia. **R.D. White and Y. Chang.** A.T. Still Univ. of Hlth. Sci.

## 842. PERIPHERAL AND CENTRAL VASCULAR PHARMACOLOGY

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B54 **842.1** Melatonin inhibits NO-dependent activation of large conductance, calcium-activated K channels (BK<sub>ca</sub>) in porcine coronary artery smooth muscle cells. **P. Shukla, C. Sun and S. O'Rourke.** North Dakota State Univ.
- B55 **842.2** Expression of TNF-R1 and Fas in coronary arterioles of type 2 diabetic mice. **H. Yokoo, S. Yamamoto and Y. Hattori.** Univ. of Toyama, Japan.
- B56 **842.3** Apocynin treatment attenuated middle cerebral artery remodeling in life-long obesity in Sprague-Dawley rats. **P.W. Pires, J.L. McClain and A.M. Dorrance.** Michigan State Univ.
- B57 **842.4** Recruitment of the vascular endothelium into neurovascular coupling. **T. Longden and M.T. Nelson.** Univ. of Vermont.
- B58 **842.5** Preclinical efficacy and safety of Kv7 potassium channel openers in the treatment of cerebral vasospasm. **B.K. Mani, J. O'Dowd, L. Kumar, M. Ross and K.L. Byron.** Loyola Univ. Chicago Med. Ctr.
- B59 **842.6** Postsynaptic density-95 mediates vasodilator signaling between  $\beta$ 1 adrenergic receptor and Shaker-type K<sup>+</sup> (K<sub>v</sub>1) channel in rat cerebral arteries. **C.L. Moore, D.S. Jang, N.K. Parelkar, B.K. Joseph, P.L. Nelson, E. Kang and S.W. Rhee.** Univ. of Arkansas for Med. Sci., Univ. of Kansas Med. Ctr. and Venenum Biodesign, Hamilton, NJ.
- B60 **842.7** Palmitoylethanolamide reduces the severity of brain trauma in a mouse model of controlled cortical impact injury. **S. Cuzzocrea, A. Ahmad, D. Impellizzeri, E. Mazzon and E. Esposito.** Univ. of Messina and IRCCS Neurol. Ctr. Bonino-Pulejo, Messina.
- B61 **842.8** Altered gene expression in embolic stroke model with SMTP-7 and t-PA treatment. **T. Hashimoto, K. Shibata, K. Nobe, K. Hasumi and K. Honda.** Showa Univ. and Tokyo Noko Univ.
- B62 **842.9** Regulator of G protein signaling 2 regulates pulmonary vasoconstriction. **N. Jain, Y. Tu and P.W. Abel.** Creighton Univ. Sch. of Med.
- B63 **842.10** P-Rex1 is critical for vascular hyperpermeability and edema in the lungs. **R.P. Naikawadi, N. Cheng, S.M. Vogel, D. Wu, A.B. Malik and R.D. Ye.** Univ. of Illinois at Chicago and Yale Univ. Sch. of Med.
- B64 **842.11** **Withdrawn.**

- B65 **842.12** TLR4 overexpression after orthotopic liver autotransplantation contributes to acute lung injury in rats. **X. Chi, M. Ge, A. Zhang, G. Luo, Z. Xia and Z. Hei.** The Third Affiliated Hosp. of Sun Yat-sen Univ., China and Univ. of Hong Kong.
- B66 **842.13** Enhanced 5-HT-induced contraction of the rat pulmonary artery in hyperthyroidism involved activation of calcium-activated chloride channels. **M. Oriowo, E. Oommen and I. Khan.** Kuwait Univ.
- B67 **842.14** Thyroid hormone (T3) regulates lipoprotein metabolism via induction of angiopoietin-like 4 in human hepatoma cell line. **P.K. Talasila and P. Sadana.** Northeast Ohio Med. Univ.
- B68 **842.15** Insulinotropic effects of novel l1-imidazoline agonist S43126. **L.P. Edwards, J. Tesfai, L. Crane and G. Baziard-Mouysset.** Loma Linda Univ. and Univ. Paul Sabatier, Toulouse.

## 843. NEUROTRANSMISSION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B69 **843.1** Modulation of norepinephrine and neuropeptide Y release by angiotensin-(1-7) from the mesenteric arterial bed of the rat: role of cyclooxygenase. **J.M. Murray, H. Macarthur and T.C. Westfall.** Saint Louis Univ.
- B70 **843.2** Activation of adenosine 2A receptors enhances norepinephrine transport into perivenous sympathetic nerves in normotensive, but not DOCA-salt hypertensive rats. **S. Sangsiri and J.J. Galligan.** Michiagn State Univ.
- B71 **843.3** Impaired K<sup>+</sup> channel function leads to increased catecholamine secretion by adrenal chromaffin cells in DOCA-salt hypertension. **M.J. Phaner, J.J. Galligan and G.M. Swain.** Michigan State Univ.
- B72 **843.4** Regulation of K<sup>+</sup>-induced [<sup>3</sup>H]D-aspartate release by synthetic neuroprostanes in isolated bovine retina. **A.F. Flowers, N. Floyd, E. Kegey, J. Jamil, T. Durand, J-M. Galano, A. Guy, N-M. Ya Fatou, M. Kulkarni, S.E. Ohia and C.A. Opere.** Creighton Univ., Biomolec. Inst. Max Mousseron, Montpellier and Texas Southern Univ. Col. of Pharm. and Hlth. Sci.
- B73 **843.5** Role of increased GABAergic synaptic transmission in morphine tolerance. **E.N. Bobeck, K.L. Suchland, R. Haseman and S.L. Ingram.** Washington State Univ. Vancouver, WA and Oregon Hlth. & Sci. Univ.
- B74 **843.6** Cleavage of L-glutamate decarboxylase 65 is associated with brain injury. **J-Y. Wu.** Florida Atlantic Univ.
- B75 **843.7** Uroguanylin promotes electroencephalographic changes in rat brain. **M.C. Fonteles, M.D.A. Teixeira, N.R.F. Nascimento and O.C. do Vale.** Ceará State Univ. and Fed. Univ. of Ceará, Brazil.

## 844. NEUROTRANSMITTER TRANSPORTERS

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B76 **844.1** Characterization of SEER I172M sensitivity to SSRI metabolites. **B. Thompson, A.D. Denny and W.R. Ye.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- B77 **844.2** Decynium-22 enhances SSRI-induced antidepressant effects in mice: uncovering new targets to treat depression. **D.M. Apple, R.E. Horton, N.L. Baganz, S. Cano, W.A. Owens, M. Vitela, G.G. Gould, W. Koek and L.C. Daws.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- B78 **844.3** The effect of nitric oxide on blockade of the norepinephrine transporter, uptake-1, by imipramine. **J.A. Simaan.** American Univ. of Beirut.
- B79 **844.4** Selective correlation of nAChRs and DAT. **M.I. Dávila-García, M. Gondre-Lewis, W. Hong and A.E. Ogunjirin.** Howard Univ.
- B80 **844.5** Dynamic interaction of  $\alpha$ -synuclein and dopamine transporter at the plasma membrane. **B.R. Butler, S. Goodwin and H. Khoshbouei.** Meharry Med. Col. and Univ. of Florida McKnight Brain Inst.
- B81 **844.6** Interaction of environment and chronic methylphenidate on anxiety-like behavior and dopamine receptors in adolescent rodents. **K.E. Gill, T. Beveridge and L.J. Porrino.** Wake Forest Univ.
- B82 **844.7** Chronic fluoxetine treatment is associated with persistent desensitization of the 5HT<sub>2A</sub> receptor and decreased cocaine-primed reinstatement in rhesus monkeys. **E.K. Sawyer and L.L. Howell.** Emory Univ. Yerkes Natl. Primate Res. Ctr.

## 845. NEURONAL AND GLIAL GROWTH/DIFFERENTIATION

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B83 **845.1** Neuroprotection of sulfuretin is mediated by inhibition of microglial inflammatory activation in BV-2 cells. **S-I. Hong, S-H. Kwon, I-J. You, Y-H. Jung, M-J. Kim, S-X. Ma, U-D. Sohn, S-Y. Lee and C-G. Jang.** Sungkyunkwan Univ. and Chung-Ang Univ., South Korea.
- B84 **845.2** The NAMPT inhibitor FK866 reverts the damage in spinal cord injury. **E. Esposito, D. Impellizzeri, E. Mazzone, G. Fakhfouric, R. Rahimian, C. Travelli, G.C. Tron, A.A. Genazzani and S. Cuzzocrea.** Univ. of Messina and IRCCS Neurol. Ctr., Messina, Italy, Shahid Beheshti Univ. of Med. Sci. and Tehran Univ. of Med. Sci., Iran and Univ. of Piemonte Orientale, Italy.
- B85 **845.3** Tongluo Jiunao injection, a Chinese herbal formula protects the focal ischemic brain injury and decreases the expression of semaphorin 3A and its receptor neuropilin 1. **H. Tang, W. Zhang, W. Li, Y. Tang, B. Di, Y. Pan, Z. Liu and P. Li.** Beijing Univ. of Chinese Med.

- B86 **845.4** Pyrazoloquinazolinecarboxylate analogues inhibit nerve growth factor in vitro. **J.K. Eibl, B. Strasser and G.M. Ross.** Laurentian Univ., Canada and Northern Ontario Sch. of Med.
- B87 **845.5** Regulation of human oligodendrocyte differentiation by muscarinic M3 receptor. **B.H. Vedia, S.U. Pol, M.A. O'Bara and F.J. Sim.** Univ. at Buffalo.
- B88 **845.6** Free radicals are important for dendritic growth in rat embryonic sympathetic neurons. **V. Chandrasekaran, C. Lea and P. Lein.** Saint Mary's Col. of California and Univ. of California, Davis Sch. of Vet. Med.

## 846. ALZHEIMER'S DISEASE APPROACHES

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B89 **846.1** Exploring the molecular mechanisms underlying the efficacy of mindfulness-based stress reduction in alleviating psychological stress in Alzheimer's disease caregivers. **L. Ho, P.A. Bloom, J.G. Vega and G.M. Pasinetti.** Mount Sinai Sch. of Med. and James J. Peters VA Med. Ctr.
- B90 **846.2** The protective effects of nicotine in cells expressing beta amyloid and presenilin: implications for Alzheimer's disease. **D. Brown, C. Ramlochan Singh, Y. Tizabi, K.F. Manaye and A.C. Drew.** Howard Univ.
- B91 **846.3** Nasal spray of bioactive polyphenol metabolites as a novel therapy for Alzheimer's disease and other forms of dementia. **L.A. Knable, J. Wang, M.G. Ferruzzi, P. Vempati, D. Freire, B. Gong and G.M. Pasinetti.** Mount Sinai Sch. of Med., James J. Peters VA Med. Ctr. and Purdue Univ.
- B92 **846.4** Traumatic brain injury (TBI) induces downregulation of olfactory receptors that are ectopically expressed in the brain: implications in TBI-mediated tauopathy. **G.M. Pasinetti, W. Gordon, K. Dams-O'Connor, W. Zhao and L. Ho.** Mount Sinai Sch. of Med. and James J. Peters VA Med. Ctr.
- B93 **846.5** Complement-derived anaphylatoxin, C5a-mediated signaling pathway is a novel pharmacological target for IVIG-regulated humoral immunotherapy in Alzheimer's disease. **P. Vempati, B. Gong, W. Zhao, J. Wang, L.A. Devi and G.M. Pasinetti.** Mount Sinai Sch. of Med. and James J. Peters VA Med. Ctr.
- B94 **846.6**  $\beta$ -Endorphin inhibits the expression of amyloid precursor protein in SK-N-SH neuroblastoma cells expressing high levels of mutant APP. **R. Boggeti, V.D. Bhatt and W.N. Ratna.** Long Island Univ. Arnold & Marie Schwartz Col. of Pharm.

## 847. PHARMACOLOGY OF LEARNING AND MEMORY

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:45 PM

- B95 **847.1** ageLOC recharge improves memory and learning ability in memory impairment models. **N. Tan, Y. Yao, G. Yang, Z. Wu and J-S. Zhu.** Pharmanex Beijing Pharmacol. Ctr., Shihezi Univ., China, Hong Kong Polytech Univ. and Nu Skin Ctr. for Anti-Aging Res., Provo, UT.
- B96 **847.2** Cognitive and motor effects of endurance related compound AICAR: from muscle to brain. **T. Kobil and H. van Praag.** NIA/NIH, Baltimore.
- B97 **847.3** A novel apparatus for conducting passive avoidance procedures in the zebrafish. **G.M. Herrera, A.U. Patel, J. Ashline, R. Simpson and D.N. Weber.** Catamount Res. and Develop. Inc., St. Albans, VT, Univ. of Alabama at Birmingham and Univ. of Wisconsin-Milwaukee.
- B98 **847.4** The effect of oral creatine monohydrate supplementation on cognitive function in young women. **M. Skelton and E. Dellis-Leeper.** Stetson Univ., FL.
- B99 **847.5** Effect of tibolone on mild cognitive impairment in postmenopausal patients. **S. Fernández-Hernández, I.M. Olivares-Corichi, C.A. Jimenez-Zamarripa, C. Rivera-Garcia and C.C. Calzada-Mendoza.** Grad. Sch. of Med., Natl. Polytech Inst. and Samuel Ramirez Moreno Psychiat. Hosp., Mexico City.
- B100 **847.6** Effects of social stress on locus coeruleus activity and cognitive flexibility. **N. Chaijale, A.L. Curtis, S.K. Wood, K. Snyder, S. Luz, S. Bhatnagar and R.J. Valentino.** Children's Hosp. of Philadelphia and Univ. of Pennsylvania.
- B101 **847.7** Spatial memory impairment in mice with immunotoxic lesions of the cholinergic basal forebrain. **C.C. Wrenn, C.M. Schaapveld, N. Bennett, S. Bansal, C. Willoughby, J. Peterson, K. Krogh, B. Wolfe and J. Hidding.** Drake Univ. Col. of Pharm. & Hlth. Sci.
- B102 **847.8** Modulation of behavior by methylphenidate. **S.A. Carmack, K.K. Howell and S.G. Anagnostaras.** UCSD.

## 848. CLINICAL PHARMACOLOGY AND TOXICOLOGY

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:45 PM

- B103 **848.1** Low nitric oxide bioavailability predicts better responses to sildenafil in patients with erectile dysfunction. **J.J. Muniz, R. Lacchini, J.T.C. Sertório, A.A. Jordão Junior, Y.T.D.A. Nobre, A.C.P. Martins and J.E. Tanus-Santos.** State Univ. of Campinas, Brazil and Univ. of São Paulo.
- B104 **848.2** Interaction of eNOS and iNOS polymorphisms supports the role of genes related to nitric oxide bioavailability in migraine pathophysiology. **F. Magazoni Gonçalves, M.R. Luizon, A.M. de Oliveira, J.G. Speciali, F. Dach and J.E. Tanus dos Santos.** State Univ. of Campinas, Brazil and Univ. of São Paulo, Ribeirão Preto.

- B105 **848.3** Matrix metalloproteinase (MMP)-9 and VEGF gene interaction models and MMP-9 plasma levels in preeclampsia and gestational hypertension. **M.R. Luizon, V.C. Sandrim, A.T. Palei, R. Lacchini, R.C. Cavalli, G. Duarte and J.E. Tanus-Santos.** Univ. of São Paulo, Ribeirão Preto, Santa Casa de Belo Horizonte, Brazil and Univ. of Mississippi Med. Ctr.
- B106 **848.4** A study of the prevalence of orthostatic hypotension and risk of falls among older patients presenting to the community health and psychiatry health center. **L.T. Smith and M. Gossell-Williams.** Univ. of West Indies, Jamaica.
- B107 **848.5** Avocado extract induces chromosomal aberrations in cultured human lymphocytes. **P.P. Kulkarni, R. Paul and N. Ganesh.** Banaras Hindu Univ., Anand Engin. Col. and Jawaharlal Nehru Cancer Hosp. & Res. Ctr., India.
- B108 **848.6** Cathelicidin encoded *Lactococcus lactis* protects against *Helicobacter pylori* infection and inflammation in mice. **L. Zhang and C.H. Cho.** The Chinese Univ. of Hong Kong.
- B109 **848.7** Formulation and in vivo evaluation of floating microspheres of misoprostal. **K. Vanitha, M. Varma and R. Alluri.** Vishnu Inst. of Pharmaceut. Educ. and Res., Medak, India and Shri Vishnu Col. of Pharm., India.
- B110 **848.8** Effects of captopril on factors affecting gastric mucosal integrity in aspirin-induced gastric lesions in Sprague-Dawley rats. **N. Mohd Ismai, I.A. Aziz and K. Jaarin.** Technol. Univ. MARA, Malaysia and Univ. Kebangsaan Malaysia.
- B111 **848.9** Mechanistic and pharmacologic role of placental growth factor in experimental ulcerative colitis in rats. **X. Deng, X. Xiong, T. Khomenko, L. Chen, S. Szabo and Z. Sandor.** VA Long Beach Med. Ctr. and Univ. of California, Irvine.
- B112 **848.10** Development of a reporter assay system to screen chemicals for claudin-4 modulator activity. **M. Kondoh, A. Watari and K. Yagi.** Grad. Sch. of Pharmaceut. Sci., Osaka Univ.
- B113 **848.11** *Lactobacillus rhamnosus* GG supplementation attenuates chronic alcohol-induced liver injury by inhibiting hepatocyte apoptosis. **C. Wang, Y. Wang, Y. Liu, C.J. McClain and W. Feng.** Univ. of Louisville.

## 849. PHARMACOKINETICS/PHARMACODYNAMICS

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:45 PM

- B114 **849.1** Substituted phenyl groups improve the pharmacokinetic profile of urea-based soluble epoxide hydrolase inhibitors. **J. Liu, Y-P. Lin, C. Morisseau, K.S.S. Lee, T.E. Rose, S.H. Hwang and B.D. Hammock.** Univ. of California, Davis.
- B115 **849.2** Pharmacokinetic and pharmacodynamic interactions of indolealkylamine drugs of abuse. **A. Yu.** Univ. at Buffalo, SUNY.
- B116 **849.3** Metabolism of cyclophosphamide by the human cytochrome P450 2B6 polymorphic variants. **D. Calinski, H. Zhang, C. Sridar and P.F. Hollenberg.** Univ. of Michigan.

B117 **849.4** Influence of tamarind pulp on pharmacodynamics and pharmacokinetics of gliclazide in rats/rabbits. **K.E. Kumar, N. Kotagiri, R.R. Katreddi and S. Putta.** Col. of Pharmaceut. Sci., Andhra Univ., India.

## 850. PHASE I/PHASE II DRUG METABOLISM

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:45 PM

- B118 **850.1** Dual ligand complexes of human cytochrome P450 2B6 and rabbit cytochrome P450 2B4 with amlodipine reveal substrate access channels into the active site. **M.B. Shah, C.D. Stout and J.R. Halpert.** Skaggs Sch. of Pharm. and Pharmaceut. Sci., UCSD and The Scripps Res. Inst.
- B119 **850.2** Functional analysis of cytochrome P450 2B isoforms using ticlopidine as an active site probe. **H-H. Jang, P.R. Wilderman, D. Dalvie and J.R. Halpert.** Skaggs Sch. of Pharm. and Pharmaceut. Sci., UCSD and Pfizer Global R&D.
- B120 **850.3** Functional characterization of cytochromes P450 2B from woodrats. **P.R. Wilderman, H-H. Jang, E. Angermeier, J.R. Malenke, M.D. Dearing and J.R. Halpert.** Skaggs Sch. of Pharm. and Pharmaceut. Sci., UCSD and Univ. of Utah.
- B121 **850.4** Purification of human cytochromes P450 and their interactions in vesicular lipid reconstituted systems. **J.W. Park, J.R. Reed, L.M. Brignac-Huber, G.F. Cawley, M. Eyer and W.L. Backes.** LSU Hlth. Sci. Ctr., New Orleans.
- B122 **850.5** Cytochrome P450 1A2 forms catalytically relevant homomeric complexes. **J.P. Connick, J.R. Reed, D. Cheng, G.F. Cawley and W.L. Backes.** LSU Hlth. Sci. Ctr., New Orleans.
- B123 **850.6** Application of kinetic isotope effects and molecular modeling in understanding the mechanistic complexities of CYP4F12. **R.S. Foti.** Amgen Inc., Seattle.
- B124 **850.7** Cytochrome P450 2J2 metabolizes the endocannabinoid, anandamide. **V. Walker and P.F. Hollenberg.** Univ. of Michigan.
- B125 **850.8** Isoform-selective changes in arachidonic acid metabolizing cytochrome P450 enzymes in warm hepatic ischemia reperfusion injury. **V. Edpuganti and R. Mehvar.** Texas Tech Univ. Hlth. Sci. Ctr., Amarillo.
- B126 **850.9** RNA-Seq identifies novel alternative transcripts of cytochrome P450s in human hepatocytes. **D. Li, L. Peng, I-H. Lee, J. Li, M. Visvanathan and X-b. Zhong.** Univ. of Kansas Med. Ctr. and Univ. of Kansas.
- B127 **850.10** Biotransformation of GS-1101 (CAL-101), a potent and selective inhibitor of PI3K delta for the treatment of patients with hematologic malignancies. **H. Chen, J. Evarts, H. Webb and R. Ulrich.** Gilead Sciences Inc., Seattle.
- B128 **850.11** Effect of sulfotransferase structural rearrangements in fulvestrant sulfation. **C.N. Falany, I.T. Cook, S.A. Kadlubar and T.S. Leyh.** Univ. of Alabama at Birmingham, Univ. of Arkansas for Med. Sci. and Albert Einstein Col. of Med.
- B129 **850.12** Breast milk represses UDP-glucuronosyltransferase 1A1 expression in the gastrointestinal tract, increasing the risk for severe hyperbilirubinemia and brain damage. **R. Fujiwara, S. Chen and R.H. Tukey.** UCSD.

B130 **850.13** Oral arsenic exposure induces UGT1A1 expression in neonatal humanized *UDP-glucuronosyltransferase-1* mice through changes in cellular morphology-associated cytotoxicity. **C. Konopnicki, R. Fujiwara, N. Nguyen and R.H. Tukey.** UCSD.

## 851. DRUG DISCOVERY AND DEVELOPMENT

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:45 PM

- B131 **851.1** Trials and tribulations? FDA regulatory support for academic sponsor-investigators. **E.M. Seymour and K. Weatherwax.** Univ. of Michigan.
- B132 **851.2** High-throughput screening and evaluation of anti-cancer compounds. **C.M. Carey, B. Chen, N. Jiang, A. Sharma and J-X. She.** Georgia Hlth. Sci. Univ.
- B133 **851.3** Activity of LUF6000 and LUF6096 as positive allosteric modulators for the A<sub>3</sub> adenosine receptor is species-dependent. **L. Du, Z-G. Gao, J.P.D. van Veldhoven, A.P. IJzerman, K.A. Jacobson and J.A. Auchampach.** Med. Col. of Wisconsin, NIDDK/NIH and Leiden Univ., Netherlands.
- B134 **851.4** Fast and fabulous – patch clamp screening of a7 nAChRs. **R. Haedo, A. Obergrussberger, S. Stoelzle, A. Brueggemann and N. Fertig.** Nanion Technol., North Brunswick, NJ.
- B135 **851.5** Molecular determinants of reactivation potency for novel, efficacious, centrally active oxime reactivators of phosphorylated acetylcholinesterase. **Z. Radic, R.K. Sit, Z. Kovarik, S. Berend, E. Garcia, L. Zhang, G. Amitai, V.V. Fokin, K.B. Sharpless and P. Taylor.** Skaggs Sch. of Pharm. and Pharmaceut. Sci., UCSD, The Scripps Res. Inst., Inst. for Med. Res. and Occup. Hlth., Zagreb, Croatia and Israel Inst. for Biol. Res., Ness-Ziona.
- B136 **851.6** Decrease in hepatic TNF-alpha and increase in DNA yield defines hepatoprotection of stem-bark aqueous extract of *Sclerocarya birrea* in ethanol-induced liver injury in Wistar rats. **J.N. Alawa, S. Ahmadu, H. Kwanashie, P. Akpulu and E. Ellah.** Ahmadu Bello Univ., Nigeria.
- B137 **851.7** Novel orally active epoxyeicosatrienoic acid analogs attenuate cisplatin nephrotoxicity. **M.A.H. Khan, J.L. Meyer, K.A. Walsh, J.R. Falck, J.L. Jat, V.L. Manthathi and J.D. Imig.** Med. Col. of Wisconsin and Univ. of Texas Southwestern Med. Ctr.
- B138 **851.8** Preparation of a broad-specific claudin binder by using *Clostridium perfringens* enterotoxin. **H. Suzuki, A. Takahashi, K. Matsushita, X. Li, H. Tsujino, A. Watari, M. Kondoh, H. Aoyama, T. Uno and K. Yagi.** Grad. Sch. of Pharmaceut. Sci., Osaka Univ.
- B139 **851.9** SRJ23, a potent inducer of cell cycle arrest and apoptosis in prostate cancer cells. **H.C. Wong, S.R. Sagineedu, S.C. Loke, N.H. Lajis and J. Stanslas.** Univ. Putra Malaysia.
- B140 **851.10** A selective reversible azapeptide inhibitor of human neutrophil proteinase 3 derived from a high affinity FRET substrate. **B. Korkmaz, C. Kellenberger, M. Cadène, M-C. Viaud-Massuard and F. Gauthier.** INSERM, Tours, CNRS, Marseille, Orléans and Tours.
- B141 **851.11** Human iPS-derived hepatocyte-like cells as a model for hepatitis C virus infection. **S. Yamane, T. Yoshida, K. Takayama, M. Kondoh, F. Sakurai, H. Mizuguchi and K. Yagi.** Osaka Univ.

- B142 **851.12** Nanoceria distribution, biotransformation, and safety/toxicity in the rat. R.A. Yokel, P. Wu, M.T. Tseng, R.C. MacPhail, U.M. Graham, M. Dan, J.M. Unrine, R. Sultana, S.S. Hardas, D.A. Butterfield and E.A. Grulke. Univ. of Kentucky, Univ. of Louisville and US EPA, Research Triangle Park.
- B143 **851.13** The potential of a cellulose nanocrystal and water soluble chitosan complex as an oral drug delivery carrier. **K.R. Colacino, H. Wang, J.K. Hong, M. Roman and Y.W. Lee.** Sch. of Biomed. Engin., Virginia Tech-Wake Forest Univ. and Virginia Tech.
- B144 **851.14** Subcutaneous tissue response of mice to calcium hydroxide-based pastes combined with chlorhexidine or to chlorhexidine gel used as intracanal medication. **G. Faria, M.S.S. Pereira, L.A.B. Silva, M.C. Kuga, M. Tanomaru-Filho, J.M.G. Tanomaru and M.A. Rossi.** UNESP, Brazil and Univ. of São Paulo, Ribeirão Preto.
- B145 **851.15** Fyn inhibition by prenylated polyphenols leads to antioxidant effect through LKB1 activation. **C.G. Lee, A.Y. Kim, J.H. Ryu and S.G. Kim.** Seoul Natl. Univ. Col. of Pharm. Sookmyung Women's Univ. Col. of Pharm., South Korea.
- B146 **851.16** Identification and characterization of novel arylamine N-acetyltransferase small molecule inhibitors. **C.S. Leggett, M.A. Doll, J.C. States, J.O. Trent and D.W. Hein.** Univ. of Louisville Sch. of Med.

## 852. MECHANISMS OF CELL INJURY/DEATH

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B147 **852.1** Effect of low-dose epicatechin on mitochondrial function and membrane fluidity. **M. Panneerselvam, J.C. Finley, S. Ali, D.M. Roth and H.H. Patel.** UCSD and VA Med. Ctr.
- B148 **852.2** Distinct roles of mitochondria- and ER-localized BCL<sup>XL</sup> in apoptosis resistance and Ca<sup>2+</sup> homeostasis. **C.O. Eno, E.F. Eckenrode, K.E. Olberding, G. Zhao, K. White and C. Li.** Univ. of Louisville and Rosalind Franklin Univ.
- B149 **852.3** Protective effects of amino acids on the ischemic myocardium via mTOR/S6 kinase pathway. **Y.M. Tsutsumi, K. Tanaka, A. Kasai, N. Kadota and S. Oshita.** Univ. of Tokushima, Japan.
- B150 **852.4** Multiple cell-death mechanisms are triggered in hepatotoxicity induced by acrolein, an environmental pollutant and lipid peroxidation product. **M. Mohammad, D. Avila, J. Zhang, J. Jokinen, G. Arteel, C. McClain, S. Barve and S. Joshi-Barve.** Univ. of Louisville and Louisville VA Med. Ctr.
- B151 **852.5** The effect of normobaric oxygen on the injury induced by focal cerebral ischemia in rats via HIF-1-Notch signal pathway. **C. Chen, W. Zhang, L. Yang, K. Wang and C. Zhou.** Human Anat., Basic Sci., Beijing.
- B152 **852.6** Upregulation of membrane-bound metalloendopeptidase neurolysin in a mouse model of focal brain ischemia. **M. Rashid, L. Yang, T.V. Arumugam, T.J. Abbruscato and V.T. Karamyan.** Sch. of Pharm., Texas Tech Univ. Hlth. Sci. Ctr. and Sch. of Biomed. Sci. Univ. of Queensland, Australia.
- B153 **852.7** Induction of kidney endonucleases by DNase I: evidence of endonuclease network. **A.G. Basnakian, T. Fahmi, X. Wang, A. Savenka, T. Fite, A.G. Stewart, E.O. Apostolov and S.V. Shah.** Univ. of Arkansas for Med. Sci. and Central Arkansas Veterans Healthcare Syst.
- B154 **852.8** The human host defense peptide LL-37 induces caspase-independent apoptosis via apoptosis-inducing factor and endonuclease G in colon cancer cells. **S. Ren and C.H. Cho.** Sch. of Biomed. Sci., Chinese Univ. of Hong Kong.
- B155 **852.9** Influence of zedoary oil on cell cycle and cathepsin K expression in A549 cell line in vitro. **C. Yang, J. Niu, Y. Li, X. Wang, C. Huang, B. Tang, P. Zhao and J. Wang.** Beijing Univ. of Chinese Med.
- B156 **852.10** Epigenetic alterations caused by decreased cellular methylation potential induce Fas-FasL-mediated apoptotic death in leukemic T lymphocytes. **M. Patil, S. Ghare, L. Gobejishvili, S. Joshi-Barve, C. McClain and S. Barve.** Univ. of Louisville.
- B157 **852.11** Targeting nuclear receptor-mediated cell growth and death in pediatric solid malignancies. **J.A. Beard and T. Chen.** St. Jude Children's Res. Hosp. and Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- B158 **852.12** Effect of an extract of *Withania somnifera* on human breast cancer cells. **K. Khazal, T. Samuel, D.L. Hill, X. Ge and C. Grubbs.** Tuskegee Univ. and Univ. of Alabama at Birmingham.
- B159 **852.13** Combination photodynamic therapy + sphingolipid analog LCL85 leads to autophagy, defective apoptosis and long-term sensitization. **D. Separovic, N. Joseph, P. Breen, Z.H. Saad and A. Bielawska.** Wayne State Univ. and Med. Univ. of South Carolina.
- B160 **852.14** Regulation of glycogen phosphorylase by the malin-laforin complex. **V.V. Dukhande, T.M. Bridges and M.S. Gentry.** Univ. of Kentucky Col. of Med.

## Physiology

### 853. VASOMOTOR CONTROL: ENDOTHELIUM/ SMOOTH MUSCLE/NERVES

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D1 I **853.1** Transient myogenic response provides insight to mechanotransductive pathways in vascular smooth muscle cells. **B.E. Carlson, N. Haydar and D.A. Beard.** Med. Col. of Wisconsin and Milwaukee Sch. of Engin.
- D2 II **853.2** Recruitment of dynamic cerebral artery endothelial Ca<sup>2+</sup> signals by the TRPA1 channel activator AITC. **M.S. Taylor, X. Qian, M. Francis, S. Earley and V. Solodushko.** Univ. of South Alabama Col. of Med. and Colorado State Univ.
- D3 I **853.3** Endothelium-dependent modulation of cerebral artery myogenic tone by cyclopiazonic acid. **R. Tam, P.M. Kerr, K. Ondrusova and F. Plane.** Univ. of Alberta and Grant MacEwan Univ., Canada.
- D4 II **853.4** Downregulation of the  $\alpha$ 2-isoform of the Na,K-pump inhibits EDHF-like responses in rat mesenteric small arteries. **C. Aalkjaer, N.M. Nielsen and V. Matchkov.** Aarhus Univ., Denmark.
- D5 I **853.5** The functional role of bestrophins and TMEM16A in rat mesenteric small arteries. **C. Aalkjaer, V.S. Nielsen and V. Matchkov.** Aarhus Univ., Denmark.
- D6 II **853.6** Role of TRPC1 and TRPC3 channels in constriction and relaxation of mouse thoracic aorta. **M.Y. Kochukov, A. Balasubramanian, J. Abramowitz, L. Birnbaumer and S.P. Marrelli.** Baylor Col. of Med. and NIEHS/NIH, Research Triangle Park.
- D7 I **853.7** Interaction between eNOS translocation and phosphorylation in flow-induced NO production. **M.P. Boric, X. Figueroa, D.R. González and W.N. Durán.** Pontifical Catholic Univ. of Chile, Univ. of Talca, Chile and UMDNJ-New Jersey Med. Sch.
- D8 II **853.8** NO-dependent vasodilation is coupled to coordinated activation of connexin- and pannexin-based hemichannels in endothelial cells. **M. Lillo, P. Gaete, J. Saez and X. Figueroa.** Pontifical Catholic Univ. of Chile.
- D9 I **853.9** Key role of pannexin-based hemichannels in flow-induced nitric oxide production in resistance arteries. **F.R. Perez, P. Gaete, M. Boric and X. Figueroa.** Pontifical Catholic Univ. of Chile.
- D10 II **853.10** CGRP released from perivascular sensory nerves downregulates NO signaling through activation of pannexin-based hemichannels in mesenteric resistance arteries. **P. Gaete, M. Lillo, F. Pérez and X. Figueroa.** Pontifical Catholic Univ. of Chile.
- D11 I **853.11** Differential roles for  $\alpha_1$ - versus  $\alpha_2$ -adrenoreceptor activation of mouse mesenteric arterial networks in vivo. **E.B. Westcott and S.S. Segal.** Univ. of Missouri-Columbia.
- D12 II **853.12** Effect of a diet rich in fat and/or fructose on potassium channel gene expression in rat small mesenteric artery. **L.J. Jensen, C.M. Sorensen, O. Plogmark, N-H. Holstein-Rathlou and M. Salomonsson.** Univ. of Copenhagen.
- D13 I **853.13** Potassium channel openers elicit endothelium-dependent enhancement of nerve-mediated vasoconstriction. **P.M. Kerr, F. Naomi, T-Y. Chen, R.D. Mittal, F. Plane and D. Narang.** Grant MacEwan Univ., Canada and Univ. of Alberta.
- D14 II **853.14** Activation of K<sup>+</sup> channels and Na<sup>+</sup>, K<sup>+</sup> ATPase prevents aortic endothelial dysfunction in 7-day lead-treated rats. **D.V. Vassallo, J. Fiorim, R.F. Ribeiro Junior, B.F. Azevedo, M.R. Simões, A.S. Padilha, I. Stefanon, M.J. Alonso and M. Salaices.** Fed. Univ. of Espirito Santo, Brazil, Rey Juan Carlos Univ. Spain and Autonomous Univ. of Madrid.
- D15 I **853.15** Exposure to low lead concentration for 7 days increases blood pressure and reduces NO effects in resistance arteries. **D.V. Vassallo, M.R. Simões, L.B. Furieri, G.B. Broseghini, M.V.A. Vescovi, J. Fiorim, B.F. Azevedo, M. Salaices, A.S. Padilha, I. Stefanon and M. Fioresi.** Fed. Univ. of Espirito Santo, Brazil and Autonomous Univ. of Madrid.
- D16 II **853.16** Role of SIRT1 in resistance exercise-induced changes in vascular function. **L.R. Servidio, S.A. Roberts, M.L. Laycock and M.B. Harris.** The Col. of William and Mary.
- D17 I **853.17** Effects of exercise training duration on SIRT1 and eNOS expression in rat aortas. **R.M. Hoffman, M. Olesiak and M.B. Harris.** The Col. of William & Mary.
- D18 II **853.18** Sirtuin-1 gain of function increases endothelium-dependent vasorelaxation of murine femoral arteries. **R. Calvert, J. Noh, R. Pereira, T. Ruan, K. Doo-Hyun, Q-J. Zhang, D. Accili, E.D. Abel and J.D. Symons.** Univ. of Utah and Columbia Univ.
- D19 I **853.19** Glucose infusion (3g/kg) increases nerve vascular conductance through an insulin-mediated nitric oxide mechanism in rats. **T.D. Olver, L.M. Mattar, K.N. Grise, J. Twynstra, J.C. Lacefield, E.G. Noble and J.K. Shoemaker.** Univ. of Western Ontario.
- D20 II **853.20** Adenosine does not vasodilate skeletal muscle arterioles via secondary nitric oxide or prostaglandin production. **C.L. Murrant, F. Muckle and K. Inch.** Univ. of Guelph, Canada.
- D21 I **853.21** Cytomegalovirus promotes arteriolar dysfunction through impairment of nitric oxide- and prostacyclin-dependent vasodilation. **J. Brunson and K.Y. Stokes.** LSU Hlth. Sci. Ctr.-Shreveport.
- D22 II **853.22** Agmatine-mediated arterial relaxation is impaired in salt-sensitive hypertension. **T. Gadkari, N. Cortes, N. Tsoukias and M. Joshi.** Florida Intl. Univ.
- D23 I **853.23** Role of CYP4A/20-HETE pathway in vascular oxidative stress in the Dahl salt-sensitive rat. **K. Lukaszewicz, J. Falck and J. Lombard.** Med. Col. of Wisconsin and Univ. of Texas Southwestern Med. Ctr.
- D24 II **853.24** In hypertension CYP450A metabolite 20-HETE exacerbates flow-induced arteriolar constriction and promotes cerebrovascular inflammation. **P. Toth, A. Csiszar, D. Sosnowska, W.E. Sonntag, Z. Ungvari and A. Koller.** Univ. of Oklahoma Hlth. Sci. Ctr., New York Med. Col. and Univ. of Pecs, Hungary.
- D25 I **853.25** Cytochrome b5 reductase 3 regulates nitric oxide signaling at the myoendothelial by controlling hemoglobin redox cycling. **A.C. Straub, A.W. Lohman, M. Billaud, S. Dwyer, A.K. Best, B. Gaston and B.E. Isakson.** Univ. of Virginia.



- D26 **II** **853.26** Vitamin C prevents attenuation of flow-mediated dilation due to acutely altered SR patterns. **B.D. Johnson, K.J. Mather, S.C. Newcomer, T.D. Mickleborough and J.P. Wallace.** Indiana Univ., Bloomington and Indianapolis and Purdue Univ.
- D27 **I** **853.27** Autonomic impairment during severe hemorrhage in obese Zucker rats. **J. Clemmer, L. Xiang, S. Lu, L. Lee and R.L. Hester.** Univ. of Mississippi Med. Ctr.
- D28 **II** **853.28** Microvascular reactivity in subcutaneous and visceral fat tissue in human obesity. **I. Grizelj, A. Cavka, J-T. Bian, I. Drenjancevic and S.A. Phillips.** Univ. of Illinois at Chicago and Sch. of Med., Univ. of Osijek, Croatia.
- D29 **I** **853.29** Hemodynamic parameters during acute and chronic metabolic acidosis in rabbits. **A.C. Celotto, L.G. Ferreira, V.K. Capellini, A.A.S. Albuquerque and P.R.B. Evora.** Univ. of São Paulo, Ribeirão Preto.
- D30 **II** **853.30** Changes in central arterial stiffness during lower body negative pressure. **T. Drury, A.A. Phillips, S.S.D. Bredin and D.E.R. Warburton.** Univ. of British Columbia.
- D31 **I** **853.31** Neurotransmitter and neuropeptide control of the bone resistance vasculature. **R. Prisby, J. Campbell, T. Menezes and H. Kluess.** Univ. of Texas at Arlington and Auburn Univ.

#### 854. TISSUE-MICROVESSEL INTERACTIONS/ EXTRACELLULAR MATRIX

##### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D32 **I** **854.1** Capillaries are embedded in the sarcolemma of murine slow twitch skeletal muscle fibers. **B. Glancy, L-Y. Hsu, L. Dao, M. Bakalar, S. French, D.J. Chess, J.L. Taylor, M.P. Daniels, S. Esfahani and R.S. Balaban.** NHLBI/NIH.
- D33 **II** **854.2** Re-evaluating the interstitial fluid pressure-volume (compliance) relationship. **R.M. Dongaonkar, C.M. Quick, R.H. Stewart and G.A. Laine.** Texas A&M Univ.

#### 855. PERMEABILITY/FLUID AND SOLUTE EXCHANGE/GLYCOCALYX

##### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D34 **I** **855.1** Increased circulating microparticles in diabetic rats mediate leukocyte adhesion in intact venules. **C. Stork and P. He.** West Virginia Univ.
- D35 **II** **855.2** Increased nitric oxide is necessary but not sufficient to increase permeability in the absence of calcium influx in intact rat venules. **M. Wang, D. Yuan and P. He.** West Virginia Univ. and Tasy Microcirc. Res. Ctr., Beijing.
- D36 **I** **855.3** Systemic adenosine-induced impairment of endothelial glycocalyx barrier properties is associated with a reduction in functional capillary density in hindlimb skeletal muscle of rats. **J. van Haare, H. Vink, B. Eskens, J. Cleutjens, H. Cobelens and J. van Teeffelen.** Cardiovas. Res. Inst. Maastricht, Netherlands.

- D37 **II** **855.4** P2Y2 receptor-dependent modulation of microvascular barrier function. **J. Harvey, L. Erb, V. Huxley, G. Weisman, R. Garrad and J. Wang.** Missouri State Univ. and Univ. of Missouri-Columbia.
- D38 **I** **855.5** Sphingosine-1-phosphate from erythrocytes modulates water and macromolecule permeability in rat microvessels. **F-R.E. Curry, J.F. Clark and R.H. Adamson.** Univ. of California, Davis.
- D39 **II** **855.6** Rac1 inactivation and VE-cadherin junctional disruption contribute to alcohol-induced endothelial hyperpermeability. **T.M. Doggett and J.W. Breslin.** LSU Hlth. Sci. Ctr., New Orleans.
- D40 **I** **855.7** RhoA/ROCK-dependent moesin phosphorylation regulates AGEe-induced endothelial response. **Q. Huang, J. Wang, H. Liu, B. Chen, Q. Li and X. Huang.** Southern Med. Univ., China.
- D41 **II** **855.8** Rho-dependent upregulation of endothelial contractility and adhesion disassembly contributes to the enhanced permeability responses to inflammation in diabetic venules. **D. Yuan and P. He.** West Virginia Univ.
- D42 **I** **855.9** Microvascular permeability in the absence of Epac1 activity. **T.V. Karlsen, R. Kopperud, Å. Lidén, C.B. Rygh, R.K. Reed and S.O. Døskeland.** Univ. of Bergen, Norway.
- D43 **II** **855.10** Perivascular resident macrophages in the inner ear are essential for blood-labyrinth-barrier integrity. **X. Shi.** Oregon Hlth. & Sci. Univ.

#### 856. PERICYTES AND STEM CELLS

##### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:45 PM-1:52 PM (I); 1:52 PM-3:00 PM (II)

- D44 **I** **856.1** Low channel conductances in capillary endothelial cells of guinea pig cochlea contribute to the blood-labyrinth-barrier. **Z-G. Jiang and Y-Q. Yang.** Oregon Hlth. & Sci. Univ.
- D45 **II** **856.2** Capillary pericytes in cochlear lateral wall express strong Kir current and electrical coupling suggest its role in K<sup>+</sup>-mediated local blood flow regulation. **Y-Q. Yang, A.L. Nuttall and Z-G. Jiang.** Oregon Hlth. & Sci. Univ.
- D46 **I** **856.3** Pericytes contribute to exercise-induced skeletal muscle hypertrophy. **K. Zou, H.D. Huntsman, C. Valero, J.T. Skelton, J.T. Adams, Z. Mahmassani and M.D. Boppert.** Univ. of Illinois at Urbana-Champaign and Beckman Inst. for Adv. Sci. and Technol., Urbana.
- D47 **II** **856.4** Mesenchymal stem cells isolated from bone marrow and compact bone express both VEGF and PLGF. **R.R. Varshney and P.G. Lloyd.** Oklahoma State Univ.
- D48 **I** **856.5** GATA-4 gene transfer increases mesenchymal stem cell-mediated myocardial salvage through miRNA regulation and bioactive molecules migration between cells. **M. Xu, B. Yu, Z. Pasha and Y. Wang.** Univ. of Cincinnati.
- D49 **II** **856.6** Human adipose-derived stem cells attenuate cigarette smoke-induced bone marrow hypoplasia via secretion of anti-inflammatory cytokine TSG-6. **J. Xie, K. Schweitzer, B. Johnstone, T. Cook, D. Feng, M. Albrecht, Y. Gao, M. Justice, S. Cooper, H. Broxmeyer, I. Petrache and K. March.** Indiana Univ., Indianapolis.

D50 **I** **856.7** Pericytes: not only an anatomical “internet” coordinating coronary vessels, but also key functional players? **S. Nees, D.R. Weiss and G. Juchem.** Univ. of Munich and FA-Univ. of Erlangen-Nuremberg.

## 857. MICROVASCULAR PHARMACOLOGY/THERAPEUTICS

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D51 **I** **857.1** Nanoparticle-mediated delivery of tetrahydrobiopterin increases nitric oxide synthesis in diabetes. **C. Meininger, K. Rao, J. Vasir, S. Dimitrijevic, D. Bittenbinder, X. Li, K. Kelly, G. Wu and V. Labhsetwar.** Texas A&M Hlth. Sci. Ctr., Temple, Cleveland Clin. Lerner Col. of Med. and Texas A&M Univ.

D52 **II** **857.2** Hypothermia protects against myocardial microvascular damage (no-reflow) even when initiated after coronary artery reperfusion. **S.L. Hale and R.A. Kloner.** Good Samaritan Hosp. and Keck Sch. of Med., Univ. of Southern California.

D53 **I** **857.3** SKA-31, an enhancer of SK<sub>Ca</sub> and IK<sub>Ca</sub> channels, increases coronary flow in normotensive rats. **R.C. Mishra, D. Belke, H. Wulff and A.P. Braun.** Univ. of Calgary, Canada and Univ. of California, Davis.

D54 **II** **857.4** Quercetin glucuronide preserves cardiac function in porcine hearts during perfusion with human whole blood by inhibiting platelet/neutrophil activation and preserving venular barrier function. **G. Juchem, A. Bauer, J. Postrach, B. Reichart and S. Nees.** Univ. of Munich.

D55 **I** **857.5** Sphingosine-1-phosphate receptor 1 agonist SEW2871 decreases sepsis-induced renal microvascular permeability but not peritubular capillary hypoperfusion. **Z. Wang and P.R. Mayeux.** Univ. of Arkansas for Med. Sci.

## 858. MICROVASCULAR PATHOPHYSIOLOGY/TUMOR MICROCIRCULATION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D56 **I** **858.1** Small skeletal muscle veins exhibit substantial myogenic response, which is mediated by hydrogen peroxide-induced activation of TP receptors. **B.Z. Debreczeni, E. Gara, Z. Veresh, R. Tamás, J. Hamar and A. Koller.** Semmelweis Univ., Military Hosp., Budapest and Univ. of Pécs, Hungary and New York Med. Col.

D57 **II** **858.2** Loss of flow mediated dilation accompanies endothelial dysfunction in the preconditioned state. **M.D. Frame and A.M. Dewar.** Stony Brook Univ.

D58 **I** **858.3** NO and O<sub>2</sub><sup>-</sup> interactions as a function of ratio of NO and O<sub>2</sub><sup>-</sup> production in the microcirculation. **S. Kar and M. Kavdia.** Wayne State Univ.

D59 **II** **858.4** Early MRI findings of targeting the NG2 proteoglycan in GBM. **C.B. Rygh, M. Thuen, A. Poli, J. Wang, G. Løkka, E.M. Huuse, F. Thorsen, P.Ø. Enger and M. Chekenya.** Univ. of Bergen, Norway, Norwegian Univ. of Technol. and Sci. and CRP-Sante, Luxembourg.

## 859. MICROVASCULAR MECHANICS/HEMODYNAMICS/RHEOLOGY

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D60 **I** **859.1** The effect of network pattern alterations on microvascular resistance in hypertension. **M. Yang and W.L. Murfee.** Tulane Univ.

D61 **II** **859.2** Shedding of the endothelial glycocalyx and the resistance to flow in capillaries. **H.H. Lipowsky, L. Gao and A. Lescanic.** Penn State.

D62 **I** **859.3** Effect of systemic hematocrit on blood velocity profiles in arterioles. **O. Yalcin, C-y. Lee, S. Ranu, M. Jivani, P. Johnson and P. Cabrales.** UCSD.

D63 **II** **859.4** Shear stress generated by different fluid compositions induces differential endothelial signaling in intact venules. **S. Xu, D. Yuan and P. He.** West Virginia Univ.

D64 **I** **859.5** Electroacupuncture increases cerebral blood flow in a clinically relevant model of ischemic stroke. **H. Lei, G. Davis-Gorman, P. McDonagh and L. Ritter.** Univ. of Arizona.

D65 **II** **859.6** Vasoactive agents result in coordinated changes in vascular smooth muscle cell elasticity and extracellular matrix adhesion. **Z. Hong, Z. Sun, Z. Li and G.A. Meininger.** Univ. of Missouri-Columbia.

D66 **I** **859.7** Sexual dimorphism of vascular mechanics in rats. **L.M. Mattar, M. Zamir and J.K. Shoemaker.** Western Washington Univ. and Univ. of Western Ontario.

D67 **II** **859.8** Mechanical deformation decreases activation time for neutrophils. **A.J. Burdette, S. Rogers and D.F.J. Tees.** Ohio Univ.

D68 **I** **859.9** Neutrophil motion in straight and tapering P-selectin-coated in vitro models of lung capillaries. **D.F.J. Tees and Y.E. Choi.** Ohio Univ.

D69 **II** **859.10** Simvastatin and GGTI-2133, a gernaylgeranyl transferase inhibitor, increase erythrocyte deformability, but inhibit low oxygen tension-induced ATP release. **K.M. Clapp, M.L. Ellsworth, R.S. Sprague and A.H. Stephenson.** Saint Louis Univ.

D70 **I** **859.11** Characteristics of cell-free layer variation in a 25- $\mu$ m tube. **B. Namgung, S. Cho, P.K. Ong, H. Sakai and S. Kim.** Natl. Univ. of Singapore and Waseda Biosci. Res. Inst. in Singapore.

D71 **II** **859.12** Numerical simulation of blood flow with different red blood cell deformability. **M. Ju, H.T. Low and S. Kim.** Natl. Univ. of Singapore.

D72 **I** **859.13** Computational analysis of a microfluidic device for measuring oxygen-dependent ATP release from erythrocytes. **R. Sove, N.W. Ghonaim, C.G. Ellis and D. Goldman.** Univ. of Western Ontario.

D73 **II** **859.14** Endothelial bioeffects from acoustic droplet vaporization for gas embolotherapy. **J.L. Bull, R. Seda, S. Samuel and J.B. Fowlkes.** Univ. of Michigan.

- D74 **I** **859.15** An experimental modeling of shock lung. **A. Alipbekova and E. Dalenov.** Med. Univ. of Astana, Kazakhstan.
- D75 **II** **859.16** The risks of chronic internal diseases among the workers of uranium-processed enterprise in Kazakhstan. **F. Bekenova and A. Abduldjayeva.** Med. Univ. of Astana, Kazakhstan.
- D76 **I** **859.17** Assessment of occupational risk of death from lung cancer in workers of uranium production. **K. Makhambetov, V. Tkachyev and S. Atigayeva.** Med. Univ. of Astana, Kazakhstan.
- D77 **II** **859.18** The influence of phytomedicine on metabolic processes of white rats undergone to ionized radiation. **O. Ilderbayev and E. Dalenov.** Med. Univ. of Astana, Kazakhstan.
- 860. MICROVASCULAR FLOW REGULATION/OXYGEN DELIVERY/NETWORKS**
- Poster**
- MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D
- Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)
- D78 **I** **860.1** Real-time contrast-enhanced ultrasound for the determination of flowmotion within skeletal muscle. **S. Rattigan, E.M. Bradley, S.M. Richards and M.A. Keske.** Univ. of Tasmania, Australia.
- D79 **II** **860.2** Measurement of contraction-induced blood flow in mouse gastrocnemius muscle by optical imaging of fluorescent microspheres. **A. Freire Valls, A. Sulaeman, P.D. Wagner and E.C. Breen.** Pompeu Fabra Univ., Spain and UCSD.
- D80 **I** **860.3** Oxygen dependence of respiratory rate (VO<sub>2</sub>) in rat spinotrapezius muscle in situ measured with phosphorescence quenching microscopy. **A.S. Golub and R.N. Pittman.** Virginia Commonwealth Univ.
- D81 **II** **860.4** Human erythrocyte shape creates a capillary oxygen delivery advantage. **T. Blinman.** Children's Hosp. of Philadelphia.
- D82 **I** **860.5** Role of erythrocyte- versus wall-derived signals in flow regulation in heterogeneous microvascular networks. **T.K. Roy and T.W. Secomb.** Mayo Clin. and Univ. of Arizona.
- D83 **II** **860.6** Effects of wall shear stress on NO simulation in arterioles. **S. Kim, S. Cho and B. Namgung.** Natl. Univ. of Singapore.
- D84 **I** **860.7** Numerical simulation of time-dependent NO/O<sub>2</sub> transport in arterioles. **S. Cho, P.K. Ong, B. Namgung and S. Kim.** Natl. Univ. of Singapore.
- D85 **II** **860.8** Simulation of metabolic blood flow regulation in heterogeneous microvascular networks: effects of hematocrit variations. **B.C. Fry and T.W. Secomb.** Univ. of Arizona.
- D86 **I** **860.9** Assessing the contribution of distinct vascular segments in arterial insufficiency. **J. Arciero, M. DiStasi and J. Unthank.** Indiana Univ.-Purdue Univ. Indianapolis and Indiana Univ. Sch. of Med.
- D87 **II** **860.10** Multiple steady states in microvascular networks. **R.T. Carr, J.B. Geddes and L. Bozzuto.** Univ. of New Hampshire, Cornell Univ. and FW Olin Col. of Engin., MA.
- D88 **I** **860.11** Erythrocyte shunting patterns are identical for endothelial dysfunction and for loss of connexin 43. **M.D. Frame, R.J. Rivers, J. Yang and T.W. Secomb.** Stony Brook Univ., Johns Hopkins Univ., Univ. of Wisconsin-Madison and Univ. of Arizona.
- D89 **II** **860.12** Decreased temporal activity at microvascular bifurcations exacerbates perfusion heterogeneity in skeletal muscle in the metabolic syndrome. **J. Butcher, A. Goodwill, D.A. Beard and J.C. Frisbee.** West Virginia Univ. Hlth. Sci. Ctr. and Med. Col. of Wisconsin.
- D90 **I** **860.13** Gender differences in cardiac function of Kv1.5<sup>-/-</sup> mice during aging. **V. Ohanyan, L. Yin, S. Logan, M. Enrick, T. Hakobyan, C.L. Kolz, Y.F. Pung, I.N. Bratz and W.M. Chilian.** Northeast Ohio Med. Univ.
- D91 **II** **860.14** Inter-individual differences in rapid vasodilation in older males with and without type 2 diabetes. **J.M. Kellawan, M.F. Bravo, J.S. Moynes, J.J. Walsh, R.F. Bentley and M.E. Tschakovsky.** Sch. of Kinesiol and Hlth. Studies, Queen's Univ., Canada.
- D92 **I** **860.15** Ankle position modifies tibialis anterior muscle perfusion and oxygenation in the human leg. **R.B. Crater, B. Zhang and A.R. Hargens.** UCSD.
- D93 **II** **860.16** Contribution of Cav1.2 channels to coronary microvascular dysfunction in metabolic syndrome. **Z.C. Berwick, G.M. Dick, S.B. Bender, S.P. Moberly, M.C. Kohr, A.G. Goodwill, A.G. Obukhov and J.D. Tune.** Indiana Univ. Sch. of Med., West Virginia Sch. of Med. and Univ. of Missouri Sch. of Med.
- D94 **I** **860.17** Apocynin improves exercise performance and functional vasodilation by improving K<sub>ATP</sub> function in obese Zucker rats. **S. Lu, L. Xiang, J. Clemmer, L. Lee, M. Sebai and R.L. Hester.** Univ. of Mississippi Med. Ctr.
- D95 **II** **860.18** Exercise training and muscle microvascular oxygenation: role of nitric oxide bioavailability. **D.M. Hirai, S.W. Copp, S.K. Ferguson, C.T. Holdsworth, T.I. Musch and D.C. Poole.** Kansas State Univ.
- D96 **I** **860.19** Chronic heart failure alters nNOS-mediated control of skeletal muscle contractile function. **S.W. Copp, D.M. Hirai, S.K. Ferguson, C.T. Holdsworth, D.C. Poole and T.I. Musch.** Kansas State Univ.
- D97 **II** **860.20** Mechanical ventilation induces a time-dependent reduction in microvascular oxygenation and vascular conductance in the diaphragm. **R.T. Davis, C.S. Bruells, J.N. Stabley, D.J. McCullough, S.K. Powers and B.J. Behnke.** Univ. of Florida and Aachen Univ. Clin., Germany.
- D98 **I** **860.21** Adenosine and NO blockade decreases skeletal muscle interstitial pH during hypoxia. **D.A. MacLean, S. Fabris and A. Smith.** Northern Ontario Sch. of Med. and Laurentian Univ., Canada.
- D99 **II** **860.22** Erythrocytes from older healthy humans fail to release ATP during hemoglobin deoxygenation. **B.S. Kirby, L.J. Garcia, A.R. Crecelius, J.C. Richards, G.J. Luckasen, D.G. Larson and F.A. Dinunno.** Colorado State Univ. and Med. Ctr. of Rockies Fndn., Loveland, CO.
- D100 **I** **860.23** Nitric oxide availability is reduced in sickle cell disease even in presence of low amounts of intravascular cell-free hemoglobin. **P. Deonikar and M. Kavdia.** Wayne State Univ.
- D101 **II** **860.24** The ratio of C-peptide to insulin is critical for low oxygen tension-induced ATP release from human erythrocytes. **J. Richards, A.H. Stephenson, M.L. Ellsworth and R.S. Sprague.** Saint Louis Univ.

D102 I **860.25** Effects of photoperiod, light intensity, and their interaction on blood physiological variables of modern broilers grown to heavy weights. **H.A. Olanrewaju, J.L. Purswell, S.D. Collier and S.L. Branton.** USDA, Starkville, MS.

## 861. MICROVASCULAR DEVELOPMENT AND AGING

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D103 I **861.1** Exercise training ameliorates age-related diastolic dysfunction: the role of coronary microvascular function. **B. Chen, V.S. Ravikumar and J.M. Muller-Delp.** Univ. of Florida.
- D104 II **861.2** Aging impairs electrical conduction along resistance artery endothelium via enhanced signal dissipation through  $K_{Ca}$  channels. **E. Behringer and S. Segal.** Univ. of Missouri-Columbia.
- D105 I **861.3** Aging differentially alters calcium signals and myogenic tone in murine cremaster muscle feed arteries and downstream arterioles. **E.B. Westcott, S.S. Segal and W.F. Jackson.** Univ. of Missouri-Columbia and Michigan State Univ.
- D106 II **861.4** Age-related changes in the expression of elastin in small cerebral and mesenteric arteries. **Z. Nourian, M. Li, P.S. Clifford, A. Stupica, M. Krenz, C. Baines, G.A. Meininger and M.A. Hill.** Univ. of Missouri-Columbia and Med. Col. of Wisconsin.
- D107 I **861.5** Specific Nox components mediate the age-related impairment in collateral growth. **S.J. Miller, M.J. Wenning, R.G. Bills, N. Chittajallu and J.L. Unthank.** Indiana Univ., Indianapolis.
- D108 II **861.6** Age-associated vascular oxidative stress, Nrf2 dysfunction and NF- $\kappa$ B activation in the non-human primate *Macaca mulatta*. **Z. Ungvari, L.C. Bailey-Downs, T. Gautam, D. Sosnowska, W. Mingyi, R.E. Monticone, R. Telljohann, R. de Cabo, W.E. Sonntag, E. Lakatta and A. Csizsar.** Univ. of Oklahoma Hlth. Sci. Ctr. and NIA/NIH, Baltimore.

## 862. MICROVASCULAR PERMEABILITY: PARACELLULAR VERSUS TRANSCELLULAR TRANSPORT

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D109 I **862.1** Co-regulation of transcellular and paracellular leak across microvascular endothelium by dynamin and Rac. **W.L. Lee, S. Armstrong, V. Khajooe, C. Wang, T. Wang, J. Tigdi, J. Yin, W.M. Kuebler, M. Gillrie, S. Davis and M. Ho.** Univ. of Toronto and Univ. of Calgary, Canada.
- D110 II **862.2** Sphingolipids signal rapid loss of P-glycoprotein transport activity at the blood-brain barrier. **D.S. Miller, C.R. Campos, B.T. Hawkins and R. Cannon.** NIEHS/NIH, Research Triangle Park and Univ. of Washington Sch. of Med.

D111 I **862.3** Increased formation of functional caveolae due to increased content of fibrinogen. **N. Muradashvili, S.J. Khundmiri, R.L. Benton and D. Lominadze.** Univ. of Louisville.

D112 II **862.4** Matrix metalloproteinase-9 in homocysteine-induced intestinal microvascular endothelial paracellular and transcellular permeability. **C. Munjal, N. Tyagi, D. Lominadze and S.C. Tyagi.** Univ. of Louisville.

D113 I **862.5** Hypoxia/reoxygenation stress increases organic anion transporting polypeptide 1a4-mediated transcellular transport at the blood-brain barrier: relevance to CNS drug delivery. **P.T. Ronaldson, L.M. Slosky and L. Sanchez-Covarrubias.** Univ. of Arizona.

D114 II **862.6** Novel role of local lamellipodia in endothelial barrier function. **J.W. Breslin.** LSU Hlth. Sci. Ctr., New Orleans.

D115 I **862.7** Infection of human pericytes by HIV-1 disrupts the integrity of the blood-brain barrier. **M. Toborek and S. Nakagawa.** Univ. of Miami Miller Sch. of Med. and Univ. of Kentucky Med. Ctr.

D116 II **862.8** Effects of cigarette smoke extracts on cardiac stem cell para-cellular and trans-cellular permeability. **W.K. Sumanasekera, G.U. Sumanasekera, G. Rokosh and H.T. Tran.** Sullivan Univ. Col. of Pharm. and Univ. of Louisville.

D117 I **862.9** Hsp90 inhibition prevents bacterial lipopolysaccharide-induced and RhoA-mediated signaling leading to paracellular hyper-permeability in human lung microvascular endothelial cells. **A.D. Joshi, S. Aggarwal, G. Thangjam, C. Snead, S. Feldman, S.M. Black and J.D. Catravas.** Georgia Hlth. Sci. Univ.

D118 II **862.10** The mechanism of local blood acidification in the swimbladder by spatially organized monocarboxylate transporters. **A. Kato, T. Umezawa, M. Ogoshi, K. Ookata, K. Munakata, H. Doi, M.F. Romero and S. Hirose.** Tokyo Inst. of Technol., Mayo Clin. Col. of Med., Okayama Univ. and Shimonoseki Marine Sci. Museum, Japan.

D119 I **862.11** The effect of systemic anaphylaxis on mesenteric lymph flow in anesthetized rats. **T. Shibamoto, W. Zhang, Y. Kuda and Y. Kurata.** Kanazawa Med. Univ., Japan and Med. Col. of Qinghai Univ., China.

D120 II **862.12** Normal human IgG attenuates intracellular superoxide level and permeability in human aortic endothelial cells. **X. Wang, Q. Wang and Z. Sun.** Univ. of Oklahoma Hlth. Sci. Ctr.

## 863. WIGGERS AWARD FEATURED TOPIC: CALCIUM HOMEOSTASIS AND ENDOPLASMIC RETICULUM STRESS IN VASCULAR FUNCTION (POSTERS)

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D121 I **863.1** Hydrogen peroxide mediates oxidant-dependent stimulation of arterial smooth muscle L-type calcium channels. **G.C. Amberg and N.L. Chaplin.** Colorado State Univ.

D122 II **863.2** Endoplasmic reticulum stress induces sarco/endoplasmic reticulum calcium ATPase and alters calcium homeostasis in the vasculature. **K.M. Spittler, F.R. Giachini and R.C. Webb.** Georgia Hlth. Sci. Univ. and Fed. Univ. of Mato Grosso, Brazil.

- D123 I **863.3** NADPH oxidase-dependent reactive oxygen species are involved in flow-induced dilation of human adipose arterioles. **N.S. Zinkevich, D.X. Zhang and D.D. Gutterman.** Med. Col. of Wisconsin and VA Med. Ctr.
- D124 II **863.4** Activation of the ER $\alpha$  and ER $\beta$  pathway downregulates voltage-gated Ca<sup>2+</sup> channels in coronary arteries. **W.R. Gray, R.J. Dalton, G. Sketas and B.J.F. Hill.** Univ. of Central Arkansas.
- D125 I **863.5** Placenta growth factor is regulated by hydrogen peroxide at the post-transcriptional, but not the transcriptional, level in vascular smooth muscle. **J.H. Shaw and P.G. Lloyd.** Oklahoma State Univ.
- D126 II **863.6** Interactions between A<sub>2A</sub> adenosine receptor, hydrogen peroxide, and K<sub>ATP</sub> channel in coronary reactive hyperemia. **M. Sharifi Sanjani, S. Asano, G. Dick, B. Teng, S. Tilley, C. Ledent and S.J. Mustafa.** West Virginia Univ., Univ. of North Carolina at Chapel Hill and Univ. Libre Brussels.
- D127 I **863.7** Oxidation-reduction state modifies vascular reactivity. **H. Choi, R.C. Webb and F.S. Lamb.** Vanderbilt Univ. Med. Ctr. and Georgia Hlth. Sci. Univ.
- D128 II **863.8** Oxidized lipid-derived aldehyde, 4-hydroxy-trans-2-nonenal causes vascular inflammation by inducing endoplasmic reticulum stress. **S.D. Sithu, E. Vladykovskaya, P. Haberzettl, N.S. Wickramasinghe, A. Agarwal, J. McCracken, S.M. Dougherty, S.A. Gordon, M.L. Merchant, B.G. Hill, D.A. Schuschke, S.E. D'Souza, A. Bhatnagar and S. Srivastava.** Univ. of Louisville.
- D129 I **863.9** Sub-contractile sphingosylphosphorylcholine enhances vasoreactivity via reactive oxygen species. **J.P.T. Ward, P.I. Aaronson and V.A. Snetkov.** King's Col. London.
- D130 II **863.10** T-type Ca<sup>2+</sup> channels and the induction of CICR in vascular smooth muscle. **K. Bigdely-Shamloo, E.J. Vigmond and D.G. Welsh.** Univ. of Calgary, Canada.
- D131 I **863.11** ER stress induction increases NADPH oxidase and reduces eNOS activity in endothelial cells. **M. Galán, M. Kassan, Q. Alkhafaf, M. Trebak and K. Matrougui.** Tulane Univ. and Ctr. of Cardiovasc. Sci., Albany, NY.
- D135 II **864.4** Restoration of serum euthyroidism is inadequate to reverse cardiac dysfunction in experimental hypothyroidism. **N.Y. Weltman, O.V. Savinova, Y. Chen, E.H. Schlenker, S. Youmans and A.M. Gerdes.** Sanford Sch. of Med., Univ. of South Dakota, Sanford Res., Sioux Falls and New York Inst. of Technol.
- D136 I **864.5** Identifying the molecular mechanisms of diastolic dysfunction in *Drosophila*. **G. Kaushik, M. Nishimura, S. Graham, A. Fuhrmann, R. Bodmer, A. Cammarato and A.J. Engler.** UCSD, Sanford Burnham Med. Res. Inst. and Johns Hopkins Univ.
- D137 II **864.6** Viability of two sub-strains of C57BL/6 mice in response to cardiac pressure-overload. **J. Parikh, S. Wang, K. Azizi, E. Bird, M. Spellman and N.C. Lai.** VA San Diego Healthcare Syst.
- D138 I **864.7** Anatomical effect of lateral decubitus position on circulation and heart rate variability in healthy adults. **K. Sasaki, M. Haga, N. Matsui, M. Nagai and R. Maruyama.** Tohoku Univ. Grad. Sch. of Med., Japan.
- D139 II **864.8** Nitric oxide synthase inhibition weakens beneficial effects of increased plasma viscosity on cardiac function in hemodilution model. **S. Chatpun, P. Cabrales, A. Tsai and M. Intaglietta.** Prince of Songkla Univ., Thailand and UCSD.
- D140 I **864.9** A chronic canine model of heart failure and renal insufficiency (cardiorenal syndrome). **R. Brewer, M. Wang, K. Zhang, I. Ilsar, G. Paone and H.N. Sabbah.** Henry Ford Hosp.
- D141 II **864.10** Protective role of Ac-SDKP and thymosin  $\beta$ 4 on cardiac rupture after myocardial infarction. **H. Peng, O.A. Carretero, X-P. Yang, J. Xu, E. Peterson and N-E. Rhaleb.** Henry Ford Hosp.
- D142 I **864.11** Higher aortic wave reflection is mediated in part by greater autonomic support in older women. **B.N. Kluck, J.N. Barnes, R.E. Harvey, T.B. Curry, E.C. Hart, N. Charkoudian, M.J. Joyner and D.P. Casey.** Mayo Clin. and U.S. Army Res. Inst. of Envrn. Med., Natick, MA.
- D143 II **864.12** Heart rate variability and cardiovascular dynamics during autologous blood donation. **M. Kamakura, M. Haga, M. Nagai, H. Chiba and R. Maruyama.** Tohoku Univ. Grad. Sch. of Med., Japan.
- D144 I **864.13** A new tale of an old story: obscurin bridges sarcomeres and intercalated discs in cardiomyocytes. **M.A. Ackermann, J. Valenti and A. Kontogianni-Konstantopoulos.** Univ. of Maryland Sch. of Med.
- D145 II **864.14** Differential modulation of cardiac  $\beta$ <sub>1</sub> and  $\beta$ <sub>2</sub> adrenergic receptor contractile effects by adenosine A1 and A2A receptors. **V. McIntosh, E. Zhan and R. Lasley.** Wayne State Univ. Sch. of Med.
- D146 I **864.15** Left ventricular torsion based on 2D speckle tracking echocardiography is preload insensitive. **Z. Gao, R.C. Drew, A. Momen, I. Ndukwu, M.D. Muller, J. Mast, C. Blaha, U.A. Leuenberger and L.I. Sinoway.** Penn State Hershey Heart & Vasc. Inst.
- D147 II **864.16** Role of caveolin-3 and mitochondria in protecting the aged myocardium. **H.N. Fridolfsson, M.E. Reichelt, J.N. Peart, S.S. Ali, J.C. Finley, I. Niesman, B.P. Head, M.W. Kidd, P.M. Patel, J.P. Headrick, D.M. Roth and H.H. Patel.** UCSD and Griffith Univ., Australia.

## 864. CARDIAC FUNCTION AND DYNAMICS I

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D132 I **864.1** IL-6 deletion does not alter LV remodeling and dysfunction in pressure overload. **N.C. Lai, E. Tang, A. Pandey, M. Gao and T. Tang.** VA San Diego Healthcare Syst.
- D133 II **864.2** Underestimation of murine cardiac hemodynamics using invasive catheters. **C. Constantinides, S. Angeli, F. Kossivas and P. Ktorides.** Univ. of Cyprus.
- D134 I **864.3** Infrared contrast imaging, a new visualization technology for vascular, metabolic and physiological monitoring. **R.Y. Sostek.** Harvard Apparatus, Holliston, MA.

- D148 I **864.17** The disruption of the intracellular  $\text{Ca}^{2+}$  homeostasis is associated with heart disfunction in chronically malnourished Wistar rats. **L.V.P. Mendes, S.R. Gonzalez, L.M. Oliveira-Pinto, J.H.M. Nascimento, M. Einicker-Lamas, A. Vieyra, V.M.N. Cunha and L.S. Lara.** Fed. Univ. of Rio de Janeiro.
- D149 II **864.18** A method for measuring 3D cardiac surface mechanics with high-speed structured light imaging. **J.I. Laughner, H. Li, S. Zhang and I.R. Efimov.** Washington Univ. in St. Louis, Columbia Univ. and Iowa State Univ.
- D150 I **864.19** Incorporating human ventricular fiber architecture in patient-specific computational models. **C.T. Villongco, L.R. Frank, D.E. Krummen, V. Nigam, R.C.P. Kerckhoffs, J.H. Omens and A.D. McCulloch.** VA Med. Ctr. and UCSD.

## 865. PERIPHERAL CIRCULATION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D151 I **865.1** Membrane acid-base transporters modulate artery structure. **E. Boedtkjer, J. Bentzon, H. Damkier, E-M. Füchtbauer, E. Falk and C. Aalkjaer.** Aarhus Univ., Denmark.
- D152 II **865.2** Impaired fasting blood glucose-related exacerbation of age-associated vascular endothelial dysfunction: protective effect of regular aerobic exercise. **A.E. DeVan, I. Eskurza, G.L. Pierce, A.E. Walker, K.L. Jablonski, R.E. Kaplon and D.R. Seals.** Univ. of Colorado Boulder and Univ. of Iowa.
- D153 I **865.3** Acute dietary salt loading impairs endothelial-dependent dilation in normotensive-salt resistant adults. **J.J. DuPont, J.L. Greaney, M.M. Wenner, S.L. Lennon-Edwards, W.B. Farquhar and D.G. Edwards.** Univ. of Delaware and The John B. Pierce Lab., New Haven.
- D154 II **865.4** Polyamine supplementation reduces oxidative stress and reverses vascular endothelial dysfunction with aging. **R.A. Gioscia-Ryan, M.C. Zigler, D.R. Seals, A.L. Sindler and T.J. LaRocca.** Univ. of Colorado Boulder.
- D155 I **865.5** Acute dietary salt loading impairs cutaneous microvascular function in normotensive salt-resistant adults: role of oxidative stress. **J.L. Greaney, J.J. DuPont, S.L. Lennon-Edwards, D.G. Edwards and W.B. Farquhar.** Univ. of Delaware.
- D156 II **865.6** Flow mediated dilation variation based on normotensive rat strain. **J. Heimlich and D.M. Pollock.** Georgia Hlth. Sci. Univ.
- D157 I **865.7** Higher dietary niacin intake is related to greater vascular endothelial function associated with lower oxidative stress among healthy middle-aged and older adults. **R.E. Kaplon, D.R. Seals and L.B. Gano.** Univ. of Colorado Boulder.
- D158 II **865.8** Vasomotor responses in facial and finger skin to acute changes in blood pressure. **H. Kashima, T. Ikemura, Y. Yamaguchi and N. Hayashi.** Grad. Sch. of Human Envrn. Studies, Kyushu Univ., Japan.
- D159 I **865.9** Polyamine supplementation enhances autophagy and reverses age-related arterial stiffening. **T.J. LaRocca, R.A. Gioscia-Ryan, B.S. Fleenor and D.R. Seals.** Univ. of Colorado Boulder.
- D160 II **865.10** Increased TRF2 binding likely limits telomere uncapping in older human arteries despite age-related telomere attrition. **G. Morgan, S.J. Ives, L.A. Lesniewski, R.M. Cawthon, R.H.I. Andtbacka, R.D. Noyes, R.S. Richardson and A.J. Donato.** Univ. of Utah and VA Med. Ctr.
- D161 I **865.11** Sustained differential effects of a transient antioxidant diet and voluntary exercise training on vascular functions in aging mice. **A.Q. Nguyen, F. Leblond and É. Thorin.** Montreal Heart Inst.
- D162 II **865.12** Beat-to-beat fluctuations in blood flow in humans are more related between upper limbs than between lower limbs. **J. Padilla, S.T. Fairfax, L.C. Vianna, M.J. Davis, M.H. Laughlin and P.J. Fadel.** Univ. of Missouri-Columbia.
- D163 I **865.13** Endothelium-dependent dilation is inversely related to hematocrit among healthy young and older adults. **G.L. Pierce, A.J. Donato, T.J. LaRocca, K.L. Jablonski and D.R. Seals.** Univ. of Colorado Boulder, Univ. of Iowa and Univ. of Utah.
- D164 II **865.14** Estimating peripheral blood pressure from central blood pressure by a transfer function method. **W.C. Rose, K.A. Schell, A. DiSabatino and M.E. Stillabower.** Univ. of Delaware and Christiana Care Hlth. Syst., Newark, DE.
- D165 I **865.15** Peripheral sensory function enhanced using stochastic noise stimulation. **J. Serrador, G. ÓLaighin, C. McIntosh, C. O'Tuathail, L.R. Quinlan, S.F. Dinneen and P. Breen.** WRIISC, DVA, East Orange, NJ, Brigham and Women's Hosp., Harvard Med. Sch., Natl. Ctr. for Biomed. Engin. Sci., Galway and Natl. Univ. of Ireland, Galway.
- D166 II **865.16** Acute effects of intermittent pneumatic compression-induced hemodynamics on vascular function in humans. **R.D. Sheldon, B.T. Roseguini, M.H. Laughlin and S.C. Newcomer.** Purdue Univ. and Univ. of Missouri-Columbia.
- D167 I **865.17** Sodium nitrite treatment restores vascular endothelial function in old mice with CKD. **A.L. Sindler, M.C. Zigler, M. Yoshizawa, C. Baylis and D.R. Seals.** Univ. of Colorado Boulder and Univ. of Florida.

## 866. VASCULAR PATHOBIOLOGY

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D168 I **866.1** Influence of cellular magnesium concentration on fibroblast phenotype differentiation. **C.M. Battis, T. Kombi, G. Dubyak and A. Romani.** Case Western Reserve Univ. Sch. of Med. and Cedarville Univ., OH.
- D169 II **866.2** Influence of obesity on insulin-mediated dilation in the human microcirculation. **L. Borbouse and D.D. Gutterman.** Med. Col. of Wisconsin.
- D170 I **866.3** Effects of long-term aerobic exercise on vascular function mediated by insulin and insulin-like growth factor-1 in hypertension. **W-C. Chao, A-L. Yang, C-T. Su and Y-Y. Lin.** Taipei Phys. Educ. Col. and Fu Jen Catholic Univ., Taiwan.
- D171 II **866.4** Hydrogen sulfide mitigates renovascular matrix pathobiology in hyperhomocysteinemia. **D.M. Coley, S. Kundu, S.C. Tyagi and U. Sen.** Univ. of Louisville.

- D172 I **866.5** Increment in nNOS and Akt-eNOS pathway in coronary arteries post-myocardial infarction can prevent the onset of heart failure. **G.K. Couto, L.R.G. Britto, J.G. Mill and L.V. Rossoni.** Univ. of São Paulo and Fed. Univ. of Espirito Santo, Brazil.
- D173 II **866.6** Obesity impairs alpha 1 adrenergic receptor mediated contraction in carotid arteries. **A.M. Dorrance and J.L. McClain.** Michigan State Univ.
- D174 I **866.7** Involvement of the endothelial nitric oxide pathway and leukocyte infiltration in secondhand smoke exposure-induced vascular endothelial dysfunction and hypertension. **M.A. El-Mahdy, T.M. Abdelghany, C. Hemann, S. Varadharaj, A. Esmat, G.A. El-Sherbiny and J.L. Zweier.** The Ohio State Univ. Col. of Med. and Al-Azher Univ., Ain Shams Univ. and Beni-Suef Univ., Egypt.
- D175 II **866.8** Perivascular adipose tissue in age-associated arterial stiffening: role of transforming growth factor beta 1. **B.S. Fleenor, H. Snieder, K.D. Marshall and D.R. Seals.** Univ. of Colorado Boulder.
- D176 I **866.9** Time course of doxorubicin accumulation and dysfunction in the rat aorta. **N.M. Gibson, D.S. Hydock and R. Hayward.** Univ. of Northern Colorado.
- D177 II **866.10** Biologic nanoparticles promote mineralization of vascular smooth muscle cells in vitro. **L.W. Hunter, J.C. Lieske and V.M. Miller.** Mayo Clin.
- D178 I **866.11** Augmented coronary vasoconstriction to epicardial perivascular adipose tissue in metabolic syndrome. **M. Kohr, X. Lai, S.P. Moberly, Z.C. Berwick, F.A. Witzmann and J.D. Tune.** Indiana Univ. Sch. of Med.
- D179 II **866.12** Impaired vasomotor function in uremic rats is directly related to NO-resistance of smooth muscle cells. **F. Kolk, D.G.M. Molin, J.G.R. De Mey and M.J. Post.** Maastricht Univ., Netherlands.
- D180 I **866.13** Time course of development of erectile dysfunction and coronary artery endothelial dysfunction in response to a Western diet: influence of endothelial nitric oxide synthase uncoupling. **J. La Favor, E. Anderson, M. Chaaban, R. Hickner and C. Wingard.** East Carolina Univ.
- D181 II **866.14** Effects of protocatechuic acid on endothelium-dependent vascular function and superoxide level in hypertensive rats. **Y-M. Lin, A-L. Yang and C-T. Su.** Taipei Phys. Educ. Col. and Fu Jen Catholic Univ., Taiwan.
- D182 I **866.15** Impaired L-arginine uptake contributes to aortic endothelial dysfunction in chronic kidney disease. **C.R. Martens, J.M. Kuczmarski, S. Lennon-Edwards and D.G. Edwards.** Univ. of Delaware.
- D183 II **866.16** Involvement of CaM kinase II in impairments of endothelial function and eNOS activity in aortas of type 2 diabetic Goto-Kakizaki rats. **T. Matsumoto, S. Nemoto, K. Taguchi, K. Kamata and T. Kobayashi.** Hoshi Univ., Japan.
- D184 I **866.17** Dysfunction of coronary smooth muscle  $Ca^{2+}$  regulation in the progression of metabolic syndrome and coronary artery disease in Ossabaw miniature swine. **M.L. McKenney, M.C. Kohr, M. Alloosh, K.A. Schultz, L.N. Bell, J.D. Tune and M. Sturek.** Indiana Univ. Sch. of Med.
- D185 II **866.18** Deletion of protein tyrosine phosphatase 1b prevents type 1 diabetes-induced vascular dysfunction. **J.B. Norman, D. Herren, M.L. Tremblay, D.W. Stepp and E.J. Belin de Chantemele.** Georgia Hlth. Sci. Univ. and McGill Univ.
- D186 I **866.19** Surgical excision of coronary epicardial adipose tissue provides evidence for its role in coronary artery disease. **K.A. Schultz, J. Boyd, J.P. Byrd, M.L. McKenney, A. Chawla, M. Alloosh, S. Teague, H. Sacks and M. Sturek.** Indiana Univ. Sch. of Med. and VA Greater Los Angeles Healthcare Syst.
- D187 II **866.20** Sustained activation of p38 MAPK and MMP2 and 9 exacerbate neointima formation following vascular injury in metabolic syndrome rats. **D.S. Weber, R. Jadhav, T. Dodd, E. Smith, J.R. Bennett and P. Rocic.** Univ. of South Alabama.
- D188 I **866.21** TRPC channels in  $Ca^{2+}$  regulation and endothelial function during cardioplegic exposure. **Q. Yang, J-H. Huang, G-W. He, M.J. Underwood and C-M. Yu.** Chinese Univ. of Hong Kong, TEDA Intl. Cardiovasc. Hosp., Med. Coll., Nankai Univ., China and Oregon Hlth. & Sci. Univ.
- D189 II **866.22** Contribution of prostacyclin regulation in the vascular tone of angiotensin like-2 deficient mice. **C. Yu, N. Farhat and E. Thorin.** Montreal Heart Inst. and Univ. of Montreal.

## 867. RENAL ION TRANSPORT, TRAFFICKING AND REGULATION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D190 I **867.1** A kinetic model for sodium transport via a non-gastric  $H^+(Na^+)/K^+$  ATPase. **M. Nadal-Quiros, A. Nieves-Gonzalez, L.C. Moore and M. Marciano.** Univ. of Puerto Rico, Rio Piedras Campus, Duke Univ. and Stony Brook Univ. Med. Ctr.
- D191 II **867.2** Potassium excretion during antinatriuresis: perspective from a mathematical model of distal nephron. **A.M. Weinstein.** Weill Med. Col. of Cornell Univ.
- D192 I **867.3** Bicarbonate transport drives Na-independent K secretion via  $BK-\alpha/\beta_4$  in  $\beta$ -intercalated cells. **R.J. Cornelius, L.I. Hatcher, K.M. Echtenkamp, J.I. Contreras and S.C. Sansom.** Univ. of Nebraska Med. Ctr. and Univ. of Nebraska at Omaha.
- D193 II **867.4**  $K^+$  homeostasis is maintained with knockdown of big-conductance  $K^+$  channel in principal cells of connecting tubule/collecting duct. **T. Rieg, R. Lukowski, J.A. Dominguez, M. Sharik, P. Ruth and V. Vallon.** UCSD, VA San Diego Healthcare Syst., Univ. of Tübingen and Univ. of Colorado Anschutz Med. Campus.
- D194 I **867.5** Stimulation of adenosine A1 receptor inhibits the basolateral 50 pS K channels in the thick ascending limb of rat kidney. **W. Li, L. Wang, S. Kong, P. Wu, M. Wang, H. Luan, L. Gu, L. Fan and R. Gu.** Harbin Med. Univ., China.
- D195 II **867.6** The trans-tubular K gradients reveal long-term adaptation in mice to Na-deficient, high K diets. **K.M. Echtenkamp, L.I. Hatcher, R.J. Cornelius and S.C. Sansom.** Univ. of Nebraska Med. Ctr. and Univ. of Nebraska at Omaha.
- D196 I **867.7** Characterization of a druggable binding site in the renal outer medullary potassium channel. **T.T. Nguyen, J.H. Sheehan, J. Meiler and J.S. Denton.** Vanderbilt Univ. Med. Ctr.

- D197 II **867.8** Role of the epithelial sodium channel in the development of salt-sensitive hypertension. **T.S. Pavlov, V. Levchenko, D.V. Ilatovskaya, P.M. O'Connor, A.W. Cowley, Jr. and A. Staruschenko.** Med. Col. of Wisconsin and Inst. of Cytol., RAS, St. Petersburg.
- D198 I **867.9** EGF deficiency contributes to the development of salt-sensitive hypertension via upregulation of ENaC activity. **T.S. Pavlov, V. Levchenko, P.M. O'Connor, A. Sorokin, D.L. Mattson, J.H. Lombard, A.W. Cowley, Jr. and A. Staruschenko.** Med. Col. of Wisconsin.
- D199 II **867.10** Mechanism for sodium retention by insulin+glucose in diabetes may involve renal epithelial sodium channels. **M.M. Manhani, T.A. Sheppard and M.W. Brands.** Georgia Hlth. Sci. Univ.
- D200 I **867.11** ENaC is active in the ASDN in the absence of mineralocorticoid. **E. Mironova, V. Bugaj and J. Stockand.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- D201 II **867.12** Feedback inhibition of the epithelial Na<sup>+</sup> channel: in vitro versus in vivo. **A.B. Patel, G. Frindt, S. Deng and L.G. Palmer.** Weill Cornell Med. Col. and Weill Cornell/Rockefeller Univ./Sloan-Kettering Inst.
- D202 I **867.13** Ankyrin 3 is regulated by aldosterone and microRNAs, and alters ENaC-mediated sodium transport. **M.B. Butterworth, M. Carananti and R.S. Edinger.** Univ. of Pittsburgh.
- D203 II **867.14** A physiological role of p38 on aldosterone-dependent regulation of ENaC endocytosis in renal epithelial A6 cells. **N. Niisato and Y. Marunaka.** Kyoto Prefect. Univ. of Med. and Heian Jogakuin Univ., Japan.
- D204 I **867.15** Calmodulin and CaM kinase II govern MARCKS-mediated PIP2-dependent regulation of ENaC. **A.A. Aili, H-F. Bao, A.A. Aili, S. Aldrugh, Y. Zhou, L. Yu and D.C. Eaton.** Emory Univ.
- D205 II **867.16** Identification of critical residues within the extracellular loop of the epithelial sodium channel. **S.R. Swann, T. Whisenant and R.E. Booth.** Texas State Univ.-San Marcos.
- D206 I **867.17** ENaC activity is increased by collecting duct-specific endothelin B receptor knockout. **V. Bugaj, E. Mironova, D. Kohan and J.D. Stockand.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio and Univ. of Utah.
- D207 II **867.18** Identification of accessory proteins needed for ENaC assembly and function. **R. Rodrigues, R. Ybanez and R.E. Booth.** Texas State Univ., San Marcos and Duke Univ.
- D208 I **867.19** Enriched cholesterol diet increases expression of renal epithelial Na<sup>+</sup> channel gamma subunit in rats. **J. Sood, S. Balayan, J.N. Minas, R. Rodriguez, J. Aguil, D. Nakano, A. Nishiyama, M.S. Awayda and R. Ortiz.** Univ. of California, Merced, Kagawa Med. Univ., Japan and Univ. at Buffalo SUNY.
- D209 II **867.20** Aldosterone and Ang II complementary stimulate ENaC activity during systemic salt restriction. **M. Mamenko, O.L. Zaika and O. Pochynyuk.** Univ. of Texas Hlth. Sci. Ctr. at Houston.
- D210 I **867.21** Purinergic signaling reciprocally contributes to the TRPV4-mediated mechano-sensitive response in the aldosterone-sensitive distal nephron. **M. Mamenko, O.L. Zaika, R.G. O'Neil and O. Pochynyuk.** Univ. of Texas Hlth. Sci. Ctr. at Houston.
- D211 II **867.22** Renal proximal tubule ion transporters are discrepantly regulated by parathyroid hormone in acute versus chronic hyperparathyroidism. **R. Murray, N. Lesousky, S.J. Khundmiri and E.D. Lederer.** Univ. of Louisville and Robley Rex VA Med. Ctr.
- D212 I **867.23** Angiotensin II decreases the levels of PKA-mediated NHE3 phosphorylation in renal proximal tubule. **S.L. Rossetto, G.D. Queiroz-Leite, R.O. Crajoinas, S.V. Omae, G. Malnic and A.C. Girardi.** Univ. of São Paulo.
- D213 II **867.24** Elucidating the role of a renal proximal tubule-specific olfactory receptor. **B.D. Shepard, L. Cheval, A. Doucet and J.L. Pluznick.** Johns Hopkins Univ. Sch. of Med. and Cordeliers Res. Ctr., Paris.
- D214 I **867.25** Fructose as a modulator of proximal tubule H<sup>+</sup> transport. **G.D. Queiroz-Leite, R.O. Crajoinas, E.A. Neri, C.N.A. Bezerra, A.C. Girardi, N.A. Rebouças and G. Malnic.** Univ. of São Paulo and Med. Sch., Univ. of São Paulo.
- D215 II **867.26** TRPV4 is a mechanotransducer of fluid flow in principal cells and intercalated cells of the renal collecting duct system. **J. Berrout, M. Jin, M. Mamenko, O.L. Zaika, O. Pochynyuk and R.G. O'Neil.** Univ. of Texas Hlth. Sci. Ctr., Houston.
- D216 I **867.27** Fluorescence imaging reveals differences in mitochondrial function along the collecting duct. **H.R. Courtneidge, C. Crawford, A.M. Hall and C.M. Peppiatt-Wildman.** UCL Ctr. for Nephrol., U.K. and Royal Vet. Col., London.
- D217 II **867.28** Bone loss and renal Ca<sup>2+</sup> wasting in experimental colitis is accompanied by downregulation of TRPV5 in renal distal convoluted tubules. **P.R. Kiela, V.M. Radhakrishnan, R.D. Thurston, C.B. Larmonier, R. Ramalingam, D. Laubitz and F.K. Ghishan.** Univ. of Arizona and Inst. of Biochem. and Biophys., Polish Acad. of Sci., Warsaw.
- D218 I **867.29** Transcriptional regulation of renal NCX1 by IFN $\gamma$  in colitis. **V.M. Radhakrishnan, R.D. Thurston, C.B. Larmonier, A. Fritz, R. Ramalingam, P.R. Kiela and F.K. Ghishan.** Univ. of Arizona.
- D219 II **867.30** Na-K ATPase regulation by cardioglycosides: role of AT1R. **S.J. Khundmiri, M.L. Merchant and E.D. Lederer.** Univ. of Louisville and Robley Rex VA Med. Ctr.
- D220 I **867.31** Functional analysis of *CLCN5* mutations in patients with Dent's disease. **T. Grand, J. Teulon and S. Lourdel.** UMRS 872, UPMC Univ. Paris 6 and INSERM, Paris.
- D221 II **867.32** Physiological aspects of renal K<sup>+</sup>:Cl<sup>-</sup> cotransporters regulation. **Z.C. Melo, N. Vazquez, G. Gamba and A. Mercado.** Natl. Inst. of Med. Sci. and Nutr. Salvador Zubirán UNAM and Natl. Inst. of Cardiol. Ignacio Chávez, Mexico City.
- D222 I **867.33** Loss of Wnk3 is compensated for by ks-Wnk1 in the kidney of the mouse. **K. Mederle, M. Oppermann, A. Paliege and H. Castrop.** Univ. of Regensburg, Germany and Charité Berlin.
- D223 II **867.34** WNK3 prevents the Nedd4-2 inhibition of the renal Na-Cl cotransporter. **J.P. Arroyo, L. Rojas-Vega, D. Lagnaz, M. Castañeda-Bueno, C. Ronzaud, N. Vázquez, O. Staub and G. Gamba.** INNSZ - UNAM - IIB, Mexico City and Univ. of Lausanne.
- D224 I **867.35** WNK4 is required for the angiotensin II activation of NCC in vivo. **M. Castañeda-Bueno, L.G. Cervantes-Perez, N.H. Vazquez, N. Bobadilla, D. Alessi and G. Gamba.** Natl. Inst. of Med. Sci. and Nutr. Salvador Zubirán and UNAM, Mexico City and Univ. of Dundee, U.K.



- D225 **II** **867.36** Role of SPAK in mediating regulation of NCC in the kidney in response to low K diet. **J. Liu, R.A. Coleman, P.R. Grimm, E. Delpire, P.A. Welling and J.B. Wade.** Univ. of Maryland Sch. of Med. and Vanderbilt Univ. Sch. of Med.
- D226 **I** **867.37** SPAK, *osr1* and Cab39/MO25 form an interdependent signaling system which regulates thiazide-sensitive salt-transport, distal tubule mass and blood pressure. **P.R. Grimm, T. Taneja, J. Liu, R.A. Coleman, Y-Y. Chen, E. Delpire, J.B. Wade and P.A. Welling.** Univ. of Maryland Sch. of Med. and Vanderbilt Univ. Sch. of Med.
- D227 **II** **867.38** WNK4 phosphorylates mouse thiazide-sensitive Na-Cl cotransporter NCCc at threonine 48. **T. Na, G. Wu and J-B. Peng.** Univ. of Alabama at Birmingham.
- D228 **I** **867.39** EAST/SeSAME syndrome mutations partially disrupt trafficking of homomeric Kir4.1 channels and produce non-functional heteromeric Kir2.3/Kir4.1 channels. **B. Ortega, D. Li, B-Y. Kim, J.B. Wade and P.A. Welling.** Univ. of Maryland Sch. of Med.
- D229 **II** **867.40** Aldosterone modulates NCC involving MAPK ERK1/2 signaling pathway. **X. Feng, Y. Wang, P. Wu, E. Delpire, D. Gu and H. Cai.** Emory Univ., Wenzhou Med. Col., Xinhua Hosp., and Jiaotong Univ., China and Vanderbilt Univ. Med. Ctr.
- D230 **I** **867.41** Steviol, an aglycone of natural sweetener stevioside, slows MDCK cyst progression by reducing activity and expression of CFTR chloride channels. **C. Yuajit, C. Muanprasat and V. Chatsudhipong.** Fac. of Sci., Mahidol Univ., Thailand.
- D238 **II** **868.8** Diuretic versus toxic effects of *Aerva lanata* (Polpala) on kidney of Sprague Dawley rats. **M. Gunatilake, D. Lokuhetty, H.M.D.R. Herath, D.T. Edirisuriye, N.A. Bartholameuz, J. Wijayabandara, M.U. Kularatne and D. Anand.** Univ. of Colombo, Sri Lanka and Sultan Qaboos Univ., Oman.
- D239 **I** **868.9** Orchidopexy protects the apoptosis of spermatogenic cells in experimentally cryptorchid rats. **Y. Jiang, R. Li and Y. Guo.** The Third Hosp. of Hebei Med. Univ., China.
- D240 **II** **868.10** Role of ecto-5'-nucleotidase (CD73) in the development of renal fibrosis. **I. Carota, K. Höcherl and H. Castrop.** Univ. of Regensburg, Germany.
- D241 **I** **868.11** Hypertension induces proteinuria and renal fibrosis associated with endoplasmic reticulum stress in the Dahl salt-sensitive rat. **D.E. Jerome, V. Yum, M.M. Skelton, A.W. Cowley, R.C. Austin and J.G. Dickhout.** McMaster Univ., Canada, Med. Col. of Wisconsin and St. Joseph's Healthcare Hamilton, Canada.
- D242 **II** **868.12** MMP2 deficient mice are protected from hydronephrosis after unilateral urethral obstruction. **M.K. Tveitarås, T. Skogstrand, F. Helle, S. Leh, R.K. Reed, C. Chatziantoniou and M. Hultström.** Univ. of Bergen and Haukeland Univ. Hosp., Norway, Univ. Pierre et Marie Curie, Paris VI and Uppsala Univ., Sweden.
- D243 **I** **868.13** Remission of nephrotic syndrome resolves plasminogen/plasminuria and reverses the ability of urine to activate ENaC. **U.G. Friis, R.F. Andersen, S. Rittig, K.B. Buhl and B.L. Jensen.** Univ. of Southern Denmark and Aarhus Univ. Hosp., Denmark.
- D244 **II** **868.14** Carbamylated LDL: novel potential mechanistic factor for progression of kidney disease. **E.O. Apostolov, T.W. Fite, I.A. Gaidar, S.V. Shah and A.G. Basnakian.** Univ. of Arkansas for Med. Sci., Acad. of Med. Sci., Ukraine and Central Arkansas Veterans Healthcare Syst.
- D245 **I** **868.15** Meprins cleave the catalytic subunit of protein kinase A in a meprin isoform-specific manner. **E.M. Ongeri, R. Ranasinghe and J.S. Bond.** North Carolina A&T State Univ. and Penn State Col. of Med.
- D246 **II** **868.16** Regulation of annexin A1 expression in renal interstitial fibroblasts during chronic kidney disease. **H. Neymeyer, V. Reverte, S. Hohberger, F. Saez, S. Bachmann, F.J. Salazar and A. Paliege.** Charité Med. Univ. Berlin and Sch. of Med., Univ. of Murcia, Spain.
- D247 **I** **868.17** Endothelin ET<sub>A</sub> receptor blockade does not attenuate the rise in early markers of acute kidney injury following bilateral renal ischemia. **E.I. Boesen and K.E. Zoll.** Georgia Hlth. Sci. Univ. and Univ. of Evansville, IN.
- D248 **II** **868.18** Effect of carbon nanotubes on transepithelial resistance in barrier epithelial cells. **S. Lewis, H.I. Petrache, T. Roark, F. Witzmann and B.L. Blazer-Yost.** Indiana Univ.-Purdue Univ. Indianapolis and Indiana Univ. Sch. of Med.
- D249 **I** **868.19** Impaired kidney function and anatomy in dietarily-rescued calcineurin (alpha isoform) knockout mice. **J.L. Gooch, C. Ecelbarger, R.N. Reddy, S. Tsukerman and K. Madsen.** Emory Univ., DVA, Decatur, Georgetown Univ. and Univ. of Southern Denmark.
- D250 **II** **868.20** Involvement of TNF- $\alpha$  receptor type 2, but not the type 1, in angiotensin II-induced renal tissue injury in mice. **P. Singh, L. Bahrami, A. Castillo and D.S.A. Majid.** Tulane Univ. Sch. of Med.

## 868. RENAL PATHOLOGY, TOXICOLOGY AND CYSTIC DISEASES

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D231 **I** **868.1** Ginkgolide B inhibits renal cyst development in in vitro and in vivo cyst models. **B. Yang, H. Zhou, J. Gao and Y. Xia.** Peking Univ. and Chinese Univ. of Hong Kong.
- D232 **II** **868.2** Dysfunction of TRPV4 channels in the collecting duct-derived cysts of ARPKD. **O.L. Zaika, M. Mamenko, J. Berrou, R.G. O'Neil and O. Pochynyuk.** Univ. of Texas Hlth. Sci. Ctr. at Houston.
- D233 **I** **868.3** Role of calcineurin in polycystin protein trafficking to the primary cilium in LLCPK cells. **A.L. Gilder, H.C. Chapin and M.J. Caplan.** Yale Univ. and Univ. of Washington.
- D234 **II** **868.4** Low dose PPAR $\gamma$  agonist inhibition of cyst growth in the PCK rat model of polycystic kidney disease. **S.M. Flaig, A. Carr, V. Gattone and B. Blazer-Yost.** IUPUI and Indiana Univ. Sch. of Med., Indianapolis.
- D235 **I** **868.5** Reduced proteoglycans, cystic disease and primary cilia. **M.C. Munteanu, R.S. Mansat, E. Condac, B. Ferencz, F. Lupu and M.E. Hinsdale.** Oklahoma State Univ. and Oklahoma Med. Res. Fndn.
- D236 **II** **868.6** Nek1 regulation of VHL and cilia. **M. Patil, N. Pabla and Z. Dong.** Georgia Hlth. Sci. Univ. and Caltech.
- D237 **I** **868.7** Interactions of polycystin 2 and TRPV4 in polycystic kidney disease. **K.M. Sas, M. Amria and P.D. Bell.** Med. Univ. of South Carolina.

**869. DIABETES AND INSULIN RESISTANCE II****Poster**

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D251 **I** **869.1** Amelioration of insulin resistance by rosiglitazone is associated with increased adipose cell size in obese type 2 diabetics. **J. Yang, B. Eliasson, U. Smith, S.W. Cushman and A. Sherman.** Univ. of South Alabama Col. of Med., NIDDK/NIH and Univ. of Gothenburg, Sahlgrenska Univ. Hosp., Sweden.
- D252 **II** **869.2** Effects of exercise training on adipokines and glucose tolerance in non-obese spontaneously type 2 diabetic torii rats. **H. Kondo, H. Fujino, S. Murakami, F. Nagatomo, T. Morifuji, N. Fujita, M. Tanaka and A. Ishihara.** Nagoya Women's Univ., Kobe Univ. and Kyoto Univ., Japan.
- D253 **I** **869.3** High fat feeding alters vasoconstrictor responsiveness in rat skeletal muscle by increasing inducible nitric oxide synthase activity. **S.M. Richards, C.T. Bussey, M.A. Keske and S. Rattigan.** Menzies Res. Inst. Tasmania, Australia and Univ. of Otago, New Zealand.
- D254 **II** **869.4** Fasting hyperglycemia blunts the regression of impaired glucose tolerance in older adults after lifestyle modification. **S.K. Malin and J.P. Kirwan.** Cleveland Clin.
- D255 **I** **869.5** Differential effects of a high-fructose diet or a high-fat/high-sucrose diet on the mitochondrial ROS production and respiration in rat liver and skeletal muscle. **K. Couturier, M. Le Guen, C. Coudray, C. Feillet-Coudray, C. Wrutniak-Cabello, G. Cabello and H. Dubouchaud.** Univ. Joseph Fourier, Grenoble and INRA, Montpellier.
- D256 **II** **869.6** Anti-obesity effects of resveratrol: from in vivo to in vitro study. **K-Y. Lin, K-Y. Peng and L-M. Hung.** Chang Gung Univ., Taiwan.
- D257 **I** **869.7** Possible mechanism of neutrophil death in diabetes mellitus. **W.M.T. Kuwabara, R. Curi and T.C. Alba-Loureiro.** Univ. of São Paulo.
- D258 **II** **869.8** Treatment with sulodexide, an endothelial glycocalyx-mimetic, restores glucose tolerance in high-fat diet-fed mice. **B.J.M. Eskens, H. Vink and J.W.G.E. van Teeffelen.** Maastricht Univ., Netherlands.
- D259 **I** **869.9** Association between HOMA-B and A1C levels in Haitian Americans with type 2 diabetes. **G.G. Zarini, J.C. Exebio, C. Podesta and F.G. Huffman.** Florida Intl. Univ.
- D260 **II** **869.10** Exercise training alters postprandial serum RBP4 in older adults. **J. Brandauer, E.P. Weiss, D.M. Berardinelli and J.M. Hagberg.** Gettysburg Col., Univ. of Maryland College Park and Saint Loius Univ.
- D261 **I** **869.11** miRNA-141 is a potential regulator of the mitochondrial phosphate carrier (slc25a3) in the type 1 diabetic heart. **D. Thapa, W.A. Baseler, R. Jagannathan, E.R. Dabkowski, T.L. Croston, C.E. Nichols, D.L. Shepherd, S.E. Lewis and J.M. Hollander.** West Virginia Univ.
- D262 **II** **869.12** A carbohydrate restricted-high fat diet reduces blood pressure in spontaneously hypertensive rats without causing insulin resistance. **T. Jalili, J. Bosse, V. Dolinsky, Q-J. Zhang, E.D. Abel and J.D. Symons.** Univ. of Utah and Univ. of Manitoba.

- D263 **I** **869.13** HDAC6 regulates mitochondrial oxidative phosphorylation by ATP synthase beta subunit acetylation in diabetic cardiomyopathy. **R. Jagannathan, W.A. Baseler, D. Thapa, T.L. Croston, D.L. Shepherd, C.E. Nichols and J.M. Hollander.** West Virginia Univ.
- D264 **II** **869.14** Dietary isoflavones and supplemental selenium show interactive effects on blood-glucose homeostasis in male FVB mice. **B.R. Cardon, M.T. Stallings, S.E. Brunson, C.M. Hart, M.D. Swiss, S.D. Hepworth, M.J. Christensen and C.R. Hancock.** Brigham Young Univ.
- D265 **I** **869.15** Activation of malonyl-CoA/fatty acid synthase axis is an early event in the effects of insulin in human skeletal muscle myotubes: implication for obesity linked insulin resistance. **V. Ritov, A. Chacon, E. Menchikova, J. DeLany and J. Dube.** Univ. of Pittsburgh.
- D266 **II** **869.16** Homocysteine levels and outside-in insulin signaling in human and mouse tissues. **M. Pansuria, X-F. Yang and H. Wang.** Temple Univ. Sch. of Med.
- D267 **I** **869.17** Impaired fasting glucose and enhanced endothelin-1 vasoconstrictor tone. **J. Ma, K. Diehl, D. Templeton, J. Greiner, B. Stauffer and C. DeSouza.** Univ. of Colorado Boulder.
- D268 **II** **869.18** Atg6 deficiency exacerbates glucose intolerance in mice on high-fat diet. **N.P. Greene, V.A. Lira and Z. Yan.** Univ. of Virginia.
- D269 **I** **869.19** The good, the bad and the ugly? The role of exercise on obesity-induced chemerin expression. **J.W. Lloyd, P. Owusu, M. Sieburg, E.M. Heckstall, Y. Kim, K. Zeffass and S. Keslacy.** Syracuse Univ.
- D270 **II** **869.20** Losartan abolished hyperglycemic effect of chronic mild and unpredictable stress in rats. **F.K. Marcondes, A. Sanches, R. Costa, T.S. Cunha and D.E. Casarini.** Piracicaba Dent. Sch., Brazil and State Univ. of São Paulo.
- D271 **I** **869.21** NADPH oxidase mutation protects against skeletal muscle insulin resistance in high-fat-fed mice. **C.S. Stump, G. Chen, M.K. Diamond-Stanic, M. Cantoria and E.J. Henriksen.** Univ. of Arizona and Southern Arizona VA Hlth. Care Syst.
- D272 **II** **869.22** Insulin signaling and caveolae: role of TNF alpha in the development of insulin resistance in C2C12 myocytes. **J. Vallejo, A. Gunn, G. Miraglia, C. Gordon and D. Boyack.** Midwestern Univ., AZ.
- D273 **I** **869.23** Duration of fast alters fasting glucose levels, response to oral glucose load, and weight in the mouse. **P. Schork and K.M.S. Johnson.** Beloit Col., WI.
- D274 **II** **869.24** Chronic hyperinsulinemia sensitizes myocytes to hyperglycemia-induced cell death. **R. Harmancey, G. Lubrano, T.N. Lam and H. Taegtmeier.** Univ. of Texas Hlth. Sci. Ctr., Houston.

**870. VASCULAR SMOOTH MUSCLE****Poster**

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D275 **I** **870.1** Role of miRNAs for vascular smooth muscle mechano-sensing and contractile function. **S. Albinsson.** Lund Univ., Sweden.

- D276 II **870.2** The  $Ca_v1.2$  channel C-terminus fragment is a transcriptional vasodilator. **J.P. Bannister, M. Dennis Leo, D. Naryanan, A. Nair, J. Pachuan and J.H. Jagggar.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- D277 I **870.3** MYPT1 isoform expression is regulated by p42/44 signaling. **N.J. Brozovich, G. Hawes, S. Yuen, O. Ogut and F.V. Brozovich.** Mayo Med. Sch.
- D278 II **870.4** Smooth muscle cell TMEM16A channels contribute to myogenic constriction in cerebral arteries. **S. Bulley, Z.P. Neeb, C. Thomas-Greenwood, S.K. Burris and J.H. Jagggar.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- D279 I **870.5** Interplay between gap junctions and K2P-channels: the switch from PDBu-elicited contraction to the dilation of the thoracic aorta. **R. Bychkov, L. Cubano, S. Hayoz and H. Maldonado.** Univ. Central del Caribe, PR.
- D280 II **870.6** Stretch induces CRP3 expression in vein grafts. **L.C.G. Campos, A.A. Miyakawa, V.G. Barauna, T.F. Borin, L.A.O. Dallon and J.E. Krieger.** Univ. of São Paulo Med. Sch. and Heart Inst., São Paulo.
- D281 I **870.7** In vitro tolerance after incubation with nitroglycerin is due to increased reactive oxygen species in the endothelial cells. **V.B. de Rezende Dias, B.R. Silva, L. Pernomian and L.M. Bendhack.** Univ. of São Paulo.
- D282 II **870.8** Peptide expression and purification to elucidate the mechanism of vascular  $\alpha$ -2C adrenoceptor translocation. **R. Fidelibus, S.C. Jeyaraj, N.T. Unger, B.J. Biesiadecki and M.A. Chotani.** Nationwide Children's Hosp. and The Ohio State Univ. Col. of Med.
- D283 I **870.9** TLR-9 activation potentiates the role of ERK1/2 in thromboxane  $A_2$ -induced contractions in uterine but not in resistance arteries. **S. Gouloupoulou, T. Matsumoto and R.C. Webb.** Georgia Hlth. Sci. Univ. and Hoshi Univ., Japan.
- D284 II **870.10** A chronic method for measuring real-time pulse wave velocity in conscious rodents. **J. Grenwis, H. Bogie and B. Main.** Data Sci. Intl., New Brighton, MN.
- D285 I **870.11** Integrin-dependent and -independent potentiation of BKCa channel current by cell stretch. **P. Gui, A.P. Braun and M.J. Davis.** Univ. of Missouri-Columbia and Univ. of Calgary, Canada.
- D286 II **870.12** Protein kinase A-mediated inhibition of T-type  $Ca^{2+}$  channels in the cerebral circulation. **O.F. Harraz and D.G. Welsh.** Univ. of Calgary, Canada.
- D287 I **870.13** Modulation of angiotensin II effects in vascular smooth muscle cells by microRNAs. **W. Jin, M.A. Reddy, Z. Chen, S. Putta, L. Lanting, M. Kato, J.T. Park, M. Chandra, C. Wang, R. Tangirala and R. Natarajan.** Beckman Res. Inst. of City of Hope.
- D288 II **870.14** Researcher beware! Decreased TG2 and OCT3 expression in vascular smooth muscle cells upon culture. **K.B. Johnson, H. Petersen-Jones and S.W. Watts.** Michigan State Univ.
- D289 I **870.15** MAPK phosphorylation of connexin 43 promotes binding of cyclin E and smooth muscle cell proliferation. **S.R. Johnstone, B.M. Kroncke, A.C. Straub, A.K. Best, C.A. Dunn, M. Koval, P.D. Lampe, L. Columbus and B.E. Isakson.** Univ. of Virginia, Fred Hutchinson Cancer Res. Ctr. and Univ. of Emory.
- D290 II **870.16** Monoamine oxidase and ATPase activity in intrapulmonary arteries in broiler chickens with IPAH. **H.A. Kluess, K.W. Evanson, A.J. Stone and R.F. Wideman.** Auburn Univ. and Univ. of Arkansas.
- D291 I **870.17** Role of L-type voltage dependent calcium and large conductance potassium channels in adenosine  $A_1$  receptor mediated vasoconstriction through *Cyp4a*. **S.S. Kunduri, M.A. Nayeem, D.S. Ponnoth, S. Tilley and S.J. Mustafa.** West Virginia Univ. and Univ. of North Carolina at Chapel Hill.
- D292 II **870.18** Enhancement of the large conductance,  $Ca^{2+}$ -activated  $K^+$  (BK) channel current by cGMP-dependent protein kinase requires multiple phosphorylation sites on the C-terminal tail. **B.D. Kyle, S. Hurst and A.P. Braun.** Univ. of Calgary, Canada.
- D293 I **870.19** Probenecid protects vascular contractile of thoracic aorta in rats under hypotonic condition by blocking pannexin-1. **B. Li, X. Kong, X. Guan and Q. Xia.** Zhejiang Univ., China.
- D294 II **870.20** Hydrogen sulfide activates  $Ca^{2+}$  sparks to induce cerebral arteriole dilation. **G.H. Liang, Q. Xi, C.W. Leffler and J.H. Jagggar.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- D295 I **870.21** Diabetes mellitus modifies endothelial SERCA activity producing a prostaglandin dependent vascular hypercontractility. **J.H. Morales-Loredo and R. Espinosa-Tanguma.** Sch. of Med., Autonomous Univ. of San Luis Potosi, Mexico.
- D296 II **870.22** Comparison of the tolerance on the venous relaxation induced by nitroglycerin and by the new nitrite donor *cis*-[Ru(bpy) $_2$ (py)(NO $_2$ )](PF $_6$ ). **M. Paulo, R.S. da Silva and L.M. Bendhack.** Univ. of São Paulo, Ribeirão Preto.
- D297 I **870.23** Decreased protein expression and activity of transglutaminases 1 and 2 in arteries from DOCA-salt rats. **H. Petersen-Jones, K.B. Johnson, J.M. Thompson and S.W. Watts.** Michigan State Univ.
- D298 II **870.24** Wall stress initiates the nuclear export and degradation of phosphorylated myocardin in vascular smooth muscle cells. **L. Pfisterer, A. Feldner, M. Hecker and T. Korff.** Univ. of Heidelberg, Germany.
- D299 I **870.25** Sex-related differences in monoamine oxidase activity. **L.P. Salom, K.W. Evanson, A.J. Stone and H.A. Kluess.** Auburn Univ. and Univ. of Arkansas.
- D300 II **870.26** Phenylephrine stimulates the production of reactive oxygen species in endothelial cells from hypertensive but not in normotensive rat aorta. **B.R. Silva, L. Pernomian and L.M. Bendhack.** Univ. of São Paulo, Ribeirão Preto.
- D301 I **870.27** Endothelium modulates the contractile effect of RhoA activation in rat aorta. **I.S. Stallmann-Jorgensen, S. Gouloupoulou and R.C. Webb.** Georgia Hlth. Sci. Univ.
- D302 II **870.28** AMP-activated protein kinase reduces vascular smooth muscle growth by inhibiting actin cytoskeleton dynamics necessary for migration. **J.D. Stone, J.R. Vuncannon, P. Shaver, J.C. Fox and D.A. Tulis.** East Carolina Univ.
- D303 I **870.29** AMP-activated protein kinase reduces vascular smooth muscle growth by inhibiting TGF- $\beta$ /Smad signaling and MMP activity. **J.D. Stone, J.R. Vuncannon, P. Shaver, J.C. Fox and D.A. Tulis.** East Carolina Univ.
- D304 II **870.30** Hypoxia attenuates the ability of cyclic guanine-dependent protein kinase to increase BK channel activity. **R.B. Thorpe, J.M. Williams and W.J. Pearce.** Loma Linda Univ.

- D305 I **870.31** An imaging apparatus for simultaneous measurement of isometric contraction and Ca<sup>2+</sup> fluorescence in large blood vessels of the rat. **N.R. Tykocki, R.W. Wiseman, W.F. Jackson and S.W. Watts.** Michigan State Univ.
- D306 II **870.32** Physical association of angiotensin-II type 1 receptor and NOX-1 mediates NF-κB and AP-1-dependent interleukin-18 induction and aortic SMC migration and proliferation. **A.J. Valente, T. Yoshida, R. Wekerle, M. Katsuyama and B. Chandrasekar.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio, Tulane Univ. Sch. of Med., Kyoto Prefect. Univ. of Med., Japan and Southeast Louisiana Veterans Hlth. Care Syst.
- D307 I **870.33** Monocytes induce apoptosis of vascular smooth muscle cells via a monocyte chemoattractant protein-1-mediated mechanism. **Q. Wang, S. Morgan and B. Liu.** Univ. of Wisconsin-Madison.
- D308 II **870.34** Pharmacological studies of BK and L-type Ca<sup>2+</sup> channel function in mesenteric arteries and veins from obese patients. **H. Xu, R.E. Watson, P. Yenumula, R. Fernandes, C.N. Pereira-Hicks, G.D. Fink and J.J. Galligan.** Michigan State Univ.
- D309 I **870.35** Differences in phosphorylation-mediated K<sup>+</sup> channel regulation between vascular smooth muscle cells from cremaster and cerebral resistance vessels. **Y. Yang, A.P. Braun, M.J. Davis and M.A. Hill.** Univ. of Missouri-Columbia and Univ. of Calgary, Canada.
- D310 II **870.36** Stimulation of thromboxane A<sub>2</sub> receptor induced the constriction and remodeling of the ductus arteriosus in the rat. **T. Yokota, T. Aida, R. Shiraishi, Y. Ichikawa, T. Fujita and U. Yokoyama.** Waseda Univ. and Yokohama City Univ., Japan.
- D311 I **870.37** Flow-regulation of vascular smooth muscle cell proliferation: roles of endothelial cell-secreted microRNA-126. **J. Zhou, J.Y-S. Li and S. Chien.** UCSD.

## 871. LUNG PHYSIOLOGY: VASCULAR REGULATION AND SMOOTH MUSCLE CELL BIOLOGY

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D312 I **871.1** Aquaporin 1 mediates migration and growth in pulmonary arterial smooth muscle cells. **N. Lai, J. Maylor, K. Leggett, C. Udem, M. Crow and L. Shimoda.** Johns Hopkins Med. Instns.
- D313 II **871.2** ET-1-induced superoxide-dependent NFATc3 activation. **J.M. Ramiro Diaz, C.H. Nitta, M.L. Sherpa and L.V. Gonzalez Bosc.** Univ. of New Mexico.
- D314 I **871.3** Characterization of NAADP-induced global and local calcium signals in rat pulmonary arterial smooth muscle cells. **Y-L. Jiang, A.H.Y. Lin, S. Lee, Y. Xia and J.S.K. Sham.** Johns Hopkins Univ. and Guangzhou Med. Col., China.
- D315 II **871.4** Alteration of CD38 and two-pore channels expression by hypoxia exposure in pulmonary arterial smooth muscle. **S. Lee, Y. Jiang and J.S.K. Sham.** Johns Hopkins Bloomberg Sch. of Publ. Hlth., Johns Hopkins Univ. and Guangzhou Med. Col., China.

- D316 I **871.5** Mechanism of hydrogen sulfide mediated contraction in rat small pulmonary arteries. **P.I. Aaronson, J. Prieto-Lloret, V.A. Snetkov, M.J. Connolly and J.P.T. Ward.** King's Col. London.
- D317 II **871.6** O<sub>2</sub> sensing and Ca<sup>2+</sup> release in hypoxic pulmonary vasoconstriction in non-precontracted pulmonary arteries from rats. **P.I. Aaronson, M.J. Connolly, J. Prieto-Lloret and J.P.T. Ward.** King's Col. London.

## 872. HYPERTENSION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D318 I **872.1** Transient cyclooxygenase inhibition blocks development of chronic angiotensin II-salt hypertension. **N. Asirvatham-Jeyaraj and G.D. Fink.** Michigan State Univ.
- D319 II **872.2** Overexpression of Na/Ca exchanger-1 in vascular smooth muscle leads to elevated basal blood pressure and increased responses to angiotensin II. **L. Chen, M. Li, W.G. Wier, J. Wang and J. Zhang.** Univ. of Maryland Sch. of Med.
- D320 I **872.3** Tissue angiotensin II type 1 receptor expression in development of hypertension in SHR/Brown Norway backcross rats. **J. Collett, A. Ighodaro and J.L. Osborn.** Univ. of Kentucky Sch. of Biol. Sci.
- D321 II **872.4** Peripheral macrophage depletion impairs phenylephrine mediated contraction in aorta from stroke prone spontaneously hypertensive rats, but does not alter the effect of perivascular fat. **A.M. Dorrance, P.W. Pires, J.L. McClain and S.W. Watts.** Michigan State Univ.
- D322 I **872.5** The differential contribution of splanchnic and renal nerves to the maintenance of Dahl salt-sensitive hypertension. **J.D. Foss, J.W. Osborn and G. Fink.** Univ. of Minnesota, Minneapolis and Michigan State Univ.
- D323 II **872.6** Effect of differentially selective S1P receptor agonists on cardiovascular function after acute and long-term administration in rat suggestive of subtype-specific bradycardia (S1P<sub>1</sub>) and hypertension (S1P<sub>3</sub>). **R.M. Fryer, A. Muthukumarana, P.C. Harrison, S.G. Nodop Mazurek and G.A. Reinhart.** Boehringer-Ingelheim Pharmaceuticals, Inc., Ridgefield, CT.
- D324 I **872.7** Morphological characterization of intrinsic cardiac nervous system in left ventricular hypertrophy. **M. Gomez, A. Reynoso, R. Giles and G. Flores.** Autonomous Univ. of Puebla, Mexico.
- D325 II **872.8** Exercise training modulates right ventricular function and remodeling in experimental pulmonary arterial hypertension. **D. Gonçalves, H. Fonseca, R. Ferreira, A.I. Padrão, F. Vasques-Nóvoa, S. Vieira, M. Pinto, N. Gonçalves, M. Neto, R. Paixão, F. Amado, J. Alberto Duarte, A. Leite-Moreira and T. Henriques-Coelho.** Univ. of Porto and Univ. of Aveiro, Portugal.
- D326 I **872.9** Atorvastatin, sildenafil and their combination downregulate matrix metalloproteinases in 2K1C hypertension. **D.A. Guimaraes, E. Rizzi, C.S. Ceron, A.M. Oliveira, R.F. Gerlach and J.E. Tanus dos Santos.** Univ. of São Paulo.
- D327 II **872.10** Atherogenic index of plasma: a significant indicator for the onset of atherosclerosis during menopause in hypertensive females of Southeast Nigeria. **J.C. Igweh.** Delta State Univ., Nigeria.

- D328 I **872.11** Progression of microalbuminuria in SHR is associated with diminished expression of proteins that belong to the receptor-mediated endocytosis macromolecular complex. **B.H. Inoue, M.O. Machado and A.C. Girardi.** Univ. of São Paulo.
- D329 II **872.12** The adenosine system in skeletal muscle of individuals with essential hypertension and the effect of physical training. **L.G. Jensen, M. Nyberg, P. Thaning, Y. Hellsten and S.P. Mortensen.** Univ. of Copenhagen and Copenhagen Univ. Hosp.
- D330 I **872.13** A small molecule inhibitor of signal transducer and activator of transcription 3 protects against angiotensin II-induced vascular dysfunction and hypertension. **A.W. Johnson and F.M. Faraci.** Univ. of Iowa.
- D331 II **872.14** Early damage in 2k1c hypertension is driven by cytokine generation of parenchymal cells. **J. Kaiser, J. Cheng, G.M. Warner, B.E. Knudsen, C.E. Gray, K.R. Lien, J.E. Juskewitch and J.P. Grande.** Paracelsus Medizinische Privatuniversität, Austria and Mayo Clin.
- D332 I **872.15** ER stress inhibition reduces cardiac damage and improves endothelial function in hypertensive mice. **M. Kassan, M. Galan, M. Partyka, D. Henrion, M. Trebak and K. Matrougui.** Tulane Univ., Angers Univ., France and Ctr. for Cardiovasc. Sci., Albany, NY.
- D333 II **872.16** Effect of hypertension on dendritic cells and a potential role of isoketals. **A. Kirabo, W. Chen, J. Wu, S. Thabet, A. Bikineyeva, S. Dikalov, J. Roberts, V. Amarnath, S.S. Davies and D.G. Harrison.** Sch. of Med., Vanderbilt Univ.
- D334 I **872.17** Metformin treatment of angiotensin II-hypertensive rat decreases phenylephrine-mediated increased contraction in pudendal arteries. **H. Labazi and R.C. Webb.** Georgia Hlth. Sci. Univ.
- D335 II **872.18** Proteasome inhibition attenuates angiotensin II-induced hypertension and vascular remodeling. **S. Li, X. Wang and D. Martin.** Univ. of South Dakota.
- D336 I **872.19** K2P6.1 knockout mice have varied endothelial-mediated relaxation with elevated endothelial-mediated contraction. **E.E. Lloyd, R.F. Crossland, L.M. Pandit, S.P. Marrelli and R.M. Bryan, Jr.** Baylor Col. of Med.
- D337 II **872.20** Endothelial biomarkers as indicators of cardiovascular complications in young patients with arterial hypertension. **N.P. Lyamina, S.V. Lyamina, H.F. Downey and E.B. Manukhina.** Inst. of Cardiol., Saratov, Russia, , Moscow State Univ. of Med. & Dent., Univ. of North Texas Hlth. Sci. Ctr. and Inst. of Gen. Pathol. and Pathophysiol., Moscow.
- D338 I **872.21** Effects of slow breathing exercises on reduction of arterial blood pressure and changes in NOergic biomarkers over meridians. **S-X. Ma, I. Jiang, B. Smith and J. Hu.** David Geffen Sch. of Med. at UCLA and Harbor-UCLA Med. Ctr.
- D339 II **872.22** The correlation of pharmacodynamic activity of mineralocorticoid receptor antagonism with its blood pressure lowering effect in rat with the remnant kidney. **X. Ma, L. Contino, S. Stribling, N. Chen, P. Yi, L. Wang, O. Price, C. Loewrigkeit, C.A. Keohane, N. Jochowitz, A. Parlapiano, L. Gichuru, X. Ping, A. Wickham, D. Szeto, M. Crook, L-Y. Pai and J. Metzger.** Merck Res. Labs.
- D340 I **872.23** Intermittent hypoxia conditioning improves basal and stimulated nitric oxide production in spontaneously hypertensive rats. **E.B. Manukhina, D. Jasti and H.F. Downey.** Inst. of Gen. Pathol. and Pathophysiol., Moscow and Univ. of North Texas Hlth. Sci. Ctr.
- D341 II **872.24** Mineralocorticoid receptors activation in choroid plexus and PVN exaggerates salt-induced development of hypertension in stroke-prone spontaneously hypertensive rats. **M. Nakano, Y. Hirooka, R. Matsukawa, K. Ito and K. Sunagawa.** Kyushu Univ. Grad. Sch. of Med. Sci., Japan.
- D342 I **872.25** Central nNOS neuron functions to compensate salt-sensitive hypertension in Dahl rats. **Y. Nishida, M. Tandai-Hiruma, T. Kemuriyama, S. Maruyama, H. Ohta, A. Tashiro, I. Takashi, R. Tamura and K. Hagsisawa.** Natl. Def. Med. Col., Japan.
- D343 II **872.26** AKAP150 is required for NFATc3-induced vascular BKCa channel suppression during diabetic hypertension. **M.A. Nystoriak, M. Nieves-Cintrón, S.A. Hinke, J.D. Scott, L.F. Santana and M.F. Navedo.** Univ. of Washington.
- D344 I **872.27** Effects of testosterone on vascular reactivity in male Sprague-Dawley rats fed a high salt diet. **A.K. Oloyo, Y. Momoh, O. Sofola and A. Oyekan.** Univ. of Lagos, Nigeria and Texas Southern Univ.
- D345 II **872.28** The role of plasma IL-6 and IL-10 during DOCA-salt hypertension. **M. Ongele, R. Duan and D.L. Lee.** Howard Univ.
- D346 I **872.29** Enhanced endothelin-1 response in mesenteric arteries in acquired and inherited forms of hypertension. **V.M. Pulgar, A.B. Jeffers, D.I. Diz and A.A. Aileru.** Winston Salem State Univ. and Wake Forest Sch. of Med.
- D347 II **872.30** Na-K-ATPase isoform profile in acquired and genetic forms of hypertension favors the hypertensive phenotype. **V.M. Pulgar, H.M. Rashad, A.B. Jeffers, S-R. Dickenson, D.I. Diz and A.A. Aileru.** Winston-Salem State Univ. and Wake Forest Sch. of Med.
- D348 I **872.31** Increased myogenic reactivity and decreased vasodilation of resistance caliber uterine arteries from pregnant rats with periodic reductions in uterine perfusion pressure. **J.J. Reho, J.D. Toot, J. Peck, J. Novak and R.J. Ramirez.** Univ. of Akron and Walsh Univ., OH.
- D349 II **872.32** Renal extracellular matrix in three rat-models of hypertensive kidney damage: a microarray study of SHR, SHRSPp and 2K1C. **T. Skogstrand, M. McBride, J. McClure and M. Hultström.** Univ. of Bergen, Norway, Univ. of Glasgow, U.K., Haukeland Univ. Hosp., Bergen and Uppsala Univ., Sweden.
- D350 I **872.33** Febuxostat inhibition of xanthine oxidase does not impact blood pressure in the established DOCA-salt hypertension. **T. Szasz, R.P. Davis, H.S. Garver, R.J. Burnett, G.D. Fink and S.W. Watts.** Georgia Hlth. Sci. Univ. and Michigan State Univ.
- D351 II **872.34** Renal afferent nerve stimulation induces baroreflex resetting through the activation of sympathorenal axis without compromising arterial pressure buffering function. **T. Tobushi, K. Hosokawa, Y. Murayama, K. Saku, K. Onitsuka, T. Sakamoto, K. Sakamoto, T. Fujino, M. Ikeda, T. Kakino, T. Ide and K. Sunagawa.** Grad. Sch. of Med. Sci., Kyushu Univ., Japan.
- D352 I **872.35** Impaired endothelial function in ovariectomized rats: effects of tempol. **D. Wang, H. Ji, W. Zheng, X. Wu, W.J. Welch, K. Sandberg and C.S. Wilcox.** Georgetown Univ.
- D353 II **872.36** PPAR- $\alpha$  regulates NOX2 and SOD expression in the heart during angiotensin II hypertension. **J.L. Wilson, K. Sankavaram, R. Duan, J.S. Allard and D.L. Lee.**

- Howard Univ.
- D354 I **872.37** The effects of captopril treatment and exercise training on blood pressure and endothelium function in the spontaneously hypertensive rat. **V. Woods, G. Coleman-Shepherd, J. Runnels and A. Keaton.** Prairie View A&M Univ.
- D355 II **872.38** Cyclooxygenase-2-dependent neuroinflammation and oxidative stress in rostral ventrolateral medulla contribute to neurogenic hypertension following chronic systemic inflammation. **K.L-H. Wu, J.Y-H. Chan and S.H.H. Chan.** Kaohsiung Chang-Gung Mem. Hosp., Taiwan.

## 873. LUNG PHYSIOLOGY: PULMONARY HYPERTENSION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D356 I **873.1** microRNA-98 negatively regulates hypoxia-induced endothelin-1 expression in human pulmonary artery endothelial cells. **B-Y. Kang, K.K. Park, R.L. Sutliff and C.M. Hart.** Atlanta VA and Emory Univ. Med. Ctrs.
- D357 II **873.2** microRNA-27a and PPAR $\gamma$  regulate endothelin signaling in sickle cell disease-related pulmonary hypertension. **B-Y. Kang, K.K. Park, F. Tan, R.L. Sutliff, S.F. Ofori-Acquah and C.M. Hart.** Atlanta VA and Emory Univ. Med. Ctrs.
- D358 I **873.3** Use of protein chaperones to correct BMP receptor processing errors in hereditary pulmonary arterial hypertension. **A. Frump and M. de Caestecker.** Vanderbilt Univ.
- D359 II **873.4** Anti-endothelial cell antibodies in pulmonary arterial hypertension. **R. Morrow, K.A. Fagan and D.L. Cioffi.** Univ. of South Alabama.
- D360 I **873.5** Combinatorial inhibitory effects on VSV-GtsO45GFP trafficking in human endothelial cells due to functional haploinsufficiency of BMPRII, eNOS, STAT5a and STAT5b. **Y-M. Yang, J.E. Lee and P.B. Sehgal.** New York Med. Col.
- D361 II **873.6** Synergistic effects of prostacyclin analogs and PDE5 inhibitors on ATP release from erythrocytes: implications for the treatment of pulmonary hypertension. **R.S. Sprague, M.M. Elrick, E.A. Bowles, A.K. Zdanovec, A.H. Stephenson and M.L. Ellsworth.** Saint Louis Univ.
- D362 I **873.7** Cyclic nucleotides cause divergent ryanodine receptor modulation in pulmonary arterial myocytes from immature chronic hypoxic sheep. **M. Rubalcava, N.J. Osman, Q. Blood, J.H. Kim, L.D. Longo and S.M. Wilson.** Loma Linda Univ.
- D363 II **873.8** Caveolin-1 and BKCa channel activity in pulmonary arterial smooth muscle. **S. Zhu, D. Fulton, F. Chen, R. White and S. Barman.** Georgia Hlth. Sci. Univ.
- D364 I **873.9** Glucose-6-phosphate dehydrogenase regulates pulmonary artery smooth muscle cell phenotype. **S. Chettimada, R. Gupte and S. Gupte.** Univ. of South Alabama.
- D365 II **873.10** Thioredoxin-1 mediates hypoxia-induced pulmonary artery smooth muscle cell proliferation. **T.E. Tipple, V. Nelin, Y. Gin, L. Rogers and L. Nelin.** Nationwide Children's Hosp., Columbus.
- D366 I **873.11** Endogenous and pharmacological inhibition of calpain decreases migration of hypoxic pulmonary arterial smooth muscle cells. **J. Maylor, A. Zaiman and L. Shimoda.** Johns Hopkins Med. Instns.
- D367 II **873.12** Mechanisms that decrease human neprilysin gene expression in cigarette smoke-induced pulmonary vascular disease. **M.J. Wick, Z.L. Loomis, L.B. Hersh and E.C. Dempsey.** Univ. of Colorado Anschutz Med. Campus, Denver VA Med. Ctr. and Univ. of Kentucky.
- D368 I **873.13** An experimental chronic obstructive pulmonary disease model induced by cigarette smoke and bacterial infection. **Y. Li, J. Li, S. Li, L. Deng, Y. Tian, S. Jiang, Y. Wang and Y. Wang.** The First Affiliated Hosp. of Henan Univ. of Traditional Chinese Med. and Henan Univ. of Traditional Chinese Med.
- D369 II **873.14** Decreased membrane cholesterol facilitates depolarization-induced Ca<sup>2+</sup>-sensitization in pulmonary vascular smooth muscle following chronic hypoxia. **C.E. Norton, J.S. Naik, B.R. Walker and T.C. Resta.** Univ. of New Mexico.
- D370 I **873.15** Role of mitochondrial reactive oxygen species and actin polymerization in PKC-dependent constriction of small pulmonary but not mesenteric arteries. **J.B. Snow, M.A. Sands, L.V. Gonzalez Bosc, B.R. Walker and T.C. Resta.** Univ. of New Mexico.
- D371 II **873.16** Roles for cytosolic NADPH redox in regulating pulmonary artery relaxation by thiol oxidation-elicited subunit dimerization of protein kinase G 1 $\alpha$ . **B.H. Neo, S. Kandhi and M.S. Wolin.** New York Med. Col.
- D372 I **873.17** Hsp90 inhibition prevents monocrotaline-induced pulmonary hypertension in rats, as revealed by high resolution echocardiography. **C. Dimitropoulou, L. Meadows, Y. Su, S. Litwin and J.D. Catravas.** Med. Col. of Georgia.
- D373 II **873.18** Alterations of Orai, STIM, and TRPC expression and store-operated calcium entry in pulmonary arteries of monocrotaline-induced pulmonary hypertensive rats. **M-J. Lin, Q. Liu, X-R. Liu, R-X. Wang, C. Liu and J.S.K. Sham.** Fujian Med. Univ., China and Johns Hopkins Univ.
- D374 I **873.19** Bosentan and sildenafil reduce pulmonary arterial hypertension in rats induced by semaxanib and a low oxygen environment. **P.B. Senese, J. Huang, D. Janssen, L.A.A. Neves and M.R. Gralinski.** CorDynamics Inc., Chicago.
- D375 II **873.20** Treatment of mice with delta-aminolevulinic acid, a generator of the guanylate cyclase activator protoporphyrin IX, prevents the development of hypoxia-induced pulmonary hypertension. **R. Alhawaj, D. Patel, M. Ahmad, M.C. Rémond, L.M. Eisenberg and M.S. Wolin.** New York Med. Col.
- D376 I **873.21** Maternal hypoxemia suppresses muscarinic acetylcholine receptor-dependent contraction of pulmonary arteries from fetal sheep. **R. Paez, D. Nguyen, D. Papamatheakis, J. Kim, Q. Blood, L.D. Longo and S.M. Wilson.** Loma Linda Univ., Univ. of Mississippi and UCSD Hlth. Syst.
- D377 II **873.22** TWIK-2 potassium channel plays a role in pulmonary arterial hypertension. **L.M. Pandit, E.E. Lloyd and R.M. Bryan, Jr.** Baylor Col. of Med.
- D378 I **873.23** Model of pulmonary hypertension induced by reversible pressure-overloaded left heart failure in rats. **M. Chovanec and J. Herget.** 2nd Med. Sch., Charles

Univ., Czech Republic and Na Homolce Hosp., Prague.

D379 II **873.24** Pulmonary hypertension induced right heart failure: species comparison of global and local inflammatory responses. **L.A. Walker, R.D. Brown, T.M. Bull, K.R. Stenmark and P.M. Buttrick.** Univ. of Colorado Denver, Aurora.

## 874. GENETICS, GENOMICS, EPIGENETICS AND HYPERTENSION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D380 I **874.1** Genetic regulation and functional relevance of the *p67<sup>phox</sup>* gene in salt-sensitive hypertension. **D. Feng, C. Yang, J. Lazar, D.L. Mattson, P. O'Connor and A.W. Cowley, Jr.** Med. Col. of Wisconsin.

D381 II **874.2** Mapping a novel blood pressure quantitative trait locus within a congenic strain spanning a single annotated gene containing segment on rat chromosome 10. **R. Pillai, S. Kumarasamy, Y. Nie, S.Y. Woolwine, P. Farms, K. Gopalakrishnan and B. Joe.** Univ. of Toledo Col. of Med. and Life Sci.

D382 I **874.3** Long-term interactions between the ACE/Ang II/AT1a receptor axis and the ACE2/Ang(1-7)/Mas receptor axis in wild-type C57BL/6J and AT1a receptor-knockout mice. **B.N. Ellis, X.C. Li, E. Miguel-Qin and J.L. Zhuo.** Univ. of Mississippi Med. Ctr.

D383 II **874.4** (Pro)renin receptor deletion prevents the development of DOCA-salt hypertension in neuron-specific (pro)renin receptor knockout mice. **W. Li, H. Peng, A. Ichihara and Y. Feng.** Tulane Univ. and Tokyo Women's Med. Univ.

D384 I **874.5** The GNAI2 gene: a candidate biomarker of hypertension that determines salt-resistance versus salt-sensitivity in rat models. **R.D. Wainford and D.R. Kapusta.** LSU Hlth. Sci. Ctr., New Orleans and Boston Univ.

D385 II **874.6** Mapping a genetic biomarker of blood pressure to <807.3kb using two genetically hypertensive rats. **S. Kumarasamy, K. Gopalakrishnan, S. Yerga-Woolwine, P. Farms, J. Liu and B. Joe.** Univ. of Toledo Col. of Med. and Life Sci.

D386 I **874.7** Epigenetic mechanism of atherosclerosis and hypertension in hyperhomocysteinemia. **N. Narayanan, N. Tyagi, S. Pagni, M.T. Tseng and S.C. Tyagi.** Univ. of Louisville.

D387 II **874.8** RNAi silencing of TNF $\alpha$  attenuates cold-induced pulmonary hypertension. **P. Crosswhite and Z. Sun.** Univ. of Oklahoma Hlth. Sci. Ctr.

D388 I **874.9** Chronic and intermittent hypoxia differentially regulate the left ventricular inflammatory and extracellular matrix responses. **T.A. Ramirez, C. Jourdan-LeSaux, A. Joy, J. Zhang, Q. Dai, S. Mifflin and M.L. Lindsey.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio and Univ. of North Texas Hlth. Sci. Ctr., Denton.

D389 II **874.10** AT1A receptor-mediated blood pressure and renal effects of long-term infusion of a low dose of angiotensin II in C57BL/6J and AT1a receptor-knockout mice. **E. Miguel-Qin, X.C. Li, B. Ellis and J.L. Zhuo.** Univ. of Mississippi Med. Ctr.

D390 I **874.11** Endoplasmic reticulum (er) stress mediates nuclear factor- $\kappa$ -B activation in the subfornical organ during slow-pressor angiotensin-II hypertension. **C.N. Young**

**and R.L. Davisson.** Cornell Univ. and Weill Cornell Med. Col. D391 II **874.12** Relationship between dyslipidemia and hypertension in ZSD, a new rodent model of metabolic syndrome. **A.E. Rice, H.K. Tlem, S.T. Tial, J.L. Johnson, S.L. Schurtz, K. Coy, R.G. Peterson and C.S. Packer.** Indiana Univ. Sch. of Med., New Augusta North Publ. Acad. and PreClinOmics, Indianapolis.

D392 I **874.13** Potential proteomic biomarkers of secondhand smoking-induced cardiovascular disease. **J.L. Zweier, A.K. Tewari, M.A. El-Mahdy, T.M. Abdelghany, C. Hemann and G.A. El-Sherbiny.** The Ohio State Univ. Med. Ctr. and Fac. of Pharm., Al-Azher Univ. and Fac. of Pharm., Beni-Suef Univ., Egypt.

D393 II **874.14** Epigenetically-induced systemic vascular dysfunction and hypertension in offspring of restrictive diet pregnancy in mice. **E. Rexhaj, S. Rimoldi, A. Giacobino, C. Sartori, Y. Allemann and U. Scherrer.** Bern Univ. Hosp., Univ. Med. Sch., Geneva and CHUV, Lausanne.

D394 I **874.15** Epigenetically-induced vascular dysfunction and hypertension by in vitro fertilization: prevention by addition of melatonin to the culture media. **E. Rexhaj, S. Rimoldi, A. Giacobino, C. Sartori, Y. Allemann and U. Scherrer.** Bern Univ. Hosp. and Geneva Univ. Med. Sch.

D395 II **874.16** Identification of *Rtel1*, *Edn3*, and *Dnajc5* as candidate genes for rat chromosome 3 blood pressure quantitative trait loci by gene expression profiling under multiple salt-loading conditions. **G.T. Cicila, A. McSweeney, K.M. Pettee, S. Yang, S.A. Khuder and S.J. Lee.** Univ. of Toledo Col. of Med. and Life Sci.

D396 I **874.17** Epistatic effects of multiple congenic regions on blood pressure and heart weight in Dahl rats under salt-loading conditions. **G.T. Cicila, S. Yerga-Woolwine, P. Farms, S.J. Lee and B. Joe.** Univ. of Toledo Col. of Med. and Life Sci.

D397 II **874.18** Dexamethasone differentially regulates blood pressure in transgenic mice containing -217A/G polymorphism of human angiotensinogen gene. **V.G. Pandey, S. Jain, S. Maharjan, B. Mopidevi, S.K.C. Arudra and A. Kumar.** Univ. of Toledo Med. Ctr.

D398 I **874.19** The genetic association of polymorphisms rs599839, rs646776 and rs4970834, in chromosomal locus 1p13.3 with coronary artery disease. **N. Rizk, A. El-Menyar, I. Souleman Wais, H. Egue, H. Mohamed Baluli and J. Al Suwaidi.** Qatar Univ. and Hamad Gen. Hosp.

## 875. HYPERTENSION: MECHANISMS AND CONSEQUENCES (POSTERS)

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D399 I **875.1** Modulation of transient receptor potential canonical channel 3 activity by a novel pharmacological agonist and antagonist in normotensive and hypertensive rats. **C.G. Schnackenberg, M.H. Costell, R.E. Bernard, X. Xu, D.G. Washburn, S. Manns and J.P. Marino, Jr.** GlaxoSmithKline.

D400 II **875.2** Role of substance P in renal injury during DOCA-salt hypertension. **Y. Wang and D.H. Wang.** Henan Univ. of Traditional Chinese Med., China and Michigan

State Univ.

D401 I **875.3** Intracellular acidification inhibits NO synthesis and rho-kinase-mediated signaling in arteries. E. Boedtker, J. Praetorius, V. Matchkov, E. Stankevicius, H. Damkier, S. Mogensen, U. Simonsen, E-M. Füchtbauer and C. Aalkjaer. Aarhus Univ., Denmark.

D402 II **875.4** Mice with targeted deletion of NBCe2 are hypertensive. H. Damkier, A. Rojek, H.L. Christensen, N.K. Iversen, E-M. Füchtbauer, T. Wang and J. Praetorius. Aarhus Univ., Denmark.

D403 I **875.5** Decreased expression of Gcm1 and its downstream targets syncytin A and B is associated with severity of feto-placental phenotypes in the BPH/5 model of preeclampsia. J.L. Sones, Y. Zhou, A.K. Woods and R.L. Davisson. Cornell Univ.

D404 II **875.6** Relaxin lowers plasma levels of asymmetric dimethylarginine during chronic angiotensin II infusion. J.M. Sasser, M.W. Cunningham and C. Baylis. Univ. of Florida.

D405 I **875.7** Deletion of the antioxidant enzyme methionine sulfoxide reductase-A impairs autonomic regulation and exacerbates angiotensin-induced hypertension and end-organ damage. R. Sabharwal, R.N. El Accaoui, M.K. Davis, J.A. Goeken, R.M. Weiss, F.M. Abboud, D.K. Meyerholz and M.W. Chappleau. Univ of Iowa and VA Med. Ctr.

D406 II **875.8** Identifying Plekha7, an adherens junction protein, as a regulator of protein excretion in the kidney. B. Endres, C. Moreno, J. Lombard, H.J. Jacob and A. Geurts. Med. Col. of Wisconsin.

D407 I **875.9** Narrow congenics reveal multiple gender-specific blood pressure loci around the renin gene. C. Moreno-Quinn, M.J. Hoffman, M.J. Flister, B. Endres, A.S. Greene, J. Lazar, H. Jacob and B. Xiao. Med. Col. of Wisconsin.

D408 II **875.10** Renal and lumbar sympathetic nerve activity during the development of hypertension in Dahl-salt-sensitive rats. M. Yoshimoto, Y. Onishi, N. Mineyama, M. Shirai and K. Miki. Natl. Cardiovasc. Ctr., Osaka and Nara Women's Univ., Japan.

D409 I **875.11** Progressive increase in renal sympathetic nerve activity in cold-induced hypertension in rats. K. Miki, K. Yagi and M. Yoshimoto. Nara Women's Univ., Japan and Natl. Cerebral and Cardiovasc. Ctr. Res. Inst., Osaka.

D410 II **875.12** Activation of Na<sup>+</sup>/H<sup>+</sup> exchanger in the macula densa enhances tubuloglomerular feedback in spontaneously hypertensive rats. Y. Fu, Y. Lu, Y. Ge, L.A. Juncos and R. Liu. Univ. of Mississippi Med. Ctr.

D411 I **875.13** The PPAR- $\gamma$  agonist rosiglitazone increases angiotensin-converting enzyme 2 promoter activity in neurons. M. Scroggin, K.B. Pedersen and E. Lazartigues. LSU Hlth. Sci. Ctr., New Orleans.

D412 II **875.14** Role of the sympathetic nervous system in mediating hypertension in a model of polycystic ovary syndrome in rats. R. Lima, R. Maranon and J.F. Reckelhoff. Univ. Estad. de Cien. da Saude de Alagoas, Brazil and Univ. of Mississippi Med. Ctr.

## 876. CARDIOVASCULAR AND RENAL MECHANISMS IN OBESITY AND DIABETES

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D413 I **876.1** Autonomic function decline observed in hypoglycemia is attenuated during hyperoxia: potential role of carotid bodies in mediating cardio-vagal activity. J.L. Taylor, E.A. Wehrwein, T.B. Curry, R. Basu, A. Basu and M.J. Joyner. Mayo Clin.

D414 II **876.2** Weight loss surgery decreases platelet activation in morbidly obese patients. Y. Dobrydneva, M. Periasamy, E. Galkina, N. Kuhn, D. Lieb, M. Fontana, S. Wohlgemuth and J. Nadler. Eastern Virginia Med. Sch. and Sentara Med. Gp., Norfolk.

D415 I **876.3** Hypertension, glycemic control and microalbuminuria in Haitian Americans and African Americans. J. Cuervo, G.G. Zarini, J.C. Exebio, M. McLean and F.G. Huffman. Florida Intl. Univ.

D416 II **876.4** Abnormal conduit artery shear rate patterns during mental stress in patients with cardiometabolic risk. A.R.K. Sales, N.G. Rocha, L.P. Campos, J.J. Bertoldi, R. Alves, V.P. Garcia, L.C. Vianna, B.M. Silva and A.C. Nóbrega. Fluminense Fed. Univ., Brazil.

D417 I **876.5** Orthopedic trauma reduces renal hemodynamics in the STZ-induced diabetic rat. M.B. Manigrasso, D.D. Davis, S. Lu, L. Xiang and R. Hester. Univ. of Mississippi Med. Ctr.

D418 II **876.6** High fat feeding promotes sympathetic axon outgrowth and cardiac hyperinnervation in male Sprague-Dawley rats. B.H. McCully, C.T. Streiff, B.A. Habecker and V.L. Brooks. Oregon Hlth. & Sci. Univ.

D419 I **876.7** Effect of exogenously administered H<sub>2</sub>S on the cardiac and renal function in hypertensive diabetic rats. H.A. Rathore, F.u. Din, M.H. Abdullah, A.A. Khan, M. Zubaid, N.A. Abdullah and E.J. Johns. Sch. of Pharmaceut. Sci., Univ. Sains Malaysia, Hamdard Univ., Pakistan, Univ. Malaya and University Col. Cork.

D420 II **876.8** Effect of omega-3 PUFA on endothelin-1 receptors in normal and type 1 diabetic rat hearts. A.B. Bikhazi, M.I. El Chami, N.S. Zwainy and A.H. Der-Boghossian. American Univ. of Beirut.

D421 I **876.9** Combined effect of advanced glycation end products and physiologically relevant dynamic shear stress on endothelial cell functions. Z. Maria, W. Yin and D.A. Rubenstein. Oklahoma State Univ.

D422 II **876.10** High fat diet increases adipose tissue mass, but not lean tissue mass in age-relevant postmenopausal mice in association with induction of VEGF expression and angiogenesis in adipose tissue. J-W. Gu, K.L. Makey, M.A. Shareet, E. Chinchar, I. Pei and L. Miele. Univ. of Mississippi Med. Ctr.

D423 I **876.11** Specific endothelin A receptor blockade results in reduced expression of endoplasmic reticulum stress proteins in renal medulla of type-1 diabetic rats. C. De Miguel, D.M. Pollock and J.S. Pollock. Georgia Hlth. Sci. Univ.

D424 II **876.12** The role of GPR91 in the Akita model of diabetic nephropathy. H.A. Gevorgyan, A.D.M. Riquier-Brison, L. Lam and J. Peti-Peterdi. Univ. of Southern California.



D425 I **876.13** Melanocortin 4 receptors in the paraventricular nucleus of the hypothalamus do not mediate chronic metabolic or cardiovascular effects of leptin after established obesity in mice. **S.M. Hamza, J.H. Dubinion, A. Adi and J.E. Hall.** Univ. of Mississippi Med. Ctr.

## 877. OBESITY AND SATIETY

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D426 I **877.1** Post-exercise appetite was affected by fructose content but not glycemic index of pre-exercise meals. **F. Sun, S.H. Wong, W.Y. Huang and Y. Chen.** The Chinese Univ. of Hong Kong.

D427 II **877.2** Metabolic and appetite responses to fasting and refeeding in mice with Shp2 deletion in forebrain neurons. **J.M. do Carmo, A.A. da Silva and J.E. Hall.** Univ. of Mississippi Med. Ctr.

D428 I **877.3** A unique model for evaluating obesity cardiomyopathy: can less mean more? **M.D. Nelson, R.G. Victor, E. Szczepaniak, V. Simha, A. Garg and L.S. Szczepaniak.** Cedars-Sinai Med. Ctr. and Univ. of Texas Southwestern Med. Ctr.

D429 II **877.4** Effects of the cacao flavanol (-)-epicatechin on a rat model of metabolic syndrome. **G. Ceballos, G. Chamorro, P. Ortiz, G. Gutierrez and F. Villarreal.** Grad. Sch. of Med.-IPN, Mexico City and UCSD.

D430 I **877.5** Regional body volumes in nonobese and obese women and men. **T.G. Babb, S.F. Haller, V. Bernhardt and K.W. Locke.** Texas Hlth. Presbyterian Hosp. Dallas, Univ. of Texas Southwestern Med. Ctr. and Lithera Inc., San Diego.

D431 II **877.6** TGF- $\beta$ /Smad3 signaling inhibition protects from obesity and diabetes through modulation of adipocyte biology. **H. Yadav, C. Quijano, A.K. Kamaraju, O. Gavrilova, S. Lonning, M. Skarulis, A.E. Sumner, T. Finkel and S.G. Rane.** NIDDK/NIH, NHLBI/NIH and Genzyme Corp.

D432 I **877.7** NALP3 inflammasome activation in the coronary arterial wall of obese mice. **M. Xia, K. Boini, J. Abais, X. Li, M. Xu and P-L. Li.** Virginia Commonwealth Univ.

D433 II **877.8** Differential effects of prenatal stress on metabolic programming in diet-induced obese and dietary-resistant rats. **P. Balasubramanian, P. Varde, F. Garcia, N.M.J. Asirvatham Jeyaraj, P.S. MohanKumar and S.M.J. MohanKumar.** Michigan State Univ.

D434 I **877.9** The role of beta 1 adrenergic receptor in non-alcoholic fat liver disease development. **G.W. Fernandes, C.P. Marcelino, M.O. Ribeiro, C.L. Lancelotti, P.C. Brum and M. Passarelli.** Mackenzie Presbyterian Univ., Fed. Univ. of São Paulo, Fac. of Med. Sci., Santa Casa of São Paulo and Univ. of São Paulo.

D435 II **877.10** Losartan prevents body weight gain in diet-induced obese rats. **P.M. Smith, C.C.T. Hindmarch, D. Murphy and A.V. Ferguson.** Queen's Univ., Canada and Univ. of Bristol, U.K.

D436 I **877.11** Caffeic acid and ferulic acid improves diet-induced metabolic syndrome in mice. **B.M.L. Bocco, F.B. Lorena, G.W. Fernandes, R.M. Cysneiros and M.O. Ribeiro.** Mackenzie Presbyterian Univ., Brazil and Fed. Univ. of São Paulo.

D437 II **877.12** The renin-angiotensin system in adaptive thermogenesis. **L.S. Farah, A.C. Bianco and M.O. Ribeiro.** Univ. Mackenzie, Brazil and Univ. of Miami Miller Sch. of Med.

D438 I **877.13** Palmitic acid activates murine mast cells via Toll-like receptor 4. **H. Zhang, J. Zhao, H. Wang, M. Du and M-J. Zhu.** Univ. of Wyoming.

D439 II **877.14** Body weight and body fat gain due to ovarian hormone loss is attenuated by inhibiting angiotensin converting enzyme or angiotensin type 1 receptors in Dahl salt-sensitive female rats. **H. Ji, W. Zheng, B. Bajaj, X. Wu, J. Liu and K. Sandberg.** Georgetown Univ.

## 878. NOVEL REGULATORY MECHANISMS IN BLOOD PRESSURE CONTROL

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D440 I **878.1** A stress repair mechanism that maintains vertebrate structure during stress. **L.S. Coleman.** Barnes Dent. Clin., Visalia, CA.

D441 II **878.2** Hemeoxygenase-1: a potential target for management of hypertension caused by recurrent insulin-induced hypoglycemia. **S.S.A. Quadri, P. Prathipati, D. Jackson and K. Jackson.** Univ. of Louisiana at Monroe Col. of Pharm.

D442 I **878.3** Hyper-caloric diet induces a hydrogen sulfide-dependent mechanism in aortic perivascular adipose tissue function in Dahl S rats. **F.T. Spradley, D.H. Ho and J.S. Pollock.** Georgia Hlth. Sci. Univ.

D443 II **878.4** Hyper-caloric diet enhances aortic endothelial function via increased NOS3 activity and expression in Dahl S rats. **F.T. Spradley, J.B. Musall and J.S. Pollock.** Georgia Hlth. Sci. Univ.

D444 I **878.5** Female spontaneously hypertensive rats have greater increases in NOS in mesenteric arteries than males. **M.A. Zimmerman, G.R. Crislip and J.C. Sullivan.** Georgia Hlth. Sci. Univ.

D445 II **878.6** Antihypertensive actions of moderate hyperbilirubinemia: role of superoxide inhibition. **D. Stec, M. Storm and M. Gousette.** Univ. of Mississippi Med. Ctr.

D446 I **878.7** Dysfunctional bone marrow-derived endothelial progenitor cells in chronic Ang II infusion rat model of hypertension. **J.Y. Jun, J. Zubcevic, A. Afzal, J. Marulanda Carvajal, Z. Shan, J. Mocco and M.K. Raizada.** Univ. of Florida.

## 879. REGULATION OF BLOOD PRESSURE AND RENAL FUNCTION: IMMUNE CELLS AND INFLAMMATION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D447 I **879.1** T lymphocytes infiltrating the kidney of Dahl SS rats are activated and differentiated. **N. Rudemiller, H. Lund, C. Guo, M. Flister, C. De Miguel and D.L. Mattson.** Med. Col. of Wisconsin and Georgia Hlth. Sci. Univ.

- D448 II **879.2** T lymphocytes promote autoimmune-associated hypertension. **K.W. Mathis, K.L. Wasson, C.W. Masterson and M.J. Ryan.** Univ. of Mississippi Med. Ctr.
- D449 I **879.3** Alterations of T cell receptor V $\beta$  chain usage in angiotensin II-induced hypertension. **D. Trott, W. Chen and D. Harrison.** Vanderbilt Univ. Med. Ctr.
- D450 II **879.4** Characteristics and hypertensive actions of renal medullary NALP3 inflammasomes in mice. **M. Xia, J. Xiong, K. Boini, J. Abais and P-L. Li.** Virginia Commonwealth Univ.
- D451 I **879.5** Toll-like receptor 4 contributes to hypertension and endothelial dysfunction produced by angiotensin II. **V. Palvia, C. Pyle, E. Mezzetti, X. Chen and S. Didion.** Georgia Hlth. Sci. Univ. and Univ. of Mississippi Med. Ctr.
- D452 II **879.6** Bidirectional regulation of adrenal catecholamine release by prostaglandin E2. **M. Jewell, R.M. Breyer and K.P.M. Currie.** Vanderbilt Univ. Sch. of Med.
- D453 I **879.7** Placental ischemic stimulated CD4<sup>+</sup> T helper cells increase blood pressure and placental and renal oxidative stress during pregnancy. **K. Wallace, J. Scott, S. Novotny, J. Heath, J. Moseley and B. LaMarca.** Univ. of Mississippi Med. Ctr.

## 880. SEX DIFFERENCES IN BLOOD PRESSURE AND FLUID VOLUME HOMEOSTASIS

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D454 I **880.1** Female spontaneously hypertensive rats have higher expression of TGF- $\beta$  and Smad signaling in mesenteric arteries following the development of hypertension. **A.J. Tipton and J.C. Sullivan.** Georgia Hlth. Sci. Univ.
- D455 II **880.2** The role of the renal sympathetic nerves in a model of postmenopausal hypertension. **R.O. Maranon, R. Lima, L.A. Juncos and J.F. Reckelhoff.** Univ. of Mississippi Med. Ctr.
- D456 I **880.3** Estrogen protects against hypertension during autoimmune-mediated hypertension. **E.L. Gilbert, M. Venegas-Pont, K.W. Mathis, K.L. Wasson and M.J. Ryan.** Univ. of Mississippi Med. Ctr.
- D457 II **880.4** Dietary sodium alters beta-adrenergic receptor mediated vasodilation in men but not women. **L.R. Gullixson, S.L. Kost, A.R. Penheiter, S.T. Turner, W.T. Nicholson, M.J. Joyner and J.H. Eisenach.** Mayo Clin.
- D458 I **880.5** Effect of castration on cardiac index in the spontaneously hypertensive rat. **D. Martin, B. Kjellsen and T. Messinger.** Univ. of South Dakota.

## 881. CELL VOLUME, OSMOREGULATION AND WATER TRANSPORT

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D459 I **881.1** Role of ENaC and of the Na/K pump on the hypertonicity-induced inhibition of Na transport in cystic fibrosis human bronchial epithelial cells. **H. Rasgado-Flores, T. Ngansop, P. Piennette, K. Gallegos and R.J. Bridges.** Rosalind Franklin Univ.
- D460 II **881.2** Na<sup>+</sup>-dependent transport of taurine is found only on the abluminal membrane of the blood-brain barrier. **H. Rasgado-Flores, A. Mokashi and R. Hawkins.** Rosalind Franklin Univ.
- D461 I **881.3** Role of aquaporin2 in the increased urinary flow of K-adapted mice. **J.I. Contreras, L.I. Hatcher, R.J. Cornelius and S.C. Sansom.** Univ. of Nebraska Med. Ctr.
- D462 II **881.4** Neuronal regulation of systemic osmotic stress response mechanisms in *C. elegans*. **E. Lee, D. Manion, J. Ditano and K. Strange.** Mount Desert Island Biol. Lab., ME.
- D463 I **881.5** Osmosensitive gene expression in *C. elegans* is regulated by conserved signaling mechanisms that control protein translation initiation. **E. Lee and K. Strange.** Mount Desert Island Biol. Lab., ME.
- D464 II **881.6** Proteostasis in *C. elegans* is maintained during extreme osmotic stress by reduced translation with resultant increases in molecular chaperone capacity. **K. Burkewitz, K. Choe, E. Lee, A. Deonarine and K. Strange.** Mount Desert Island Biol. Lab., ME and Univ. of Florida.
- D465 I **881.7** Evidence for a Na/K pump in nematocytes isolated from sea anemones. **R. Morabito, A. Marino, G. La Spada, N.C. Adragna and P.K. Lauf.** Univ. of Messina and Wright State Univ.
- D466 II **881.8** Sea water acidification alters cell volume regulation and discharge in jellyfish. **A. Marino, R. Morabito, G. La Spada, P.K. Lauf and N.C. Adragna.** Univ. of Messina and Wright State Univ.
- D467 I **881.9** Regulation of *myo*-inositol in tilapia (*Oreochromis mossambicus*) brain during hyperosmotic stress. **A.M. Gardell, R. Sacchi and D. Kültz.** Univ. of California, Davis.
- D468 II **881.10** Hyperosmotic stress induces the *myo*-inositol pathway by several orders of magnitude in tilapia (*Oreochromis mossambicus*) gill epithelium. **R. Sacchi, A.M. Gardell and D. Kültz.** Univ. of California, Davis.
- D469 I **881.11** Expression and functions of inositol monophosphatase in seawater adapted euryhaline teleosts such as the european eel (*Anguilla anguilla*) and tilapia (*Oreochromis mossambicus*). **S. Kalujnaia, S. Gellatly and G. Cramb.** Sch. of Med., Univ. of St. Andrews, U.K.
- D470 II **881.12** Osmolality, metallothionein and Na/K-ATPase activity in a mangrove crab, *Ucides cordatus*, submitted to acute and chronic copper exposure in the water. **M. Granado e Sá and F. Pinheiro Zanotto.** Univ. of São Paulo and Univ. Mackenzie, Brazil.
- D471 I **881.13** PTG (protein targeting to glycogen) regulates the osmoprotective transcription factor NFAT5 via SHP-1 phosphatase. **X. Zhou, M.B. Burg and J.D. Ferraris.** Uniformed Svcs. Univ. of Hlth. Sci. and NHLBI/NIH.

D472 II **881.14** The apical NKCC1 cotransporter debate. **J.M. Crum, F.J. Alvarez and F.J. Alvarez-Leefmans.** Wright State Univ. Boonshoft Sch. of Med. and Emory Univ. Sch. of Med.

## 882. INTRACELLULAR PH AND ACID/BASE TRANSPORT

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D473 I **882.1** Structural and functional changes in the C-terminal regulatory tail of the Na<sup>+</sup>/H<sup>+</sup> exchanger mediate phosphorylation-induced regulation. **X. Li and L. Fliegel.** Univ. of Alberta.

D474 II **882.2** Functional reassembly of NBCe1-A from co-expressed cytosolic and transmembrane domains. **M.D. Parker, A.B. Wass, S-K. Lee, F. Rahman, C. Grant and W.F. Boron.** Case Western Reserve Univ., Solon H.S., OH and Glenville H.S., OH.

D475 I **882.3** Electrogenicity and anion selectivity of the sodium/bicarbonate transporter NBCe1 determined by a single mechanism. **S. Lee and I. Choi.** Emory Univ.

D476 II **882.4** The role of carbonic anhydrase II on HCO<sub>3</sub><sup>-</sup>-initiated transport through the SLC4A4 transporter NBCe1A. **F.J. Moss and W.F. Boron.** Case Western Reserve Univ.

D477 I **882.5** Na<sup>+</sup>,HCO<sub>3</sub><sup>-</sup>-cotransport is crucial for intracellular pH control in human breast cancer. **E. Boedtkjer, J. Moreira, M. Mele, P. Vahl, M. Jespersen, P. Christiansen, V. Jensen, S.F. Pedersen and C. Aalkjaer.** Aarhus Univ., Denmark, Danish Cancer Society, Copenhagen, Aarhus Univ. Hosp. and Univ. of Copenhagen.

D478 II **882.6** Regulation of the Na<sub>2</sub>HCO<sub>3</sub>-cotransporter NBCn1 (SLC4A7) by a constitutively active ErbB2 receptor in MCF-7 breast cancer cells. **A. Gorbatenko, C.W. Olesen, G. Lauritzen, E. Valen and S.F. Pedersen.** Univ. of Copenhagen.

D479 I **882.7** Immunocytochemical techniques identify Na<sup>+</sup>-coupled HCO<sub>3</sub><sup>-</sup> transporters in chemosensitive neurons of the medullary raphé. **A.A. Coley, V.A. Ruffin, U. Hopfer and W.F. Boron.** Case Western Reserve Univ.

D480 II **882.8** Ammonium and methyl ammonium transport by RhAG. **T. Caner, S. Abdunour-Nakhoul, K. Brown, L.L. Hamm and N. Nakhoul.** Tulane Med. Sch.

D481 I **882.9** Mathematical modeling of the role of carbonic anhydrase II and IV on the influx of CO<sub>2</sub> in a *Xenopus* oocyte. **R. Occhipinti, R. Musa-Aziz and W.F. Boron.** Case Western Reserve Univ. and Univ. of São Paulo.

## 883. ATPASE-DRIVEN ION PUMPS

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D482 I **883.1** Chelerythrine, a protein kinase C inhibitor, abolishes K flux through Na/K pump and Na-K-2Cl cotransporter-1, and stimulates SK channels in human lens epithelial cells. **P.K. Lauf, M.A. Lepera and N.C. Adragna.** Wright State Univ. Boonshoft Sch. of Med.

D483 II **883.2** Modulation of cardiac Na<sup>+</sup>,K<sup>+</sup>-ATPase and cell viability by ischemia/reperfusion injury and ouabain preconditioning. **S.V. Pierre, A. Belliard, Y. Sottejeau and Q. Duan.** Univ. of Toledo Col. of Med.

## 884. ION CHANNELS (POSTERS)

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D484 I **884.1** Discovery of novel small molecule CFTR inhibitor through structural modification of compound from Thai plant: mechanism and anti-diarrheal efficacy. **S. Sawasvirojwong, S. Suksamrarn, V. Chatsudthipong and C. Muanprasat.** Fac. of Sci., Mahidol Univ. and Fac. of Sci., Srinakharinwirot Univ., Thailand.

D485 II **884.2** Liver X receptors downregulate CFTR-mediated chloride secretion in renal collecting duct cells. **S. Soodvilai, P. Raksaseri and V. Chatsudthipong.** Mahidol Univ., Thailand.

D486 I **884.3** Expression and functional significance of Ca<sup>2+</sup>-activated Cl<sup>-</sup> channels in dendritic cells. **E. Shumilina, K. Szteyn, E. Schmid, M.K. Nurbaeva, W. Yang, K. Kunzelmann and F. Lang.** Univ. of Tuebingen and Univ. of Regensburg, Germany.

D487 II **884.4** The N-terminus of ClC-3 determines membrane localization. **F.S. Lamb and M.M. Collins.** Vanderbilt Univ. and Univ. of Iowa.

D488 I **884.5** A mutation in a CLC anion channel alters serotonergic neuronal activity in *C. elegans*. **R. Branicky, H. Miyazaki, K. Strange and W. Schafer.** MRC Lab. of Molec. Biol., Cambridge and Mount Desert Island Biol. Lab., ME.

D489 II **884.6** Chronic ethanol ingestion increases epithelial sodium channel activity in C57BL/6 lung. **D. Trac, E. Brewer and M.N. Helms.** Emory Univ.: Sch. of Med. and Children's Healthcare of Atlanta.

D490 I **884.7** The effects of synthetic ASIC1a peptide on glial proliferation. **J.C. Guercio and E. Petroff.** Montclair State Univ.

D491 II **884.8** A Deg/ENaC cation conductance regulates migration and cell cycle progression in gliomas. **A.K. Rooj, C.M. McNicholas and C.M. Fuller.** Univ. of Alabama at Birmingham.

D492 I **884.9** Association of epithelial Na<sup>+</sup> channel and acid-sensitive ion channel subunits with lipid rafts in high grade gliomas. **J.N. Chebukati, C.M. McNicholas and C.M. Fuller.** Univ. of Alabama at Birmingham.

- D493 II **884.10** microRNA 29b is upregulated in pulmonary artery smooth muscle cells from patients with idiopathic pulmonary arterial hypertension and inhibits K<sup>+</sup> channel expression and function. **N.M. Pohl, A. Yamamura, H. Yamamura, A. Makino and J.X.-J. Yuan.** Univ. of Illinois at Chicago.
- D494 I **884.11** Molecular determinant of KCa3.1 that affects cell proliferation? **K.L. Hamilton and D.C. Devor.** Univ. of Otago, New Zealand and Univ. of Pittsburgh.
- D495 II **884.12** Store-operated calcium channel Orai and STIM regulated by high glucose. **N. Daskoulidou, H. Jiang, B. Zeng, S.L. Atkin and S-Z. Xu.** Hull York Med. Sch., Univ. of Hull, U.K.
- D496 I **884.13** Dysregulation of ryanodine receptors/Ca<sup>2+</sup> release channels by FKBP12.6 in diabetic vascular myocytes. **Y-M. Zheng, Y. Yang, V. Yadav and Y-X. Wang.** Albany Med. Col.

## 885. REGULATION OF EPITHELIAL TRANSPORT PROTEINS, ION AND WATER CHANNELS, AND MODULATORY FACTORS I

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D497 I **885.1** Normalization of CFTR brush border membrane trafficking defects in the intestines of myosin 1a/6 double mutant mice. **N.E. Hoekstra, M. Mark and N. Ameen.** Yale Univ.
- D498 II **885.2** Role of binding and nucleoside diphosphate kinase A in the regulation of CFTR by AMP-activated protein kinase. **J.D. King, Jr., J. Lee, C.E. Rieman, A. Mehta, R. Muimo and K.R. Hallows.** Univ. of Pittsburgh Sch. of Med., Sheffield Children's Hosp., U.K. and Univ. of Dundee.
- D499 I **885.3** CFTR dependent bicarbonate secretion in native small airway epithelia. **A.K.M. Shamsuddin and P.M. Quinton.** UCSD and Univ. of California, Riverside.
- D500 II **885.4** Enhancement of cellular Na<sup>+</sup>K<sup>+</sup>ATPase activity in the mouse renal tissue in vitro with low concentration of peroxynitrite. **A.K. Maiti, M.T. Islam and D.S.A. Majid.** Tulane Univ. Sch. of Med.
- D501 I **885.5** Epigenetic control of lung fluid clearance. **L.A. Wujak, S. Becker, V. Arnoldt and R.E. Morty.** Max Planck Inst. for Heart and Lung Res., Bad Nauheim.
- D502 II **885.6** Biosynthetic sorting of the sodium pump: visualization of the segregation of newly synthesized epithelial Na<sup>+</sup>K<sup>+</sup>ATPase from apically directed proteins. **E. Stoops, G. Farr and M.J. Caplan.** Yale Univ.
- D503 I **885.7** DIDS causes Src-dependent inhibition of Na<sup>+</sup>K<sup>+</sup>ATPase in the ciliary epithelium and slows aqueous humor secretion by the intact porcine eye. **N.A. Delamere, A. Mandal and M. Shahidullah.** Univ. of Arizona.
- D504 II **885.8** Activation of AT2 receptors reduces renal AT1 receptor function and enhances ACE2 activity in obese Zucker rats. **Q. Ali and T. Hussain.** Sch. of Pharm., Auburn Univ.
- D505 I **885.9** Identification of proteins regulated by 24-hour aldosterone treatment in late distal convoluted tubules, connecting tubules and initial cortical collecting ducts. **T.B. Jensen, T. Pisitkun, J.D. Hoffert, R.A. Fenton, H.A. Praetorius, U.B. Jensen, M.A. Knepper and J. Praetorius.** Aarhus Univ., Denmark and NHLBI/NIH.
- D506 II **885.10** Rab14 GTPase downregulates urea transporter UT-A1 activity through enhanced clathrin-dependent endocytosis and protein degradation. **H. Su, G. Xu, C.B. Carter, O. Fröhlich, J.M. Sands and G. Chen.** Emory Univ.
- D507 I **885.11** The urea transporter UT-A1 is phosphorylated at serines 486 and 499 downstream of cyclic AMP production. **T.L. Thai, D.L. Gumina, T.O. Ilori, J.D. Klein, M.A. Blount and J.M. Sands.** Emory Univ. Sch. of Med.
- D508 II **885.12** Role of PKC<sub>α</sub> in hypertonicity-stimulated urea permeability. **Y. Wang, J.D. Klein, O. Froehlich and J.M. Sands.** Emory Univ.
- D509 I **885.13** Annexin A2 acts as scaffolding receptor for plasminogen and tissue plasminogen activator in renal epithelia. **H.J. Kaminski, C. Dathe, H. Neymeyer, D. Brand, T. Loof, H. Peters, S. Bachmann and A. Paliege.** Med. Sch., Charité Univ. Med. Berlin.
- D510 II **885.14** Lithium and glycogen synthase kinase-3 inhibition induces lysosomal degradation of aquaporin-2. **B. Edemir, M. Jardzejewski and E. Schlatter.** Univ. Hosp. Münster, Germany.
- D511 I **885.15** Prostaglandin receptor EP4 induces transient membrane targeting of aquaporin-2 through a novel intracellular signaling pathway. **E.T.B. Olesen and R.A. Fenton.** Aarhus Univ., Denmark.
- D512 II **885.16** Renal collecting duct specific GSK 3 alpha regulates cellular distribution and lithium-induced NDI. **R. Rao, L. Nilsson, S. Tao, J. Woodgett and R. Norregaard.** Univ. of Kansas Med. Ctr., Aarhus Univ., Denmark and Mount Sinai Hosp., Toronto.
- D513 I **885.17** PP1 and PP2a phosphatases can modulate AQP2 endocytosis. **H.B. Moeller, T.S. Aroankins and R.A. Fenton.** Aarhus Univ., Denmark.
- D514 II **885.18** Paracellular intestinal absorption increases in mice exposed to cold. **W.H. Karasov, E.R. Price, L. Ruff and A. Guerra.** Univ. of Wisconsin-Madison.
- D515 I **885.19** Hydrogen peroxide selectively increases paracellular leak pathway permeability of renal epithelial cells. **D. Janosevic, V. Rohring and K. Amsler.** New York Col. of Osteo. Med.
- D516 II **885.20** Mapping the claudin-2 pore: comprehensive cysteine-scanning mutagenesis and thiol modification of claudin-2 first extracellular loop. **J. Li, T. Nakamura, M. Zhuo, L. Pei and A.S.L. Yu.** Univ. of Southern California Keck Sch. of Med. and Univ. of Kansas Med. Ctr.
- D517 I **885.21** Visualization of exocytosis and vesicle trafficking in inner medullary collecting duct. **K-P. Yip, J. Amin and B. Cha.** Univ. of South Florida.
- D518 II **885.22** Metformin restricts the basolateral glucose dependent growth of apical *Staphylococcus aureus* in airway epithelia-bacteria co-cultures. **J.P. Garnett, S. Naik, E. Baker and D.L. Baines.** St George's Univ. of London.
- D519 I **885.23** Modulation of urinary bladder paracellular permeability by stretch. **M.D. Carattino, H.S. Prakasam, W.G. Ruiz and G. Apodaca.** Univ. of Pittsburgh.
- D520 II **885.24** Effect of clinical mutations on functionality of the hRFT-2 in intestinal epithelial cells. **S. Nabokina, V.S. Subramanian and H.M. Said.** Univ. of California, Irvine and VA Med. Ctr., Long Beach.
- D521 I **885.25** Effect of alcohol on liver mitochondrial folate uptake. **A. Biswas, S. Sundar Rajan and H.M. Said.** Univ. of California, Irvine and VA Med. Ctr., Long Beach.

## 886. SCHOLANDER AWARD

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D522 I **886.1** Selective breeding of mice for high voluntary exercise alters adaptive plasticity of metabolic phenotypes in skeletal muscle. **T.H. Meek, L.I. Smith, J.C. Eisenmann, J.Y.-J. Shyy and T. Garland, Jr.** Univ. of Washington, Univ. of California, Riverside and Helen DeVos Children's Hosp., Grand Rapids, MI.
- D523 II **886.2** Molecular characterization of nonshivering thermogenesis in a 'protoendothermic' mammal, the Lesser-hedgehog tenrec (*Echinops telfairi*). **R. Ölkzug, N. Götze, G. Heldmaier, M. Jastroch and C.W. Meyer.** Philipps Univ. Marburg and Helmholtz Ctr. Munich.
- D524 I **886.3** High protein diet worsens mitochondrial function and increases susceptibility to ROS-induced permeability transition in pathological cardiac hypertrophy. **R.F. Ribeiro Junior, E.R. Dabkowski, T.F. Galvao, K. O'Connell, I. Stefanon and W.C. Stanley.** Univ. of Maryland Baltimore and Fed. Univ. of Espirito Santo, Brazil.
- D525 II **886.4** Cardiovascular plasticity during hypoxic development in snapping turtle and alligator embryos. **J. Eme, K.B. Tate, C.E. Slay, Z.F. Kohl, J.W. Hicks and D.A. Crossley II.** Univ. of North Texas and Univ. of California, Irvine.
- D526 I **886.5** Molecular mechanisms regulating cardiac contractility: subfunctionalization of fish-specific paralogs of troponin *C* in *Danio rerio*. **C.E. Genge and G.F. Tibbits.** Simon Fraser Univ., Canada.
- D527 II **886.6** The effects of exercise and variable atmospheric oxygen concentrations on respiratory partitioning in the mudskipper, *Periophthalmus modestus*. **C.J. Jew, N.C. Wegner and J.B. Graham.** Scripps Instn. of Oceanography.
- D528 I **886.7** In vitro effects of acute exposure to hyperglycemic conditions on endothelium-dependent vasodilation in mourning doves (*Zenaidura macroura*). **C.L. Jarrett and K.L. Sweazea.** Sch. of Nutr. and Hlth. Promotion, Arizona State Univ.
- D529 II **886.8** Gender and age influence the ventilatory response to hypercapnia in chickens. **L.P. Espinha, M. Macari, K.C. Bicego and L.H. Gargaglioni.** São Paulo State Univ., Jaboticabal Campus.
- D530 I **886.9** Cold lungs, warm heart? Temperature effects on the oxygen-hemoglobin dissociation curve of bar-headed geese. **J.U. Meir and W.K. Milsom.** Univ. of British Columbia.
- D531 II **886.10** Decreased expression of adipose fatty acid transporters CD36 and FATP1 contributes to increased plasma free fatty acids during prolonged fasting in northern elephant seal pups. **J.A. Viscarra, R. Rodriguez, J.P. Vazquez-Medina, C.D. Champagne, S.H. Adams, D.E. Crocker and R.M. Ortiz.** Univ. of California Merced, Univ. of California, Santa Cruz, Univ. of California, Davis and Sonoma State Univ., CA.
- D532 I **886.11** Hydration state of bats may explain frequency of arousals from torpor. **M. Ben-Hamo, A. Muñoz-Garcia, C. Korine and B. Pinshow.** Ben-Gurion Univ. of Negev, Israel.
- D533 II **886.12** The energetics of oviparous reproduction in the African brown house snake. **A.G.S. Jackson and J.W. Hicks.** Univ. of California, Irvine.
- D534 I **886.13** Competing energy demands in the hawkmoth *Manduca sexta*. **H.L. Contreras and G. Davidowitz.** Univ. of Arizona.
- D535 II **886.14** Ammonia and cortisol are transcriptional regulators of the ammonia transporter Rhcg2 in trout gill pavement cells. **M. Nawata and C. Wood.** McMaster Univ., Canada.
- D536 I **886.15** The trade-off between maturation and growth during accelerated vertebrate development. **C.A. Mueller, S. Augustine, S.A.L.M. Kooijman, M.R. Kearney and R.S. Seymour.** Univ. of North Texas, Inst. of Radioprotect. and Nuclear Safety, St-Paul-lez-Durance, France, Free Univ. Amsterdam, Univ. of Melbourne and Univ. of Adelaide.
- D537 II **886.16** Removal of eggshell calcium impacts the development of corn snake embryos. **W. Trotter Ross, R.A. Pyles, J.R. Stewart and T.W. Ecay.** East Tennessee State Univ.
- D538 I **886.17** ROS scavenging mimics anoxia by enhancing GABA receptor-mediated electrical suppression in anoxia-tolerant turtle cortex. **D.W. Hogg, M.E. Pamerter and L.T. Buck.** Univ. of Toronto and UCSD.
- D539 II **886.18** Physiological constraints on range expansion of the invasive, air-breathing suckermouth armored catfish (family: Loricariidae). **K.R. Fosha and W.W. Burggren.** Univ. of North Texas.
- D540 I **886.19** Prolonged fasting increases Nrf2 nuclear accumulation and DNA binding ability in postweaned northern elephant seals. **J.P. Vazquez-Medina, J.G. Soñanez-Organis, J.A. Viscarra, M.S. Tift, H.J. Forman, D.E. Crocker and R.M. Ortiz.** Univ. of California Merced and Sonoma State Univ.
- D541 II **886.20** Chemosensitive signaling of locus coeruleus neurons in the bullfrog, *Lithobates catesbeianus*. **J. Santin and L. Hartzler.** Wright State Univ.
- D542 I **886.21** Sphingolipid ratios in marine mammal skeletal muscle cell membranes: protection from oxidative stress? **K. Young and S. Trumble.** Baylor Univ.
- D543 II **886.22** Anaerobic energy stores in emperor penguin muscle: implications for muscle metabolism and dive performance. **C.L. Williams, K. Sato, K. Shiomi and P.J. Ponganis.** Univ. of California, Irvine, UCSD and Univ. of Tokyo.
- D544 I **886.23** Histological investigations of the "slip" in marine mammal tracheas. **C.D. Moore, A. Fahlman, M. Moore, M. Niemeyer, B. Lentell, S. Oakes and S. Trumble.** Baylor Univ., Texas A&M Univ., Corpus Christi, Woods Hole Oceanographic Instn., Intl. Fund for Animal Welfare, Yarmouth Port, MA and Brigham and Women's Hosp.
- D545 II **886.24** The effect of prolonged hypoxic exposure on chemoreceptor morphology of bowfin (*Amia calva*) with and without access to air. **C.S. Porteus, P.A. Wright and W.K. Milsom.** Univ. of British Columbia and Univ. of Guelph, Canada.
- D546 I **886.25** Using synchrotron X-ray imaging to visualize tracheal changes during development in American locusts. **M.C. Donohue, K.J. Greenlee, W-K. Lee and S.D. Kirkton.** Union Col., NY, North Dakota State Univ. and Argonne Natl. Lab.
- D547 II **886.26** Examination of avian renal tissue for the presence of sodium-glucose co-transporters. **J.M. Isaacs and E.J. Braun.** Univ. of Arizona.
- D548 I **886.27** Quantification and analysis of advanced glycation end products in avian plasma. **M. Gu, D. Ferguson and E.J. Braun.** Univ. of Arizona.

- D549 II **886.28** Neural responses to looming objects in the dragonfly. **E. Gaffin-Cahn and R. Olberg.** Union Col., NY.
- D550 I **886.29** Comparative studies of the desert rodent *Dipodomys merriami* and Munich-Wistar rat urine concentrating mechanisms. **A.C. Babaria, W.H. Dantzler and T.L. Pannabecker.** Univ. of Arizona.
- D551 II **886.30** The effects of pyrene exposure on gill O<sub>2</sub> respiration and osmoregulation in channel catfish. **A. Rehman, N.J. Goertzen, S. Gayam and E.K. Stabenau.** Bradley Univ., IL.

## 887. MITOCHONDRIAL BIOENERGETICS IN COMPARATIVE AND INTEGRATIVE PHYSIOLOGY

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D552 I **887.1** Maturation and functional plasticity of cellular respiratory apparatus in flies' eyes. **G. Zupancic, J. Rudolf and A. Meglic.** BF Univ. of Ljubljana, Slovenia and TMG-BMC Ltd., Ljubljana.
- D553 II **887.2** Evolution of hypoxia-responsive cytochrome c oxidase genes. **C. Moyes, K. Kocha and J. Pearlstein.** Queen's Univ., Canada.
- D554 I **887.3** Beating anoxia: mitochondrial plasticity in the turtle heart. **G.L.J. Galli and J. Richards.** Univ. of Manchester and Univ. of British Columbia.
- D555 II **887.4** The multifaceted metabolism of reactive oxygen species by mitochondria. **J. Treberg.** Univ. of Manitoba.
- D556 I **887.5** Reactive oxygen species production in mitochondria of pigs selected for residual feed intake. **J.K. Grubbs, A. Fritchen, A. Harris, E. Huff-Lonergan, N.K. Gabler and S.M. Lonergan.** Iowa State Univ.
- D557 II **887.6** Reversible suppression of mitochondrial respiration in skeletal muscle of the freeze tolerant wood frog *Rana sylvatica*. **C. Hughey, J. Shearer, K.B. Storey and D.S. Hittel.** Univ. of Calgary and Carleton Univ., Canada.
- D558 I **887.7** Elevated oxygen utilization and superior energetic reserve in superhealer mesenchymal stem cells. **C.C. Hughey, M.P. Alfaro, D.D. Belke, J.N. Rottman, P.P. Young, D.H. Wasserman and J. Shearer.** Univ. of Calgary, Canada and Vanderbilt Univ. and DVA Med. Ctr.
- D559 II **887.8** Antioxidant enhanced spare capacity in cardiomyocytes as a protective response to oxidative stress induced by hypoxia and redox cycling agent. **R. Legmann, J. Melito and D. Ferrick.** Seahorse Bioscience, Billerica, MA.
- D560 I **887.9** Miner1, mutated in Wolfram syndrome, is an endoplasmic reticulum protein that regulates cellular redox status and Ca<sup>2+</sup> homeostasis. **S.E. Wiley, A. Andreyev, G. Perkins, J.E. Dixon and A. Murphy.** UCSD.
- D561 II **887.10** The importance of polycystin 1 in endothelial mitochondrial bioenergetics. **T.J. Jones, Y.F. Pung, R.K. Adapala, J.R. Burke, C.K. Thodeti and W.M. Chilian.** Northeast Ohio Med. Univ.

- D562 I **887.11** Time lapse measurement of mitochondrial membrane potential in absolute millivolts in single intact cells. **A.A. Gerencser, C. Chinopoulos, M.J. Birket, M. Jastroch, C. Vitelli, D.G. Nicholls and M.D. Brand.** Buck Inst. for Res. on Aging, Novato, CA, Semmelweis Univ., Hungary, Leiden Univ. Med. Ctr., Netherlands and Helmholtz Zentrum Munich.
- D563 II **887.12** Non-invasive integrative analysis of cardiac energetics, translation to human heart in vivo. **P.H. Diolet, V. Deschodt-Arsac, M. Chapolard, M. Hocini, P. Jais and M. Haissaguerre.** INSERM U1045, Bordeaux Univ.
- D564 I **887.13** Mitochondrial sensitivity to regulatory signals in muscle energy balance: is it constant during exercise? **J.A.L. Jeneson, R. Dash, K.C. Vinnakota, F. Wu, D.A. Beard and R.W. Wiseman.** Wilhelmina Children's Hosp., Univ. Med. Ctr. Utrecht, Netherlands, Med. Col. of Wisconsin and Michigan State Univ.
- D565 II **887.14** Metformin severely impairs in vivo muscle oxidative capacity in a rat model of type 2 diabetes. **J.J. Prompers, B. Wessels, J. Ciapaite and K. Nicolay.** Eindhoven Univ. of Technol. and Univ. Med. Ctr. Groningen, Netherlands.
- D566 I **887.15** In vivo cardiac <sup>31</sup>P MRS in a mouse model of heart failure. **J.J. Prompers, A.J. Bakermans, B.J. van Nierop, D. Abdurrachim and K. Nicolay.** Eindhoven Univ. of Technol., Netherlands.
- D567 II **887.16** Effects of MitoQ on mitochondrial function in pressure overload-induced heart failure. **K. O'Connell, E.R. Dabkowski, R. Faustino, W. Xu, T. Galvao and W.C. Stanley.** Univ. of Maryland Baltimore.
- D568 I **887.17** Docosahexaenoic acid alters mitochondrial membrane fluidity and attenuates ROS-induced calcium release in hypertrophied myocardium. **E.R. Dabkowski, K. O'Connell, R. Ribeiro, W. Xu, T. Galvao and W.C. Stanley.** Univ. of Maryland Baltimore.
- D569 II **887.18** Direct renin inhibition reduces SIRT3-mediated cyclophilin D acetylation and mitochondrial dysfunction in post-infarction cardiac remodeling in diabetic rats. **R. Parodi-Rullan, G. Barreto-Torres, L. Ruiz, J. Casasnovas and S. Javadov.** Univ. of Puerto Rico Sch. of Med.
- D570 I **887.19** Mitochondrial functional specialization in glycolytic and oxidative muscle fibers: tailoring the organelle for optimal function. **Y. Burelle, R.T. Hepple and M. Picard.** Univ. of Montreal and McGill Univ.

## 888. MITOCHONDRIAL FUNCTIONS

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D571 I **888.1** Metabolic oversupply and mitochondrial dysfunction as a cause of diaphragmatic failure after mechanical ventilation. **M. Picard, F. Liang, S. Hussain, P. Goldberg, R. Godin, G. Danialou, R. Chaturvedi, K. Rygiel, S. Matecki, S. Jaber, C. Des Rosiers, G. Karpati, L. Ferri, D.M. Turnbull, T. Taivassalo and B.J. Petrof.** McGill Univ., Univ. of Montreal, Newcastle Univ., U.K., Arnaud de Villeneuve Teaching Hosp. and Saint Eloi Teaching Hosp., Montpellier, Montreal Heart Inst. and Montreal Neurol. Inst.

- D572 **II** **888.2** Mitochondrial Ogg1 prevents loss of mitDNA content, decreases mitochondria fission and apoptosis under conditions of oxidative stress in H9C2 cells. **M. Torres-Gonzalez, T. Gawlowski, B. Scott and W. Dillmann.** UCSD Sch. of Med.
- D573 **I** **888.3** Ethanol preconditioning augments increase in cardiac mitochondrial mass elicited by ischemia/reperfusion. **T.J. Kalogeris, M. Wang, A. Jones, C. Baines and R.J. Korthuis.** Univ. of Missouri-Columbia.
- D574 **II** **888.4** Isoflurane increases mitochondrial free Ca<sup>2+</sup> by attenuating the Na<sup>+</sup>/Ca<sup>2+</sup> exchanger activity. **B. Agarwal, A.K.S. Camara, D.F. Stowe, Z.J. Bosnjak, D.A. Beard and R.K. Dash.** Med. Col. of Wisconsin.
- D575 **I** **888.5** Protein profile in mitochondria of pigs selected for residual feed intake. **J.K. Grubbs, A. Fritchen, A. Harris, E. Huff-Lonergan, N.K. Gabler and S.M. Lonergan.** Iowa State Univ.
- D576 **II** **888.6** AMPK activation by AICAR induces mitochondrial biogenesis in the inner ear. **A.L. Nuttall, T. Wilson, I. Omelchenko and X. Shi.** Oregon Hlth. & Sci. Univ.
- D577 **I** **888.7** (-)-Epicatechin attenuates prednisolone-induced hyperglycemia. **M. Torres-Gonzalez, G. Ceballos and F. Villarreal.** UCSD and Higher Sch. of Med.-IPN, Mexico City.
- D578 **II** **888.8** The cocoa flavanol (-)-epicatechin exerts its cardioprotective effects by protecting myocardial bioenergetics. **K.G. Yamazaki, A. Andreyev, S. Petrosyan, G. Ceballos, F. Villarreal and A. Murphy.** California State Univ., Los Angeles and UCSD.
- D579 **I** **888.9** Cardiac myocyte-specific deletion of heat shock protein 10 results in mitochondrial dysfunction and mortality. **H. Wang, K. Ouyang, Y-K. Kim, B.T. Scott, I. Banerjee, Y. Mu, J. Chen, W.H. Dillmann and J. Suarez.** Sch. of Med., UCSD.
- D580 **II** **888.10** Mitophagy causes coronary artery endothelial dysfunction in oxidative stress dose-dependent (i.e. C57>FVB>C3H mice) manner during right ventricle failure. **N. Qipshidze and S.C. Tyagi.** Univ. of Louisville.
- D581 **I** **888.11** Effects of epicatechin rich cocoa on redux status in human skeletal muscle. **I. Ramirez-Sanchez, P. Taub, T. Ciaraldi, M.C. Hogan, A. Murphy, G. Ceballos, R. Henry, A. Maisel and F. Villarreal.** Higher Sch. of Med.-IPN, Mexico City and UCSD.
- D582 **II** **888.12** Effects of angiotensin II on mitochondrial physiology in normal (PWR-1eE) and malignant (LNCaP) prostate epithelium cell lines. **J.M. Duerr and J.R. Kordosky.** George Fox Univ., OR.
- D585 **I** **889.3** The effects of apelin-13 on cardiovascular system can be mediated by modulating the excitability of SFO neurons. **L. Dai, P.M. Smith and A.V. Ferguson.** Queen's Univ., Canada.
- D586 **II** **889.4** Nesfatin-1 alters synaptic activity in neurons in the nucleus of the solitary tract. **A. Mimee and A.V. Ferguson.** Queen's Univ., Canada.
- D587 **I** **889.5** Multiple subtypes of opioid receptors regulate binge-like feeding in rodents on an intermittent access schedule. **M.A. Statnick, A.E. Sahr, J. Pintar and T. Czyzyk.** Lilly Res. Labs., UMDNJ, Piscataway and Mayo Clin. Arizona.
- D588 **II** **889.6** Roux-en-Y gastric bypass surgery alters the membrane properties of brainstem neurons. **K.N. Browning and A. Hajnal.** Penn State Col. of Med.
- D589 **I** **889.7** Roux-en-y gastric bypass surgery increases the response of central vagal neurons to satiety neuropeptides. **K.N. Browning and A. Hajnal.** Penn State Col. of Med.
- D590 **II** **889.8** Orexigenic and obesity effects of estrogen deficiency can be attenuated by half-day food deprivation either during the light phase or the dark phase. **S. Taguchi, K. Mabuchi, A. Takano, Y. Hara, K. Morimoto and A. Takamata.** Nara Women's Univ., Japan.
- D591 **I** **889.9** Involvement of orexin A and melanin concentrating hormone neurons of the lateral hypothalamic area in the food intake response to reduced glucose availability. **A. Takamata, S. Taguchi, S. Ikeda, E. Aida and K. Morimoto.** Nara Women's Univ., Japan.
- D592 **II** **889.10** LPLRFamide causes anorectic effects associated with the brain stem in rats. **R.I. Webster and M.A. Cline.** Radford Univ., VA.
- D593 **I** **889.11** Nicotinic acetylcholine receptors in supraoptic nucleus neurons: potential role in regulation of food intake. **Z. Song.** Univ. of Colorado Sch. of Med.
- D594 **II** **889.12** Neuropeptide Y is associated with changes in appetite-associated nuclei but not food intake in a hypophagic avian model. **B.A. Newmyer, P.B. Siegel and M.A. Cline.** Radford Univ. and VPI and State Univ.

## 890. NEURAL CONTROL OF VISCERAL AND METABOLIC FUNCTION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

## 889. CENTRAL REGULATION OF FOOD INTAKE AND BODY WEIGHT

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D583 **I** **889.1** Specific oral amino acids induce a protective response. **J. Jordi, S. Camargo, C. Boyle-Neuner, T. Lutz and F. Verrey.** Univ. of Zurich.
- D584 **II** **889.2** Role of brain melanocortin receptor 5 in physical activity in rats. **C. Shukla and C.M. Novak.** Kent State Univ.

- D595 **I** **890.1** Angiotensinergic signaling in the brain controls whole-body metabolism: role of adipose AT2 receptors. **J.L. Grobe, S. Park, X. Liu and C.D. Sigmund.** Univ. of Iowa.
- D596 **II** **890.2** Neonatal bladder inflammation reduces stress-induced opioidergic inhibition of visceromotor responses to urinary bladder distension in adult rats. **T.J. Ness, C.R. DeWitte and M.T. Robbins.** Univ. of Alabama at Birmingham.

## 891. CENTRAL AUTONOMIC REGULATION

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D597 **I** **891.1** Mechanisms underlying the cardiovascular responses to cooling. **C-S. Tung, C-F. Yang, Y-P. Liu, S-T. Chang and C-L. Huang.** Natl. Defense Med. Ctr. and Cardinal Tien Hosp., Taipei.
- D598 **II** **891.2** Role of orexin neurons in prostaglandin E2-induced fever and the defense against environmental cooling. **T. Kuwaki, Y. Takahashi, W. Zhang, K. Sameshima, C. Maeda, T. Sakurai and Y. Kanmura.** Kagoshima Univ., Japan, Univ. of Alabama at Birmingham and Kanazawa Univ., Japan.
- D599 **I** **891.3** Microglial-neuronal interactions in the paraventricular nucleus: a potential mechanism underlying neurogenic hypertension. **P. Shi, F.A. Desland, G. Zhou, F. Zhou, S.N. Roper, Y. Dong, Z. Shan, J.L. Grobe, M.K. Raizada and C. Sumners.** Univ. of Florida and Univ. of Iowa.
- D600 **II** **891.4** Carotid body artery removal prevents training-induced plasticity in preautonomic oxytocinergic neurons of the paraventricular nucleus SHR. **J.C. Cruz, M.T. Cavalleri and L.C. Michelini.** Univ. of São Paulo.
- D601 **I** **891.5** The influence of transcranial direct current stimulation on cardiac autonomic function in healthy human subjects. **J.A. Clancy, R. Johnson, R. Wilkie, M. Mon-Williams, S. Deuchars and J. Deuchars.** Univ. of Leeds, U.K.
- D602 **II** **891.6** PACAP causes long-term increases in sympathetic nerve activity and is necessary for the sympathetic response to acute intermittent hypoxia. **M.M.-J. Farnham and P.M. Pilowsky.** Australian Sch. of Adv. Med., Macquarie Univ.
- D603 **I** **891.7** Metabolic and cardiovascular adjustments to hemorrhage in [TGR(ASrAogen)] rats and (mRen2)27 rats. **D.C. de Lima, H.A. Shaltout, C.C. Coimbra and D.I. Diz.** Fed. Univ. of Minas Gerais, Brazil and Wake Forest Univ. Sch. of Med.
- D604 **II** **891.8** Mitogen-activated protein kinase mediates the effects of chemokine stromal cell-derived factor-1 on cardiovascular function and sympathetic drive in rats. **S-G. Wei, Z-H. Zhang, Y. Yu and R.B. Felder.** Univ. of Iowa Carver Col. of Med. and VA Med. Ctr.
- D605 **I** **891.9** Colocalization of estrogen receptor  $\beta$  with spinally projecting and vasopressinergic neurons in the hypothalamic paraventricular nucleus during pregnancy. **K.M. Coldren, R.J. Brown, D.D. Kline, E.M. Hasser and C.M. Heesch.** Univ. of Missouri-Columbia.
- D606 **II** **891.10** Pro-inflammatory action of renin-angiotensin-aldosterone system in hypothalamic astrocytes from spontaneously hypertensive rats. **V. Rodriguez and C. Sumners.** Univ. of Florida.
- D607 **I** **891.11** Leptin acts in the forebrain to increase gain of baroreflex control of lumbar sympathetic nerve activity and heart rate. **B. Li, P.A. Cassaglia and V.L. Brooks.** Oregon Hlth. & Sci. Univ.
- D608 **II** **891.12** Cytokines in the hypothalamic paraventricular nucleus are not required for maintenance of angiotensin II-salt hypertension. **M. Bardgett, M.C. Herrera-Rosales and G.M. Toney.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.

- D609 **I** **891.13** Activation of brain peroxisome proliferator-activated receptor- $\gamma$  inhibits lipopolysaccharide-induced central inflammation and sympathetic excitation. **Z. Zhang, Y. Yu, S-G. Wei and R.B. Felder.** Univ. of Iowa Carver Col. of Med. and VA Med. Ctr.
- D610 **II** **891.14** Social defeat stress-induced hyperthermia involves non-shivering thermogenesis in brown adipose tissue. **N. Kataoka and K. Nakamura.** Kyoto Univ.
- D611 **I** **891.15** Hypertension and pregnancy are accompanied by differential changes in GABAA and NMDA receptor subunit expression in the hypothalamic paraventricular nucleus. **S. Cork, P. Chazot and S. Pyner.** Sch. of Biol. and Biomed. Sci., Durham Univ., U.K.
- D612 **II** **891.16** Investigation of the role of 5-HT<sub>1A</sub> and 5-HT<sub>7</sub> receptor in the dorsal raphé on sympathetic nerve drive in anaesthetized rats. **C. Moore and A.G. Ramage.** University Col. London.
- D613 **I** **891.17** Bardet Biedl syndrome genes are required for autonomic control of the circulation. **D.A. Morgan, V.C. Sheffield and K. Rahmouni.** Univ. of Iowa and HHMI.
- D614 **II** **891.18** Exercise training induces changes in the renin-angiotensin system towards Ang-(1-7)/ACE2/MAS axis in the hypothalamus of renovascular hypertensive rats. **L.M. Cangussu, L.M. Oliveira, J.R. Silva, A.C. Alzamora, R.A.S. Santos and M.J. Campagnole-Santos.** Fed. Univ. of Minas Gerais and Fed. Univ. of Ouro Preto, Brazil.
- D615 **I** **891.19** Relaxin in the subfornical organ increases arterial pressure and lumbar sympathetic nerve activity in female rats: role of angiotensin II. **R.J. Brown, J.G. Phaup, E.M. Hasser and C.M. Heesch.** Univ. of Missouri-Columbia.
- D616 **II** **891.20** Neuropeptide Y type 1 receptors are expressed in pre-autonomic neurons in the hypothalamic paraventricular nucleus. **N.M. Clute-Reinig, P.A. Cassaglia and V.L. Brooks.** Oregon Hlth. & Sci. Univ.
- D617 **I** **891.21** Cardiovascular effects of angiotensin peptides are differentially mediated at the CVLM of hypertensive rats. **G.G. Sousa, U.G.M. Castro, M.E. Silva, R.A.S. Santos, M.J. Campagnole-Santos and A.C. Alzamora.** Fed. Univ. of Ouro Preto and Fed. Univ. of Minas Gerais, Brazil.
- D618 **II** **891.22** Isolating a role for deep breathing in reducing activation of stress-related limbic circuits. **D.J. Noble, M. Sawchuk, B. O'Neill and S. Hochman.** Emory Univ.

## 892. MOLECULAR SENSORS IN AFFERENTS NEURONS THAT CONTRIBUTE TO PAIN, FATIGUE, AND ACTIVATION OF AUTONOMIC REFLEXES IN HEALTH AND DISEASE (POSTERS)

## Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D619 **I** **892.1** Acid sensing ion channels (ASICs) in muscle skeletal afferents are heteromultimers with ASIC3 being a necessary component. **M. Gautam and C.J. Benson.** Univ. of Iowa.
- D620 **II** **892.2** GLT-1 over-expression mitigates chronic bladder inflammation and GLuR1 trafficking. **K. Roman and R.L. Stephens, Jr.** The Ohio State Univ.



- D621 I **892.3** Acute potentiating effects of tumor necrosis factor- $\alpha$  on the responses of rat vagal pulmonary sensory neurons to capsaicin challenge. **C-C. Hsu, M. Geer, Y.S. Lin and L-Y. Lee.** Univ. of Kentucky and Taipei Med. Univ.
- D622 II **892.4** Acute inflammation alters the response to stretch in mouse extensor digitorum longus muscle afferents. **K.A. Wilkinson and S. Hochman.** Emory Univ.
- D623 I **892.5** Metabolite-detecting and adrenergic gene expression after 40K time trial performance during thermoneutral and heat-stressed conditions. **T.A. VanHaitsma, A.R. Light, K.C. Light, R.W. Hughen and A.T. White.** Univ. of Utah.
- D624 II **892.6** Evidence for chemosensitive fibers in the aortic depressor nerve in mice but not in rats. **H.M. Stauss, D.A. Morgan and K. Rahmouni.** Univ. of Iowa.
- D625 I **892.7** A novel pH conditioned Cl<sup>-</sup> conductance in nodose ganglia neurons. **R. Wang, C.A. Whiteis, C.J. Benson, M.W. Chapleau and F.M. Abboud.** Univ. of Iowa and VA Med. Ctr.
- D626 II **892.8** Modulation of baroreceptor afferent terminal excitability and reflex responses by phospholipase D-coupled metabotropic glutamate receptors. **J.F. Paton, R.W. Banks and G.S. Bewick.** Univ. of Bristol Sch. of Physiol. and Pharmacol., Univ. of Durham Sch. of Biol. and Biomed. Sci. and Univ. of Aberdeen Sch. of Med. Sci.

### 893. NEURAL CONTROL AND AUTONOMIC REGULATION: TRAINEE FEATURED TOPIC

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D627 I **893.1** ACE2 shedding: a new mechanism for neurogenic hypertension. **H. Xia, S. Sriramula, M. Scroggin, K. Chhabra and E. Lazartigues.** LSU Hlth. Sci. Ctr., New Orleans.
- D628 II **893.2** Neuronal uptake and subcellular localization of functional nanoformulated copper/zinc superoxide dismutase. **E.G. Rosenbaugh, D.S. Manickam, E.V. Batrakova, A.V. Kabanov and M.C. Zimmerman.** Univ. of Nebraska Med. Ctr.
- D629 I **893.3** Role of group 1 metabotropic glutamate receptors in the hypothalamic paraventricular nucleus in sympathetic and blood pressure control during water deprivation. **W. Holbein, M. Bardgett, M.A. Andrade, M. Herrera-Rosales, A.S. Calderon and G.M. Toney.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- D630 II **893.4** (Pro)renin receptor over-expression induces angiotensin II-independent NADPH oxidase activation through PI3K - ERK signaling in neuronal cells. **H. Peng, W. Li, D. Seth, N.L. Gabriel and Y. Feng.** Tulane Univ.
- D631 I **893.5** Downregulation of AT1 receptor in the RVLM induced by mesenchymal stem cells treatment prevent the hypertension and sympathetic hyperactivity in 2K-1C Wistar rats. **E.B. Oliveira-Sales, E. Maquigussa, P. Semedo, L.G. Oliveira, N.O.S. Câmara, C.T. Bergamaschi, M.A. Boim and R.R. Campos.** Fed. Univ. of São Paulo.
- D632 II **893.6** Preferential increase in splanchnic sympathetic activity induced by hepatic cirrhosis in rats. **H.F.G. Estrela, E.F. Castro, M.G. Naffah-Mazzacoratti, C. Bergamaschi and R.R. Campos.** Fed. Univ. of São Paulo.
- D633 I **893.7** Blunted arterial baroreflex sensitivity: a contributor to hypertension in angiotensin type 2 receptor knockout mice. **J. Gao, J. Chao, T. Walther, F. Gemhardt, I.H. Zucker and L. Gao.** Univ. of Nebraska Med. Ctr. and Hull York Med. Sch., U.K.
- D634 II **893.8** Molecular inhibition of endoplasmic reticulum stress targeted to the subfornical organ prevents slow-pressor angiotensin-II- mediated hypertension. **C.N. Young, M. Guraju, S.D. Butler and R.L. Davisson.** Cornell Univ. and Weill Cornell Med. Col.
- D635 I **893.9** Does PVN neuropeptide Y contribute to the sympathoexcitatory effect of insulin in the arcuate nucleus? **P.A. Cassaglia and V.L. Brooks.** Oregon Hlth. & Sci. Univ.
- D636 II **893.10** Imbalance of angiotensin receptor expression and function in the spinal cord: potential mechanism of sympathetic overactivity in CHF rats. **J. Chao, G. Gao, I.H. Zucker and L. Gao.** Univ. of Nebraska Med. Ctr.
- D637 I **893.11** Greater autonomic support of blood pressure in older women. **J.N. Barnes, E.C. Hart, T.B. Curry, W.T. Nicholson, J.H. Eisenach, B.G. Wallin, N. Charkoudian and M.J. Joyner.** Mayo Clin., Sahlgren Acad., Gothenburg Univ., Sweden and U.S. Army Res. Inst. of Envrn. Med., Natick, MA.
- D638 II **893.12** Sex differences in sympathetic neural responses to 24-hour sleep deprivation in humans. **H. Yang, J.J. Durocher, R.A. Larson, J.P. DellaValla and J.R. Carter.** Michigan Technol. Univ. and Androscoggin Valley Hosp., Berlin, NH.
- D639 I **893.13** Low-dose aspirin augments carotid-cardiac baroreflex sensitivity during concurrent muscle mechanoreflex and metaboreflex activation in humans. **R. Drew, M.D. Muller, M. Herr, C. Blaha, J. Mast, T. Nicklas and L.I. Sinoway.** Penn State Col. of Med.
- D640 II **893.14** Differential regulation of sympathetic burst frequency and amplitude following acute hypoxia. **C. Steinback and J.K. Shoemaker.** Univ. of Western Ontario.
- D641 I **893.15** Intravenous ascorbic acid does not block the pressor or sympathetic nerve response to ischemic fatiguing rhythmic handgrip exercise. **M.D. Muller, R.C. Drew, J. Cui, C. Blaha, J. Mast and L.I. Sinoway.** Penn State Hershey Heart and Vasc. Inst.
- D642 II **893.16** A single, acute bout of yogic breathing reduces arterial catecholamines and cortisol. **E.A. Wehrwein, C.P. Johnson, N. Charkoudian, B.G. Wallin and M.J. Joyner.** Mayo Clin. and Univ. of Goteborg, Sweden.
- D643 I **893.17** Endogenous ATP and the modulation of sympathetic vasoconstriction in contracting skeletal muscle of humans. **B.S. Kirby, J.C. Richards, A.R. Crecelius, L.J. Garcia, G.J. Luckasen, D.G. Larson and F.A. Dinunno.** Colorado State Univ. and Med. Ctr. of the Rockies Fndn., Loveland, CO.

### 894. CONTROL OF BREATHING: CHEMORECEPTION

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D644 I **894.1** Regulation of ventral surface chemoreceptors by purinergic signaling. **I.C. Wenker, A. Takakura, T. Moreira and D.K. Mulkey.** Univ. of Connecticut and Univ. of São Paulo.

- D645 II **894.2** P2Y1-receptors are expressed by CO<sub>2</sub>/H<sup>+</sup>-insensitive neurons in the retrotrapezoid nucleus and contribute to the peripheral drive to breathe. **I.C. Wenker, A. Takakura, T. Moreira and D.K. Mulkey.** Univ. of Connecticut and Univ. of São Paulo.
- D646 I **894.3** Vesicular release of ATP by brainstem astrocytes evoked by changes in pH. **V. Kasymov, N. Marina, S. Kasparov and A.V. Gourine.** University Col. London and Univ. of Bristol.
- D647 II **894.4** Differences between two inbred rat strains in the number of Kv 1.4 channel-immunoreactive neurons in the nucleus tractus solitarius. **P.F. Martino, S. Olesiak, D. Batuuka, D. Riley, S. Neumueller, B.D. Marshall, B. Qian, M.R. Hodges and H.V. Forster.** Carthage Col., WI, Med. Col. of Wisconsin and VA Med. Ctr.
- D648 I **894.5** Altered brainstem neuromodulators relevant to central chemoreceptor function in Brown Norway rats. **M.R. Hodges, G. Mouradian, J. Miller, C. Muere and H.V. Forster.** Med. Col. of Wisconsin and Zablocki VA Med. Ctr.
- D649 II **894.6** Depressed serotonin contributes to suppressed CO<sub>2</sub> chemosensitivity in MeCP2 deficient mice. **M. Toward, A.P.L. Abdala, S.J. Knopp, J.F.R. Paton and J.M. Bissonnette.** Univ. of Bristol and Oregon Hlth. & Sci. Univ.
- D650 I **894.7** Central melatonin modulates the ventilatory response to hypercapnia but not to hypoxia in anaesthetized rats. **A.P. Sanchez, A. Delchiaro, J.F.G. Giácomo, J.P. Pupin and M.C. Luzzi.** Fac. of Med. of Catanduva, Brazil.
- D651 II **894.8** The role of Ca<sup>2+</sup> and B<sub>K</sub> channels in the firing rate response of locus coeruleus neurons to CO<sub>2</sub>: controlling the chemosensitive gain. **A.N. Imber, C.D. Graham and R.W. Putnam.** Wright State Univ.
- D652 I **894.9** Participation of locus coeruleus noradrenergic neurons on breathing in female rats. **D. de Carvalho, D.A. Marques, R.E. Szawka, J. Alselmo-Franci, K.C. Bicego and L.H. Gargaglioni.** São Paulo State Univ., Fed. Univ. of Minas Gerais and Univ. of São Paulo, Brazil.
- D653 II **894.10** Gap junction blockade in the locus coeruleus decreases the hypercapnic ventilatory response. **L.G.A. Patrone, K.C. Bicego, L. Hartzler, R.W. Putnam and L.H. Gargaglioni.** São Paulo State Univ., Jaboticabal and Wright State Univ.
- D654 I **894.11** Opioid  $\mu$ -receptors in the rostral medullary raphe modulate hypoxia-induced hypercapnea in unanesthetized rats. **M.B. Dias, T.B. Nucci, L.G.S. Branco and L.H. Gargaglioni.** Fed. Univ. of Goiás, Brazil, Univ. of São Paulo, Ribeirão Preto and São Paulo State Univ.
- D655 II **894.12** Carotid body denervation does not affect CO<sub>2</sub> sensitivity in multiple rat strains. **G. Mouradian, J. Miller, C. Muere, H.V. Forster and M.R. Hodges.** Med. Col. of Wisconsin.
- D656 I **894.13** GABAergic neurons in the medullary raphe possess network independent chemosensitivity in situ. **K.E. Iceman, G.B. Richerson and M.B. Harris.** Univ. of Alaska Fairbanks and Univ. of Iowa.
- D657 II **894.14** Assessment of central chemosensitivity through simultaneous recording of single-unit and whole-nerve responses to CO<sub>2</sub>. **M. Reed, K.E. Iceman, M.B. Harris and B. Taylor.** Univ. of Alaska Fairbanks.
- D658 I **894.15** The neuroepithelial body microenvironment as vagal mechanotransducer in intrapulmonary airways. **R. Lembrechts, I. Brouns, K. Schnorbusch, I. Pintelon, J-P. Timmermans and D. Adriaensen.** Univ. of Antwerp, Belgium.
- D659 II **894.16** Functional expression of the extracellular Ca<sup>2+</sup>-sensing receptor in pulmonary neuroepithelial bodies. **R. Lembrechts, I. Brouns, K. Schnorbusch, I. Pintelon, P.J. Kemp, J-P. Timmermans, D. Riccardi and D. Adriaensen.** Univ. of Antwerp, Belgium and Cardiff Univ., U.K.
- D660 I **894.17** Functional confocal live cell imaging of the pulmonary neuroepithelial body microenvironment in GAD67-GFP mice. **K. Schnorbusch, I. Brouns, R. Lembrechts, I. Pintelon, J-P. Timmermans and D. Adriaensen.** Univ. of Antwerp, Belgium.
- D661 II **894.18** Functional expression of calcium sensing receptor in rat vagal pulmonary sensory neurons. **K. Gu, M. Kagira and C. Gilbert.** Mercer Univ. Sch. of Med.
- D662 I **894.19** Full-term prenatal nicotinic exposure produces a depressed hypoxic ventilatory response in postnatal rats. **F. Xu and J. Zhuang.** Lovelace Resp. Res. Inst., Albuquerque.
- D663 II **894.20** Hydrogen sulfide contributes to the enhanced chemoreflex ventilatory response to acute hypoxia in heart failure rats. **R. Del Rio, N.J. Marcus, G. Stein and H.D. Schultz.** Univ. of Nebraska Med. Ctr.
- D664 I **894.21** Gastric CO<sub>2</sub> output via the esophagus increases during systemic hypercapnia in anesthetized cat. **H.E. Held, J.B. Dean, B.G. Lindsey, T.C. Pitts, M.J. Rose, A. Mortensen, J.N. Nicholas, D.M. Baekey, P.W. Davenport and D.C. Bolser.** Univ. of South Florida and Univ. of Florida Col. of Vet. Med.
- D665 II **894.22** Enantiomeric separation of doxapram reveals a superior respiratory stimulant, GAL-054. **F.J. Golder, R.B. Gruber, S.M. Baby, V. Puskovic, C.M. Ideo, S. Peng, S.L. Dax, D.E. MacIntyre and J.C. Mannion.** Galleon Pharmaceut., Horsham, PA.

## 895. CONTROL OF BREATHING: RHYTHM GENERATION

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D666 I **895.1** Identification of lung priming area in frog brainstem, adjacent to the lung oscillator, distinct from the buccal oscillator: homologous to RTN/pFRG? **M. Baghdadwala, M. Duchcherer and R.J.A. Wilson.** Univ. of Calgary, Canada.
- D667 II **895.2** Persistence of inspiratory rhythm in calibrated newborn rat pre-Bötzing complex slices upon blockade of store-mediated calcium signaling. **K. Ballanyi, B. Panaitescu and A. Ruangkittisakul.** Univ. of Alberta.
- D668 I **895.3**  $\mu$ -opioid receptors in pre-Bötzing complex are involved in fentanyl switching of pulmonary C-fibers-mediated rapid shallow breathing into an apnea in anesthetized rats. **Z. Zhang, C. Zhang and F. Xu.** Lovelace Resp. Res. Inst., Albuquerque.
- D669 II **895.4** Pre-Bötzing complex plays an important role in the hyperventilatory response to intravenous injection of 5HT<sub>1A</sub>R agonist in anesthetized rats. **J. Zhuang, C. Zhang and F. Xu.** Lovelace Resp. Res. Inst., Albuquerque.

## 896. COMPENSATORY RESPONSES TO ACUTE OR CHRONIC HYPOXIA EXPOSURE (POSTERS)

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D670 **I**      **896.1**    Insulin, C-peptide, glucose, and heart rate responses to acute intermittent hypoxia in the neonatal rat: body temperature and chemical sympathectomy. **M.A. Guenther, E.D. Bruder, K. Chintamaneni and H. Raff.** Aurora St. Luke's Med. Ctr., Milwaukee and Med. Col. of Wisconsin.
- D671 **II**      **896.2**    Stimulus-specific cerebrovascular dysfunction in humans with metabolic syndrome. **J.W. Harrell, E.J. McKenna, L.A. Linstroth, B.J. Morgan and W.G. Schrage.** Sch. of Med. and Publ. Hlth., Univ. of Wisconsin-Madison.
- D672 **I**      **896.3**    Oxidative stress in the respiratory response to intermittent hypoxia in athletes and sleep apnea patients: similar mechanisms but opposite outcomes. **V. Pialoux.** Univ. Lyon 1, Villeurbanne.
- D673 **II**      **896.4**    Hypoxic vasoconstriction of rat skeletal artery mediated by NOX4 and NOS/sGC pathway. **S.J. Kim, J.-A. Han, E.Y. Seo, K.S. Kim and Y.-H. Zhang.** Seoul Natl. Univ. Col. of Med.
- D674 **I**      **896.5**    Response of the HPA axis to intermittent hypoxia in the neonatal rat: ACTH, corticosterone, and the expression of adrenal mRNAs. **K. Chintamaneni, E.D. Bruder, M.A. Guenther and H. Raff.** Aurora St. Luke's Med. Ctr. and Med. Col. of Wisconsin.
- D675 **II**      **896.6**    Severe hypoxia in isolated adult turtle brainstems decreases respiratory motor burst clustering, frequency, and amplitude. **M.E. Bartman and S.M. Johnson.** Univ. of Wisconsin-Madison.
- D676 **I**      **896.7**    Some morphologic and growth features of juxta-alveolar smooth muscle cell lines from high altitude hypoxia sheep. **T.A. John.** Lagos State Univ. Col. of Med., Nigeria.
- D677 **II**      **896.8**    Crucial role of phospholipase C gamma 2 in hypoxic pulmonary vasoconstriction. **V.R. Yadav, Y.-M. Zheng and Y.-X. Wang.** Albany Med. Col.

## 897. HYPOXIA/OXYGEN SENSING, SIGNAL TRANSDUCTION, SECOND MESSENGERS, AND TRANSMITTERS

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D678 **I**      **897.1**    Oxygen sensing pathway: genetic adaptation at high altitude. **M.A.Q. Pasha, A. Mishra and G. Mohammad.** Inst. of Genomics and Integrat. Biol., Delhi and SNM Hosp., Leh, India.
- D679 **II**      **897.2**    Activation of TASK-2 by hypoxia: is it via ROS, AMPK or H<sub>2</sub>S? **E.A. Martin, J.R. Papreck and D. Kim.** Chicago Med. Sch.

- D680 **I**      **897.3**    Mitochondrial content of carotid body type I cells decreases during the maturation of the hypoxic response. **J.E. Paulet, H.-T. Tran, H. Jordan, R. Pye, D. Ladle and C. Wyatt.** Wright State Univ.
- D681 **II**      **897.4**    Ion channel regulation by the Lkb1-AMPK signaling pathway: the key to carotid body activation by hypoxia and metabolic homeostasis at the whole body level. **A.M. Evans, D.G. Hardie, C. Peers, P. Kumar and C.N. Wyatt.** Univ. of Edinburgh, Univ. of Dundee, Univ. of Leeds, Univ. of Birmingham and Wright State Univ.
- D682 **I**      **897.5**    Intermittent hypoxia induces Fra-1 in rat carotid body cells expressing leptin. **S. Messenger, J.M. Moreau and J. Ciriello.** Univ. of Western Ontario.
- D683 **II**      **897.6**    Immunohistochemical expression and nitration of MnSOD in the adrenal gland and the carotid body of rats exposed to chronic intermittent hypoxia. **E. Moya, P. Arias and R. Iturriaga.** Pontifical Catholic Univ. of Chile.
- D684 **I**      **897.7**    Carotid body afferent activity stimulation by PACAP is mediated through PKC pathway. **A. Roy and R.J.A. Wilson.** Hotchkiss Brain Inst., Calgary, Canada.
- D685 **II**      **897.8**    Hydrogen sulfide mediates catecholamine secretion elicited by hypoxia in the carotid body. **V. Makarenko, Y.-J. Peng, J. Nanduri, S.H. Snyder, A.P. Fox and N.R. Prabhakar.** Univ. of Chicago and Johns Hopkins Univ. Sch. of Med.
- D686 **I**      **897.9**    Endogenous hydrogen sulfide in carotid bodies correlates with the initiation of hypertension in spontaneously hypertensive rats. **Y. Lu, C.A. Whiteis, M.W. Chapleau and F.M. Abboud.** Univ. of Iowa and VA Med. Ctr.

## 898. INTERMITTENT HYPOXIA/OXIDATIVE STRESS

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D687 **I**      **898.1**    VEGF upregulation and vascular area enlargement induced by intermittent hypoxia in the rat carotid body is not secondary to oxidative stress. **R. Iturriaga, E.A. Moya and R. Del Rio.** Catholic Univ. of Chile.
- D688 **II**      **898.2**    Upregulation of complex I S-glutathionylation by eNOS knockout is mediated by increasing oxidant stress and protein thiol radical in mitochondria. **Y.-R. Chen, P.T. Kang and C.-L. Chen.** Northeast Ohio Med. Univ.
- D689 **I**      **898.3**    Combined acute intermittent hypoxaemia and a high glucose/lipid load augments oxidative stress and exaggerates postprandial hyperglycaemia. **H.S. Griffin, K. Pugh, A.J. Wadley, J.E. Turner, S. Aldred, S. Taheri, P. Kumar and G.M. Balanos.** Univ. of Birmingham, U.K.
- D690 **II**      **898.4**    Altered urinary excretion of allantoin and purine catabolites in neonates with necrotizing enterocolitis. **M. Plank, L. Slater, Y. Asmerom, K.R. Angeles, K. Mannoia, D. Boskovic, G. Gollin and D. Angeles.** Sch. of Med. and Sch. of Nursing, Loma Linda Univ.
- D691 **I**      **898.5**    Hypersensitivity of lung vagal C fibers induced by acute intermittent hypoxia in rats: role of reactive oxygen species and TRPA1. **C.J. Lai, M.-Y. Shen, Y.-L. Luo and C.-H. Yang.** Tzu Chi Univ. and Natl. Yang-Ming Univ., Taiwan.

- D692 II **898.6** Ascorbic acid attenuates sympathetic activation and endothelial dysfunction induced by short-term intermittent hypoxia in humans. **U.A. Leuenberger, L. Linton-Frazier, S. Spilk and C. Hogeman.** Penn State Hershey Heart and Vasc. Inst.
- D693 I **898.7** FosB in NTS contributes to persistent increase in mean arterial pressure during exposure to chronic intermittent hypoxia. **Q. Wu, B. Cherry and S. Mifflin.** Univ. of North Texas Hlth. Sci. Ctr.
- D694 II **898.8** Intermittent hypoxia elicits a rapid upregulation of Cav3.2 T-type Ca<sup>2+</sup> channels mediated by reactive oxygen species. **G. Ahmmed, J. Nanduri, S.A. Khan, D. Reddy, Q. Wang, A.P. Fox and N.R. Prabhakar.** Univ. of Chicago.
- D695 I **898.9** Corticosterone modulation of miniature excitatory postsynaptic currents is altered following exposure to CIH. **Y. Fan and S. Mifflin.** Univ. of North Texas Hlth. Sci. Ctr.
- D696 II **898.10** Astrocytes in NTS after exposure to chronic intermittent hypoxia. **K. Yamamoto, C. Yuan, W. Eubank, M. Franzke and S. Mifflin.** Univ. of North Texas Hlth. Sci. Ctr.
- D697 I **898.11** Changes in reactive oxygen species in central respiratory centers with sustained hypoxia. **D. Popa, A.D. Go, Z. Fu and F.L. Powell.** UCSD and White Mountain Res. Sta., La Jolla.
- D698 II **898.12** Utilizing multi-color flow cytometry and FACS to simultaneously examine effects of intermittent hypoxia on microglia, neurons, and astrocytes. **S.M.C. Smith, M. Nikodemova and J.J. Watters.** Univ. of Wisconsin-Madison.

## 899. CONSEQUENCES OF CHRONIC INTERMITTENT HYPOXIA

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D699 I **899.1** Intracellular recordings of respiratory and pre-sympathetic neurons in the ventrolateral medulla of rats submitted to chronic intermittent hypoxia. **D.J.A. Moraes, D.B. Zoccal and B.H. Machado.** Sch. of Med. of Ribeirão Preto, Univ. of São Paulo.
- D700 II **899.2** Chronic intermittent hypoxia (cih) alters respiratory rhythmogenesis within the preBötzinger complex. **A.J. Garcia, A. Doi, T. Malashchenko, A. Wei, G. Kumar, N.R. Prabhakar and J-M. Ramirez.** Seattle Children's Res. Inst., Univ. of Washington and Univ. of Chicago.
- D701 I **899.3** Optogenetic stimulation of C1 neurons activates breathing in mice. **P.G. Guyenet, S.D. Depuy and R.L. Stornetta.** Univ. of Virginia.
- D702 II **899.4** Pattern of breathing in a mouse model of Down syndrome. **L.R. DeRuisseau, S.L. Murphy, S.A. Zabycz and K.C. DeRuisseau.** Le Moyne Col. and Syracuse Univ.
- D703 I **899.5** Cerebrovascular consequences of obstructive sleep apnea. **R.F. Crossland, D.J. Durgan, E.E. Lloyd, S.C. Phillips, S.P. Marrelli and R.M. Bryan.** Baylor Col. of Med.

- D704 II **899.6** Brainstem areas activated by intermittent apnea in awake unrestrained rats. **G.H. Schoorlemmer, B. Falquetto, C.B. Ferreira, A.C. Takakura, T.S. Moreira and S.L. Cravo.** Fed. Univ. of São Paulo, Brazil and Univ. São Paulo.
- D705 I **899.7** Intermittent hypoxia alters circulating leptin levels and the activity of pro-opiomelanocortin hypothalamic arcuate nucleus neurons. **J.M. Moreau, S.A. Messenger and J. Ciriello.** Univ. of Western Ontario.
- D706 II **899.8** Colocalization of angiotensin converting enzyme 1 and FosB in the median preoptic nucleus following intermittent hypoxia. **K.E. Faulk, W.D. Knight, J.T. Little and J.T. Cunningham.** Univ. of North Texas Hlth. Sci. Ctr.
- D707 I **899.9** Central losartan attenuates CIH-induced hypertension and FosB/ΔFosB expression in hypothalamic autonomic regions. **W.D. Knight, A. Saxena, J.T. Little, M. Dutta and J.T. Cunningham.** Univ. of North Texas Hlth. Sci. Ctr.
- D708 II **899.10** Exposure to acute intermittent hypoxia prolongs sympathoexcitatory and pressor responses evoked by NMDA in the hypothalamic paraventricular nucleus. **S.S. Kandlikar, M.A. Andrade, A.S. Calderon and G.M. Toney.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- D709 I **899.11** The effects of 7 day exposure to intermittent hypoxia on renal and cervical sympathetic nerve responses to acute hypoxia in rats. **W. Eubank, K. Yamamoto, M. Franzke and S. Mifflin.** Univ. of North Texas Hlth. Sci. Ctr.
- D710 II **899.12** Neuropeptide Y signaling in altered catecholamine synthesis during intermittent hypoxia. **G.K. Kumar, G. Raghuraman and N.R. Prabhakar.** Univ. of Chicago.
- D711 I **899.13** Na/Ca exchanger-1 mediates hypertrophy of cultured neonatal mouse cardiomyocytes in chronic intermittent hypoxia. **L. Chen, G. Wu and J. Zhang.** Univ. of Maryland Baltimore.

## 900. NEUROENDOCRINOLOGY/NEUROIMMUNOLOGY

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D712 I **900.1** Oxidative stress in hypothalamic neurons may explain the impaired vasopressin secretion observed during sepsis. **P.J. Basso, G.R. Oliveira-Pelegrin and M.J.A. Rocha.** Univ. of São Paulo, Ribeirão Preto.
- D713 II **900.2** Sexually dimorphic expression of S1PR2 as candidate for susceptibility to CNS autoimmunity. **L. Cruz-Orengo, S.A. Basak, D. Dorsey, S.D. Crosby and R.S. Klein.** Washington Univ. Sch. of Med.
- D714 I **900.3** Thermal stimulation of vasopressin and oxytocin release from explants of the hypothalamo-neurohypophyseal system. **C.D. Sladek, Z. Song and W. Stevens.** Univ. of Colorado Sch. of Med.
- D715 II **900.4** Does estrogen have immunomodulatory effects on pregnant women diagnosed with multiple sclerosis. **A. Brown, K. McNair, R. Rawson, T. Sibley and E. Raynes.** Tennessee State Univ.

- D716 I 900.5 Expression of deiodinases in the hippocampus of epileptic rats. **R.J. Nassif, R.M. Cysneiros, F.A. Scorza and M.O. Ribeiro.** Univ. Mackenzie, Brazil and Fed. Univ. of São Paulo.
- D717 II 900.6 Estradiol enhances conditioned place preference to cocaine in male rats. **R.D. Silva, W. Amadeo, J.G. Rivera, T. Ramos, Y. Torres and A.C. Segarra.** Univ. of Puerto Rico.

### 901. NEURONAL EXCITABILITY (ION CHANNELS AND TRANSPORTERS)

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D718 I 901.1 Mechanisms of water deprivation-induced enhancement of glutamatergic activity in the hypothalamic paraventricular nucleus. **M. Bardgett, A.D. Baumgartner, A.S. Calderon and G.M. Toney.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- D719 II 901.2 Anion selectivity and counter-ion cation permeation in glycine receptor channels. **A. Moorhouse, S. Sugiharto, J. Carland, T. Lewis and P. Barry.** Univ. of New South Wales Sch. of Med. Sci.
- D720 I 901.3 Evaluating a possible role for persistent inward currents in firing rate saturation. **A.L. Revill and A.J. Fuglevand.** Univ. of Alberta and Univ. of Arizona.
- D721 II 901.4 Modulation of voltage-gated potassium channels by sodium channel SCN1b subunits. **H.M. Nguyen, J.D. Calhoun, A.L. Goldin, L.L. Isom and G.K. Chandy.** Univ. of California, Irvine and Univ. of Michigan.
- D722 I 901.5 Neuronal and non-neuronal steady-state pHi and recovery from NH<sub>4</sub><sup>+</sup>-induced acid loads. **V.A. Ruffin and W.F. Boron.** Case Western Reserve Univ.

### 902. NEUROPLASTICITY

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D723 I 902.1 Changes in mouse serotonin and dopamine receptor labeling in the intermediolateral nucleus after spinal cord injury. **B.E. O'Neill, S. Hochman, M. Sawchuk and A. Zimmerman.** Emory Univ.
- D724 II 902.2 O-GlcNAcylation of the AMPA receptor GluA2 subunit may contribute to LTD at hippocampal CA3-CA1 synapses. **K. Wang, E. Taylor, R. Marchase, J. Chatham and L. McMahon.** Univ. of Alabama at Birmingham.
- D725 I 902.3 Upregulation of NMDA receptors in spinal cord dorsal horn contributes to diabetic neuropathic pain. **X-L. Wang, Y-Z. Zhang, F-F. Liu, Q-Q. Cao and Y-X. Guo.** The Third Hosp., Hebei Med. Univ., China.
- D726 II 902.4 Proneurotrophins mediate peri-infarct sympathetic denervation following myocardial infarction. **D.C. Parrish, C.U. Lorentz and B.A. Habecker.** Oregon Hlth. & Sci. Univ.
- D727 I 902.5 Calcium signaling in induction of synaptic plasticity in cortical pyramidal neurons. **H. Kalikulov and M. Friedlander.** Virginia Tech Carilion Res. Inst.

### 903. NEUROTRANSMISSION AND SIGNALING MOLECULES

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D728 I 903.1 Mechanisms regulating norepinephrine-mediated  $\alpha_2$ -IPSCs in the rat locus coeruleus. **S.L. Barclay and C. Ford.** Case Western Reserve Univ. and Cedarville Univ.
- D729 II 903.2 Hibernation-dependent alterations in hypothalamic synaptic markers. **P.R. Oeltgen, L. Sparks and S.A. Brown.** VA Med. Ctr., Univ. of Kentucky and Lab. for Neurodegen. Res., Sun City, AZ.
- D730 I 903.3 Evidence that glial cells modulate synaptic transmission in the NTS neurons sending projections to RVLM. **D. Accorsi-Mendonça, L.G.H. Bonagamba and B.H. Machado.** Sch. of Med. of Ribeirão Preto, Univ. of São Paulo.
- D731 II 903.4 Modulation of GABA<sub>A</sub>-ergic synaptic currents by GABA<sub>B</sub>-ergic presynaptic inputs in mouse locus coeruleus neurons. **X. Jin, N. Cui, W. Zhong, M. Oginsky, S. Zhang and C. Jiang.** Georgia State Univ.
- D732 I 903.5 Mitogen activated protein kinases mediate endothelin regulation of tyrosine hydroxylase in the olfactory bulb. **F. Giannoni, S.L. Nabhen, M.J. Guil, S.I. Hope, L.G. Bianciotti and M.S. Vatta.** Sch. of Pharm. and Biochem., Univ. of Buenos Aires.

### 904. CENTRAL NERVOUS SYSTEM: OTHER

#### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D733 I 904.1 Ketamine enhances morphine-induced analgesia and suppresses morphine tolerance in diabetic neuropathic pain. **X-L. Wang, Y-Z. Zhang, F-F. Liu, Q-Q. Cao and Y-X. Guo.** The Third Hosp., Hebei Med. Univ., China.
- D734 II 904.2 Corticotropin-releasing factor involves in promotive effect of restraint on neuronal activation by methamphetamine. **Z. Yuan and Y-W. Lin.** Tzu Chi Univ., Taiwan.
- D735 I 904.3 Neuronal toxicity and uptake of cross-linked copper/zinc superoxide dismutase nanozyme (cl-SOD1 nano). **K.K. Savalia, D.S. Manickam, E.G. Rosenbaugh, A.V. Kabanov and M.C. Zimmerman.** Univ. of Nebraska Med. Ctr.
- D736 II 904.4 Morphological changes of the membranous labyrinth in Meniere's disease. **H. Tanioka and K. Kaga.** Tanioka Clin., Tokyo and Natl. Inst. of Sensory Organs, Natl. Tokyo Med. Ctr.
- D737 I 904.5 Stress-induced activation of distinct subpopulations of neurons in the basolateral amygdala of the rat. **J.M. Bolanos, J.N. Hamdan, V.M. Rosales and K.L. Gosselink.** Univ. of Texas at El Paso.

- D738 II 904.6 Electrophysiological analysis of the spinal network function in the in situ adult interferon regulatory factor 8 knockout mice. **I. Yazawa, Y. Yoshida, R. Yoshimi, M. O'Donovan and K. Ozato.** Showa Univ. Sch. of Med., Japan and NINDS/NIH and NICHD/NIH.
- D739 I 904.7 Angiotensin II regulates activity of kinases and phosphatases in neurons. **U. Basu, S. Alikunju and M.C. Zimmerman.** Univ. of Nebraska Med. Ctr.
- D740 II 904.8 Effect of neonatally induced brain serotonin depletion on anxiety-like behavior of adult offspring Wistar rats. **A.L.B. Silveira, R. Laureano-Melo, F.V. Fonseca, D. Lustrino, R. Mencialha, L.C. Reis and W.S. Côrtes.** Fed. Rural Univ. of Rio de Janeiro.
- D741 I 904.9 Altered muscular activation patterns and force feedback after spinal cord injury. **I.F. Niazi, T.R. Nichols and D.R. Howland.** Sch. of Applied Physiol., Georgia Tech and VA Med. Ctr. and Univ. of Florida.

## 905. BIOMEDICAL ENGINEERING

### Poster

MON. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D742 I 905.1 Development and characterization of novel extracellular mimicking blended electrospun scaffolds: effect of scaffold hydrophobicity on endothelial cell growth. **N. Nosoudi, W. Yin and D.A. Rubenstein.** Oklahoma State Univ.
- D743 II 905.2 Production of a biodegradable electrospun biomaterial with tensile strength and elasticity. **W.D. Wagner, L.C. Argenta, M.J. Morykwas and N. Levi-Polyachenko.** Wake Forest Univ. Sch. of Med.
- D744 I 905.3 Inhibitory mechanisms of ethanolic extract of fruiting body of *Antrodia cinnamomea* in cell growth, migration and drug resistance in human lung cancer-derived A549 cells. **C-H. Wu, F-C. Liu and C-H. Pan.** China Med. Univ. and Da-Chien Gen. Hosp., Taiwan.
- D745 II 905.4 TNF- $\alpha$  inhibits breast cancer cells adhesion via HIF-1 $\alpha$ -mediated VASP suppression. **K. Su, Y. Tian, J. Wang, W. Shi, J. Zhang and L. Wei.** Med. Sch. of Wuhan Univ. and Zhongnan Hosp., Wuhan, China.
- D746 I 905.5 microRNA-610: a novel regulator of gastric cancer migration. **J. Wang, J. Zhang, J. Wu, D. Luo, K. Su, W. Shi, Y. Tian and L. Wei.** Sch. of Basic Med. Sci. and Zhongnan Hosp. of Wuhan Univ., China.
- D747 II 905.6 Obscurins invade breast cancer research. **M. Shriver and A. Kontrogianni-Konstantopoulos.** Univ. of Maryland Baltimore Sch. of Med.
- D748 I 905.7 Potentiation of gastric carcinoma cell invasion by TNF- $\alpha$  and MMP secretion from peritoneal mesothelial cells. **T. Tsuji, K. Shimada, H. Kenmotsu, W. Sekine, Y. Saito, T. Oku and M. Tsuiji.** Hoshi Univ. Sch. of Pharm. and Pharmaceut. Sci., Japan.
- D749 II 905.8 Physiological analysis of the ZO-1 actin binding region on cell adhesion and function in epithelial cells. **A.M. Loar, G.A. Winkler, R.C. Brady and J.M. King.** Trinity Univ., TX.
- D750 I 905.9 Investigation of mechanical properties of breast cancer cells using micropipette aspiration technique. **A. Mohammadipour, Y.E. Choi, F. Benencia, M.M. Burdick and D.F.J. Tees.** Ohio Univ.
- D751 II 905.10 Exploration of pressure-natriuresis mechanisms using a lumped, two-nephron whole-kidney model. **R. Moss, T. Grosse and S.R. Thomas.** CNRS, Villejuif.
- D752 I 905.11 A computational model of neural activation, force generation and intracellular bioenergetics during muscle fatigue. **D. Callahan, B. Umberger and J. Kent-Braun.** Univ. of Massachusetts Amherst.
- D753 II 905.12 Mathematical modeling of myeloma bone disease. **B.P. Ayati.** Univ. of Iowa.
- D754 I 905.13 Vascular tortuosity: modeling using optimality analysis. **L. Hathout and H. Do.** Stanford Univ.
- D755 II 905.14 Integration of the baroreflex control mechanism in a heterogeneous model of the cardiovascular system. **L.G. Fernandes, P.R. Trenhago, P.J. Blanco and R.A. Feijóo.** Rural Fed. Univ. of Rio de Janeiro and Natl. Lab. for Sci. Computing, Petrópolis, Brazil.
- D756 I 905.15 Biomechanical analysis of primary upper limb muscle contributors to a functional pulling movement. **K.R. Saul, M. Daly, M.E. Vidt and A.P. Marsh.** Wake Forest Sch. of Med., Virginia Tech-Wake Forest Univ. Sch. of Biomed. Engin. and Sci., Williams Col. and Wake Forest Univ.
- D757 II 905.16 Tracer washout from an organ is predicted from the tracer center of mass. **J.B. Bassingthwaighe, G.M. Raymond and J.I.S. Chan.** Univ. of Washington.
- D758 I 905.17 JSim models of two-dimensional concentrations in capillary-tissue systems relating center-of-mass of retained tracer to washout kinetics. **G.M. Raymond and J.B. Bassingthwaighe.** Univ. of Washington.
- D759 II 905.18 Mechanisms of the anti-inflammatory action of pulsatile laminar flow: role of AMPK in chromatin remodeling. **L. Flores, Y-S. Li and S. Chien.** UCSD.
- D760 I 905.19 G $\alpha_{q11}$ -mediated AKT activation and intracellular calcium responses to retrograde flow in endothelial cells. **B. Melchior and J.A. Frangos.** La Jolla Bioengin. Inst.
- D761 II 905.20 Conditional deletion of  $\beta$ 1-integrin from urothelium results in bladder dysfunction and abnormal voiding. **W.G. Hill, M. von Bodungen, W. Yu, B. MacIver, R. Kalluri and K. Kanasaki.** Beth Israel Deaconess Med. Ctr. and Harvard Med. Sch.
- D762 I 905.21 The effect of high frequency oscillation on the concentration of exhaled protein on canines. **H-W. Tsai, J.A. Condrey, S. Adams and P.W. Davenport.** Univ. of Florida.
- D763 II 905.22 Neoblast markers piwi and vasa are expressed during regeneration and reproduction in *Aeolosoma viride*. **Y. Hsieh, C. Chu and J. Chen.** Inst. of Zoology, Taiwan.
- D764 I 905.23 Intramyocardial injection of heart tissue-derived extracellular matrix improves cardiac function in a rat myocardial infarction model. **W. Dai, P. Gerczuk, Y. Zhang, G.L. Kay, A.J. Jyrala and R.A. Kloner.** Good Samaritan Hosp., Los Angeles and Wake Forest Sch. of Med.
- D765 II 905.24 Accelerated bone healing in the absence of TLR4. **D. Wang, A. Kubala, T. Billiar and G. Cooper.** Univ. of Pittsburgh.
- D766 I 905.25 Sphingosine 1-phosphate potentiated endothelial cell attachment on de-cellularized human umbilical vein as a scaffold for vascular tissue engineering. **Y-L. Huang, S-Y. Chen, J. Lu and H. Lee.** Natl. Taiwan Univ., Natl. Taiwan Univ. Hosp. and Taipei Veterans Gen. Hosp.
- D767 II 905.26 Novel treatment of bladder cancer with cell therapy. **A.R. Luria, C. Jeong, J. Nolita and E. Kurzrock.** Univ. of California, Davis, Sacramento.

# TUESDAY, APRIL 24

## Anatomy

### 906. EXTRACELLULAR MATRIX

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:00 PM

- B233 **906.1** Lack of N-sulfation of podocyte cell surface heparan sulfate glycosaminoglycans leads to abnormalities in podocyte organization, adhesion, and migration. **T.A. Sugar, D.J. McCarthy, J.D. Esko, L.B. Holzman and K.J. McCarthy.** LSU Hlth. Sci. Ctr., Shreveport, UCSD and Univ. of Pennsylvania Sch. of Med.
- B234 **906.2** Versican expression and turnover in hepatic stellate cell activation. **S.B. Maurice, C.L. Crick, W-C. Kim, C. Law, M. Norrie, S-E. Kim and P. Winwood.** Univ. of Northern British Columbia and Univ. of British Columbia.
- B235 **906.3** Functional significance of CD44 and MMP-9 in cartilage homeostasis. **E.B. Askew, K.M. Warren, C.B. Knudson and W. Knudson.** East Carolina Univ.
- B236 **906.4** MMP expression by intervertebral disc cells is responsive to changes in extracellular osmolarity. **Y. Cui, S. Lee, J. Yu and J. Urban.** Univ. of Oxford.
- B237 **906.5** Tissue tension supports the in vitro co-culture of ras-keratinocytes and myofibroblasts. **P. Barua, C.C. Lam and M.B. Vaughan.** Univ. of Central Oklahoma.

### 907. DEVELOPMENT AND GROWTH: CRANIOFACIAL

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:00 PM

- B238 **907.1** Six3 expression is augmented in the facial primordia of mice with misexpression of six2 associated with frontonasal dysplasia. **T. Hynd, B. Fogelgren, S.J. Somponpun, S.F.T. Fong and S. Lozanoff.** Univ. of Hawaii.
- B239 **907.2** Esrp1 and Esrp2 expression in the developing midface and kidney of mice with frontonasal dysplasia and renal hypoplasia. **T. Hong, T. Hynd and S. Lozanoff.** Univ. of Hawaii Sch. of Med.
- B240 **907.3** Decreased expression of *Wnt9b* and *Ube2q1* in the face of CL/Fr mouse embryos at E11.5 based on microarray analysis. **B.N. Takagi, T. Hynd, S.J. Somponpun, K. Nonaka and S. Lozanoff.** Univ. of Hawaii Sch. of Med. and Kyushu Univ., Japan.
- B241 **907.4** Generation of floxed-Shh transgenic mice for Cre-directed misexpression of Sonic hedgehog. **A.L. Limpach.** Creighton Univ.
- B242 **907.5** FGF signaling specifies pre-chondrogenic identity in neural crest-derived mesenchyme, but initiation of chondrogenesis requires BMP4 signaling. **M. Kumar, P. Ray and S.C. Chapman.** Clemson Univ.

- B243 **907.6** Growth change in cartilaginous eustachian tube angulation and its relationship with age at onset of otitis media. **A.S. Pagano, E. Wang and J.T. Laitman.** Mount Sinai Sch. of Med.
- B244 **907.7** Mesenchymal condensation sets the stage for intramembranous bone development. **J. Jabalee and T.A. Franz-Odenaal.** Mount Saint Vincent Univ., Canada.
- B245 **907.8** Effect of thyroid hormone exposure on murine calvarial-derived pre-osteoblasts. **J.J. Cray, Jr., S.M. Weinberg and M. El-Salanty.** Georgia Hlth. Sci. Univ. and Univ. of Pittsburgh.
- B246 **907.9** Hypoxic environments cause differential facial shape variation in zebrafish. **T.E. Parsons, S.M. Weinberg, M. Tsang and A.R. Vieira.** Univ. of Pittsburgh.
- B247 **907.10** Individual craniofacial bone volumes and relative densities in postnatal mice provide valuable phenotypic information. **C.J. Percival, Y. Wang, X. Zhou, E.W. Jabs and J.T. Richtsmeier.** Penn State and Mount Sinai Sch. of Med.
- B248 **907.11** Investigating the developmental processes of nasal contour shape. **A.D. Wheat.** Univ. of Tennessee, Knoxville.
- B249 **907.12** The postnatal development of the paranasal sinuses in the horse. **H.H. Bragulla, D.G. Homberger and B.M. Wood.** LSU Sch. of Vet. Med.
- B250 **907.13** CT-scan of the head and neck of a roebuck (*Capreolus capreolus*): seriated cross-sections and reconstruction. **P.P. Le Floch-Prigent and S. Verdeille.** Univ. of Versailles Med. Sch. and CIMOP, Saint Cloud, France.
- B251 **907.14** CT-scan of the René Descartes (1596-1650) cranium. **P.P. Le Floch-Prigent, S. Verdeille and A. Froment.** Univ. of Versailles-Saint Quentin, Paris, CIMOP, Saint Cloud and Paris and MNHN, Paris.
- B252 **907.15** A novel gene *Crispld2* may contribute to facial dysmorphism in a chicken model of Crouzon's syndrome. **X. Li, S. Tropp, N. Young, B. Hallgrimsson and R. Marcucio.** UCSF, San Francisco Gen. Hosp. and Univ. of Calgary, Canada.

### 908. DEVELOPMENT AND GROWTH: LIMBS

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:00 PM

- B253 **908.1** Fgf-induced activation of the limb specific Shh regulatory region. **T.W. Bailey, C.U. Pira and K.C. Oberg.** Loma Linda Univ.
- B254 **908.2** Upregulation of TFAP2C by Fgf during Shh induction in limb buds. **D.J.H. Kim, J.M. Feenstra, C.U. Pira and K.C. Oberg.** Loma Linda Univ.
- B255 **908.3** Femoral growth plate is sensitive to loss of cardiac shunt in the American alligator. **T. Owerkowicz, J. Yang, J.M. Blank, J. Eme and J.W. Hicks.** California State Univ., California Poly State Univ., San Luis Obispo, Univ. of North Texas and Univ. of California, Irvine.

- B256 **908.4** Effects of hypoxia on growth and biomechanics in limb bones of *Alligator mississippiensis*. **S.L. Lujan, T. Owerkovicz, R.M. Elsey, J.W. Hicks and K.M. Middleton.** California State Univ., San Bernardino, Louisiana Dept. of Wildlife and Fisheries, Grand Chenier and Univ. of California, Irvine.
- B257 **908.5** Sex differences and variation in lower limb element lengths: implications for physical therapeutic treatment of anisomelia. **A.S. Weir and S. Márquez.** SUNY Downstate Med. Ctr.
- B258 **908.6** A morpho-etiological work-up of congenital limb anomalies. **S.M. Tayel, H. Ismail, A.R. Abd Rabuh, S. Tayel, H. Sallam and K. Naguib.** Alexandria Fac. of Med., Alexandria Reg. Ctr. for Women's Hlth. and Develop. and Alexandria Univ., Egypt.

## 909. DEVELOPMENT AND GROWTH: GENE AND PROTEIN EXPRESSION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B259 **909.1** Identification of a proteoglycan-associated regulatory region active during central nervous system development. **A.V. Hong, J.M. Feenstra, C.U. Pira and K.C. Oberg.** Loma Linda Univ.
- B260 **909.2** Identification of a regulatory region within the EMX2 locus that is active in the neural tube. **J.P. Schober, C.U. Pira and K.C. Oberg.** Loma Linda Univ. Sch. of Med.
- B261 **909.3** Essential role of Zp54, the human RCK/p54 (DDX6) homologue, in zebrafish neuronal development. **C-C. Yeh, S-J. Lee and C-Y. Chu.** Natl. Taiwan Univ.
- B262 **909.4** Functional defects in mice somatotropes caused by ablation of leptin receptors is reversed, in vitro, by stimulation with ghrelin. **M.M. Syed, M.A. Cozart, C. Crane, A.C. Haney, N. Akhter, A.K. Odle, F.M. Syed, M. Allensworth and G.V. Childs.** Univ. of Arkansas for Med. Sci.
- B263 **909.5** The use of human embryonic kidney (HEK 293) cells to enhance characterization of the LMX1B pathway. **R.P. Stump, J.M. Feenstra, M.A. Castillo, S. Soriano and K.C. Oberg.** Walla Walla Univ. and Loma Linda Univ.
- B264 **909.6** The expression pattern of echinoderm microtubule-associated like proteins in zebrafish during caudal tail regeneration. **W.C. Dyer and M.A.F. Daggett.** Missouri Western State Univ.

## 910. DEVELOPMENT AND GROWTH: BIRTH DEFECTS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B265 **910.1** Amelioration of congenital toxoplasmosis effects by maternal immune stimulation. **T.C. Hrubec, D.G. Goodwin, B.G. Klein and D.S. Lindsay.** Via Col. of Osteo. Med. and VA-MD Reg. Col. of Vet. Med., Blacksburg, VA.

- B266 **910.2** Cardiac changes in fetal mice from tap water exposure. **T.C. Hrubec, T. Melin, V.P. Reinoso and J.C. Gutierrez.** Via Col. of Osteo. Med. and VA-MD Reg. Col. of Vet. Med., Blacksburg, VA.
- B267 **910.3** Presence of carbamazepine in drinking water does not appear to cause neural tube defects in mice. **V. Melin, T.C. Hrubec, G. Magnin-Bissel, D. Blodgett and F. Etzkorn.** VA-MD Reg. Col. of Vet. Med. and E. Via Col. of Osteo. Med., Blacksburg and Virginia Tech.
- B268 **910.4** Analytic view of simultaneous occurrence of sacralisation and congenital anomalies. **R. Singh.** CSM Med. Univ., India.
- B269 **910.5** Anatomy of the incomplete ureteral duplication. **M. Mehta, T. Bui and P. Rengasamy.** Mercer Univ. Sch. of Med.

## 911. BIOENGINEERING

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B270 **911.1** Electrospun proteoglycan matrices for tracheal tissue engineering. **S. Hinderer, A. Bayrak, M. Schesny, M. Hampel, M. Seifert and K. Schenke-Layland.** Inter-Univ. Ctr. for Med. Technol., Stuttgart-Tübingen, Eberhard Karls Univ., Tübingen, Charité Med. Univ. Berlin and Univ. of Stuttgart, Germany.
- B271 **911.2** Atomic structure of chimeric hepatitis E virus designed for targeted nano-carrier and delivery system. **P. Jariyapong, L. Xing, W. Weerachatanukul and H. Cheng.** Mahidol Univ., Thailand and Univ. of California, Davis.
- B272 **911.3** A microfluidic bioreactor for epithelial cell studies under fluid shear stress. **N. Ferrell, K.B. Ricci, R.R. Desai, J. Groszek, J.T. Marmorstein and W.H. Fissell.** Cleveland Clin.

## 912. EPIGENETICS AND REGULATORY RNAS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B273 **912.1** Negative regulation of enhancer-associated RNA in macrophages. **M.T. Lam, H. Cho, S. Heinz, C. Benner, M.U. Kaikkonen, Y. Tanaka-Oishi, M. Kosaka, C. Lee, R.M. Evans and C.K. Glass.** UCSD and Salk Inst.

## 913. STEM CELLS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B274 **913.1** Changes in adult fibroblast populations with passaging reduce reprogramming efficiency. **E.J. Su, T. Downing and S. Li.** Univ. of California, Berkeley and UCSF.
- B275 **913.2** Mobilization of very small embryonic-like stem cells by G-CSF in MACO mice. **M. Zheng and J. Wang.** Chongqing Med. Univ. and The Second Affiliated Hosp., China.



- B276 **913.3** Breastmilk contains primitive stem cells from the lactating breast with multi-lineage differentiation potential. **F. Hassiotou, L. Filgueira, N. Trengove, C. Tat Lai and P. Hartmann.** Univ. of Western Australia, Crawley.
- B277 **913.4** Embryonic transcription factor upregulation during normal lactation and breast oncogenesis. **F. Hassiotou, A. Beltran, N.J. Trengove, C. Tat Lai, P. Hartmann, L. Filgueira and P. Blancafort.** Univ. of Western Australia and Univ. of North Carolina at Chapel Hill.
- B278 **913.5** Umbilical cord matrix stem cells trophic ability and use as a drug delivery vehicle for treatment of melanomas. **K.M. Davis.** A.T. Still Univ., MO.
- B279 **913.6** Labeling of porcine mesenchymal stem cells with MRI contrast agent Ferex for use in abdominal aortic aneurysm models. **P. Faries, B. Rawal and K.B. Saeboe.** Mount Sinai Hosp., New York.
- B280 **913.7** Cell fusion phenomena was detected after xenogenic intra-uterus transplantation of Ds-red porcine amniotic fluid-derived stem cells into EGFP bearing mice. **S-Y. Peng, C-J. Chou and S-C. Wu.** Natl. Taiwan Univ.
- B281 **913.8** Effects of laminar shear stress on expression of MT1-MMP in rat bone marrow-derived mesenchymal stem cells. **W.H. Qin.** Hubei Univ. of Med., China.

#### 914. STEM CELLS: AGING AND DISEASE

##### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B282 **914.1** Using neural stem cells as an anti-cancer drug delivery vehicle for treating human breast cancer. **A. Reuter, K. Davis and R.S. Rachakatla.** A. T. Still Univ. Kirksville Col. of Osteo. Med.
- B283 **914.2** Cisplatin induces differentiation of breast cancer cells. **P. Prabhakaran, F. Hassiotou and L. Filgueira.** Univ. of Western Australia and Technol. Univ. Teknol. of Malaysia.
- B284 **914.3** Strategies for the rejuvenation of aged muscle stem cells. **J. Proto, A. Lu, T. Hannigan, B. Wang, L.J. Niedernhofer, P. Robbins and J. Huard.** Univ. of Pittsburgh Sch. of Med.
- B285 **914.4** Changes in the activin A-myostatin-follistatin system within bone and muscle of aging mice. **M. Hamrick, M. Bowser, S. Fulzele, S. Ahsan, P. Arounleut and C.M. Isaacs.** Georgia Hlth. Sci. Univ.
- B286 **914.5** Effects of mesterolone on satellite cell distribution and myonuclear number in maturing skeletal muscle fibers. **M.Z. Allouh and M.H. Aldirawi.** Jordan Univ. of Sci. & Technol.
- B287 **914.6** Abnormal proliferation and defective multilineage differentiation potential of adipose-derived stem cells isolated from dystrophin and utrophin knockout mice. **J. Sohn, A. Kozemchak, N. Oyster, S.D. Thompson, A. Lu, B. Gharaibeh, Y. Tang, B. Wang and J. Huard.** Univ. of Pittsburgh Sch. of Med.

#### 915. STEM CELLS: WOUND HEALING AND TISSUE REPAIR

##### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B288 **915.1** Identification of neural crest-like synovial stem cells. **F. Huang, Z. Tang and S. Li.** Univ. of California, Berkeley.
- B289 **915.2** Collagen analysis of mesenchymal stromal cell assisted hernial scar repair. **J. Krontiris-Litowitz, H. Dorion, D.L. Fagan, J. Ferrari, J. Holmes, H. Marie and J. Heffner.** Youngstown State Univ. and St. Elizabeth Hlth. Ctr.
- B290 **915.3** The use of mesenchymal stromal cells improves wound repair in rat abdominal incisions. **T.E. Minteer, J. Heffner, J. Holmes, J. Ferrari, J. Krontiris-Litowitz, H. Marie, J. Perko, H. Dorion and D. Fagan.** Youngstown State Univ., Univ. of Michigan Med. Sch. and Saint Elizabeth Hlth. Ctr., Youngstown.
- B291 **915.4** Mesenchymal stromal cells and platelet rich plasma on a collagen matrix improve the tensile strength of a repaired incision in a rat model. **D. Fagan, J. Heffner, J. Holmes, J. Ferrari, J. Krontiris-Litowitz, J. Perko, H. Dorion and H. Marie.** Youngstown State Univ., Univ. of Michigan and Saint Elizabeth Hlth. Ctr., Youngstown.

#### 916. WOUND HEALING

##### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B292 **916.1** Negative pressure accelerates wound healing by activating Cdc42-regulated proteins. **S-Y. Yu and C-C. Hsu.** Chang Gung Mem. Hosp., Keelung, Taiwan.
- B293 **916.2** Acute inhibition of connexin43 expression promotes vesicant wound repair in a nitrogen mustard-induced hairless mouse cutaneous injury model. **Y-C. Chang, J.D. Wang, R.A. Hahn, M.K. Gordon and D.R. Gerecke.** Rutgers Univ., Piscataway.
- B294 **916.3** Vesicant-induced autophagy. **M.K. Gordon, L. Raman, R.A. Hahn, J.J. Schlager, M.C. Babin, D.R. Gerecke and K.K.H. Svoboda.** Rutgers Univ., Piscataway, Air Force Res. Lab., Dayton, Battelle Biomed. Res. Ctr., West Jefferson, OH and Baylor Col. of Dent.
- B295 **916.4** CKD712 promotes wound closure by producing VEGF through AMPK-dependent HO-1 induction. **H. Jang, E. Park, H. Kim and K. Chang.** Gyeongsang Natl. Univ., South Korea.
- B296 **916.5** Topical treatment with the opioid antagonist naltrexone facilitates closure of full-thickness wounds in diabetic rats by accelerating neovascularization. **I.S. Zagon, J.A. Immonen and P.J. McLaughlin.** Penn State Col. of Med.
- B297 **916.6** Functionalized nanocoating for accelerated wound healing. **R.P. Kulkarni and D.K. Mills.** Louisiana Tech Univ. Sch. of Biol. Sci.
- B298 **916.7** RU486 improves cutaneous wound healing in mice submitted to psychological stress. **A. Monte-Alto-Costa and T.F. Almeida.** State Univ. of Rio de Janeiro.

- B299 **916.8** Caffeic acid phenethyl ester protects burn wounds against oxidative stress and improves wound healing. **A. Monte-Alto-Costa and J.S. Santos.** State Univ. of Rio de Janeiro.
- B300 **916.9** Design of bioactive smart nanofilms with bFGF and PDGF-BB for wound repair. **S. Challagundla and D.K. Mills.** Louisiana Tech Univ.
- B301 **916.10** Mathematical modeling of wound healing using CompuCell3D multicell modeling environment. **J.S. Gens, S. Jeyaraman and J.A. Glazier.** Indiana Univ.

## 917. REGENERATIVE MEDICINE

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B302 **917.1** Multilayered, multi-component anti-infective nanocoatings for biomedicine. **D.K. Mills, K. Elfer, K. McNamara, M. Manuel and Y. Lvov.** Louisiana Tech Univ.
- B303 **917.2** Primary osteoblasts colonize and mineralize 3D nanofibrous gelatin scaffolds in 14 days. **A. Sachar, A. Strom, M. Serrano, S. San Miguel, X. Liu and K.K.H. Svoboda.** Baylor Col. of Dent.
- B304 **917.3** Proliferation, osteogenic and chondrogenic differentiation of equine-derived bone marrow mesenchymal stem cells on bacterial cellulose scaffolds. **P.M. Favi, C. Stephens, N. Neilsen, R. Hammonds, R. Benson and M. Dhar.** Univ. of Tennessee, Knoxville.
- B305 **917.4** Bioactive hydrogels for TMJ repair. **S.J. Karnik and D.K. Mills.** Louisiana Tech Univ.
- B306 **917.5** Comparison of in vitro adherence, proliferation and osteogenesis of equine bone marrow-derived mesenchymal stem cells to identify an allogeneic donor. **M. Dhar, N. Neilsen, L. Amelse, S. Hurst and J. Carter-Arnold.** Univ. of Tennessee Col. of Vet. Med.
- B307 **917.6** Initial characterization of the cellular basis for bladder regeneration in a rodent model. **C. Peyton, D. Burmeister, K-E. Andersson and G. Christ.** Wake Forest Baptist Hlth. and Wake Forest Inst. for Regen. Med.
- B308 **917.7** Tissue engineering bone by recapitulating developmental and repair programs offers improved biological outcomes. **C.S. Bahney, D. Hu, T. Mclau and R. Marcucio.** UCSF.

## 918. NEUROBIOLOGY: NEURAL CELL BIOLOGY

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B309 **918.1** Superfast electrophoretic transport of carbocyanine dyes in situ: an improved method in nerve pathway tracing. **T.A. Heuer, B. McMaster, S-P. Hong and C. Henderson.** Palmer Col. of Chiropractic, IA and Palmer Col. of Chiropractic Florida.
- B310 **918.2** Denritic morphology. **E.L. White.** Ben Gurion Univ. Sch. of Med., Israel.

- B311 **918.3** Developing henna-haematoxylin stain as alternative to Nissl stain in delineating the cytoarchitecture of the neocortex and archicortex of the cerebrum. **J.N. Alawa, O. Gideon, B. Adetiba and C.B. Alawa.** Ahmadu Bello Univ., Nigeria.
- B312 **918.4** Distribution of urea transporter B in the mice brain. **J. Ran, S. Sun and G. He.** Chongqing Med. Univ., China.
- B313 **918.5** HIF-1alpha and COX-2 expression and mouse brain capillary remodeling during adaptation to hypoxia and reoxygenation after prolonged moderate hypoxia. **G. Benderro and J.C. LaManna.** Case Western Reserve Univ.
- B314 **918.6** Auditory-amygdalar circuits: an anterograde and retrograde tracing study. **D.C. Peterson.** Iowa State Univ.
- B315 **918.7** Estradiol and metabotropic glutamate receptors interaction within the anxiety neural circuitry at behavioral and protein levels. **M.I. De Jesus-Burgos, S. Gonzalez-Garcia, Y. Cruz, G. Gonzalez, B. Gonzalez, L. Portela and N.L. Pérez-Acevedo.** Sch. of Med., Univ. of Puerto Rico, Med. Sci. Campus and Univ. of Puerto Rico, Rio Piedras and Cayey Campus.
- B316 **918.8** The death of neurons derived from familial Alzheimer's disease pluripotent stem cells is no different from the death of neurons derived from normal controls. **M.A. Shaner, S.H. Yuan and L.S. Goldstein.** UCSD.

## 919. NEUROBIOLOGY: DEVELOPMENT

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B317 **919.1** AChR clustering is increased by neuregulin. **S.M. Boothe and W.A. Grow.** Midwestern Univ., AZ.
- B318 **919.2** MyoD and myogenin are required for agrin-induced AChR clustering. **E.E. Anderson and W.A. Grow.** Midwestern Univ., AZ.
- B319 **919.3** Embryonic origin of microglial progenitors and their routes of entry into the mouse developing central nervous system. **W.Y. Chan, T.C. Ng, G.W.H. Chow and P. Rezaie.** Sch. of Biomed. Sci., The Chinese Univ. of Hong Kong and The Open Univ., U.K.
- B320 **919.4** Optogenetic regulation of peripheral sensory or motor axons during chick embryogenesis. **A.A. Sharp and S. Fromherz.** Southern Illinois Univ. Sch. of Med.

## 920. NEUROBIOLOGY: BEHAVIOR; NEUROPSYCHIATRIC DISORDERS; DISEASE; AGING

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B321 **920.1** Tumor-derived IDO affects the lifespan in a mouse model of glioblastoma. **D.A. Wainwright and M.S. Lesniak.** Univ. of Chicago.
- B322 **920.2** Functional changes in the brain caused by neonatal influenza infection. **M. Kim and S-S. Nahm.** Col. of Vet. Med., Konkuk Univ., South Korea.

- B323 **920.3** Valproic acid attenuates neuronal apoptosis in APP/PS1 transgenic Alzheimer's disease mice model. **G. He and L. Zhao.** Chongqing Med. Univ., China.
- B324 **920.4** Localization of gamma-secretase subunit Aph-1 in the central nervous system of Alzheimer's disease mouse model. **G. He and S. Sun.** Chongqing Med. Univ., China.
- B325 **920.5** The neuroanatomy of deep brain stimulation for the treatment of Parkinson disease. **L.K. Smith, L. Dibble and K.B. Foreman.** Univ. of Utah.
- B326 **920.6** Disregulated Sphk1, Sphk2 and their receptors in the brain of MPTP-induced mouse model of Parkinson's disease. **M. Sivasubramanian, S.T. Dheen, Z.F. Peng, D.K. Srinivasan and S.S.W. Tay.** Natl. Univ. of Singapore.
- B327 **920.7** Mobilization of endothelial progenitor cells in patients with acute ischemic stroke. **M. Zheng and J. Wang.** Chongqing Med. Univ. and The Second Affiliated Hosp., China.
- B328 **920.8** Time course of neuronal effects as a result of post-traumatic stress disorder-relevant social stress on a mouse model. **N. Chakraborty, J. Meyerhoff, S. Muhie, R. Hammamieh and M. Jett.** U.S. Army Ctr. for Environ. Hlth. Res., Fort Detrick, MD.
- B329 **920.9** MRI and DTI characterization of spinal cord severe contusion injury in the rat. **W. Lim, C. Baligand, J. Keener, F. Ye, R.S. Vohra, A. Ruhella, P.K. Bose, G.A. Walter, F.J. Thompson and K.H. Vandendorpe.** Univ. of Florida and North Florida/South Georgia Veterans Hlth. Syst.
- B330 **920.10** Switch in amyloid clearance mechanisms leads to vascular fragility in cerebral amyloid angiopathy. **M.K. Zabel, M. Schrag, A. Crofton, S. Tung, H.V. Vinters and W.M. Kirsch.** Loma Linda Univ. and UCLA.
- B332 **921.2** Potent suppressive effect of resveratrol and apigenin on pro-inflammatory responses in lipopolysaccharide and IFN- $\gamma$ -activated microglia and macrophages: implications for Alzheimer's disease therapies. **L. Ooi.** Univ. of Western Sydney Sch. of Med.
- B333 **921.3** The effects of angiotensin receptor blockade on functional recovery and inflammatory gene expression following spinal cord injury. **E.A. Robbins, I.G. Shlifer, D. Manning, C.B. Jones and T.B. Jones.** Midwestern Univ., AZ.
- B334 **921.4** Extracellular phosphorylation is a novel target for regenerative medicine against spinal cord injury. **Y. Takei, K. Suehiro, K. Shimizu and G. Tsujimoto.** Kyoto Univ.
- B335 **921.5** Effects of daidzein on post-stroke injury and recovery of function in the rat. **J.M. Stout, D.G. Wallace and J.L. Cheatwood.** Southern Illinois Univ. Sch. of Med. and Northern Illinois Univ.
- B336 **921.6** A semi-purified soy protein diet preserves skilled ladder rung walking performance after stroke in rats. **J.L. Cheatwood, J.M. Stout, J.R. Köppen, D.G. Wallace, D.N. Butteiger and W.J. Banz.** Southern Illinois Univ. Sch. of Med., Northern Illinois Univ. and Solae, LLC, S. Louis.
- B337 **921.7** Distribution of nicastrin in the central nervous system of APP/PS1 double transgenic mice. **S. Luo and G. He.** Chongqing Med. Univ., China.
- B338 **921.8** Hyperactivity and altered social attention following concussion in triple transgenic mice predisposed to Alzheimer-like neuropathology. **R.W. Clough, N.S. Viscomi, K.M. Thompson and G.M. Rose.** Southern Illinois Univ. Sch. of Med.
- B339 **921.9** Neuroprotective role of alpha lipoic acid in arsenic induced developmental neurotoxicity in rat pups. **P. Dhar, P. Kaushal and R.D. Mehra.** All India Inst. of Med. Sci., Delhi.
- B340 **921.10** Z-Bisdehydrodoisynolic acid, a putative estrogenic seco-steroid, induces profound lordosis behavior in ovariectomized female rats. **N.S. Viscomi, R.W. Clough, L. Arbogast, W.J. Banz, Y. Hou and C. Meyers.** Southern Illinois Univ. Sch. of Med. and Southern Illinois Univ.

## 921. NEUROBIOLOGY: NEUROPROTECTION AND NEUROIMMUNOLOGY

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:00 PM

- B331 **921.1** In vitro generated microglia derived from blood precursors. **S. Etemad, M. Ruitenberg and L. Filgueira.** Univ. of Western Australia and Univ. of Queensland Sch. of Biomed. Sci., Australia.

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# Biochemistry and Molecular Biology

## 922. GENE REGULATION DURING GROWTH AND DEVELOPMENT

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A1 **922.1** Liganded thyroid hormone receptor induces nucleosome removal and histone modifications to activate transcription during adult stem cell development. **Y-B. Shi**. NICHD/NIH.
- A2 **922.2** Regulation of alpha-myosin heavy chain in cardiac remodeling associated with pregnancy. **J.M. Sizemore, E.N. Dixon, A.J. Baute and R.L. Waikel**. Eastern Kentucky Univ.
- A3 **922.3** Expression and characterization of the Cyr61 gene in Medaka fish. **R. Monzon and L. Varley**. Saint Xavier Univ., IL.
- A4 **922.4** The role of Brahma-related gene 1 in regulating the expression of microRNAs in colonic smooth muscle cells. **M. Chen and P. Herring**. Indiana Univ. Sch. of Med.
- A5 **922.5** Hepatocyte maturation is arrested in mouse liver lacking the splicing factor SRSF3 (SRp20). **S. Sen and N.J. Webster**. VA San Diego Healthcare Syst.
- A6 **922.6** Identification of human myofibril-inducing RNA. **A. Kochegarov, A. Moses, W. Lian, M.C. Hanna and L.F. Lemanski**. Texas A&M Univ. Texas-Commerce.
- A7 **922.7** Expression of Eph receptors and their ligands in palate. **M.J. Serrano, S. San Miguel, A. Sachar, K. Svoboda and M.D. Benson**. Baylor Col. of Dent.
- A8 **922.8** Determination of mesenchymal stem cell: roles of BMP4 and Scara5. **H. Lee, H.J. Kim, Y.J. Lee, H. Choi and J-w. Kim**. Yonsei Univ., South Korea.
- A9 **922.9** Role of actin polymerization during early s-looping of the vertebrate embryonic heart. **Q. Chu-LaGraff, K. Benn, J.L. LaGraff and A. Ramasubramanian**. Union Col., NY.
- A10 **922.10** Alternative splicing of key survival genes during adipogenesis. **N.A. Patel, A. Apostolatos, P. Li, J. Watson and D.R. Cooper**. James A. Haley Veterans' Hosp. and Univ. of South Florida.
- A11 **922.11** Regulation of *c-myb* by NF- $\kappa$ B family members during human-induced pluripotent stem cell differentiation into hematopoietic precursors. **M. Fleury, M. Lynch, D. Kowalsky, J. Leonard and C. Toth**. Providence Col.
- A12 **922.12** Regulation of *c-myb* by NF- $\kappa$ B family members during murine erythroleukemia differentiation. **D. Kowalsky, M. Lynch, M. Fleury, J. Leonard and C. Toth**. Providence Col.
- A13 **922.13** FOXC1 regulates BMP-SMAD activity in a context dependent manner during osteogenic development events. **F.B. Berry and F. Mirzayans**. Univ. of Alberta.
- A14 **922.14** Functional linkage of retinoblastoma protein family turnover and potency during mouse embryonic stem cell development. **R.W. Henry, D.N. Arnosti, J.G. Knott and S. Sengupta**. Michigan State Univ.
- A15 **922.15** Characterization of hepatocyte-specific SRSF1 (SF2/ASF) knockout mice. **M. Langiewicz, S. Sen and N.J. Webster**. UCSD and VA San Diego Healthcare Syst.

- A16 **922.16** Heart regeneration in *Notophthalmus viridescens*: where do the stem cells come from? **A.S. Wilder, S.K. Sessions and A.J. Piefer**. Hartwick Col., NY.
- A17 **922.17** Age-dependent regulation of non-coding RNAs in male germ cell development. **A.C.S. Luk, S.H. Ng, W-Y. Chan and T-L. Lee**. The Chinese Univ. of Hong Kong Sch. of Biomed. Sci.

## 923. INTERPLAY BETWEEN CHROMATIN STRUCTURE AND THE TRANSCRIPTION MACHINERY

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A18 **923.1** Genetic evidence for an involvement of the TOR complex 1 in the process of transcription elongation in *Saccharomyces cerevisiae*. **J.L. Haller, M.K. Allison, J.A. Harper, M.A. Outhay, H.C. Warsinske and A.A. Duina**. Hendrix Col., AR.
- A19 **923.2** Identification of a nucleosomal region required for the proper distribution of the transcription elongation factor Spt16 across transcribed genes in *Saccharomyces cerevisiae*. **A.A. Duina, T.H. Nguyen, W. Wharton II and J.A. Harper**. Hendrix Col., AR.
- A20 **923.3** Identification of novel stem cell-specific accessible chromatin domains. **S.T. Okino, M. Kong and Y. Wang**. Bio-Rad Labs., Hercules, CA.
- A21 **923.4** Native accessible ChIP: a novel approach to interrogate protein-DNA interactions in accessible chromatin. **Y. Wang, X. Meng, M. Kong and S.T. Okino**. Bio-Rad Labs., Hercules, CA.

## 924. CHANGES IN CHROMATIN DURING GENE ACTIVATION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A22 **924.1** Chromatin dynamics during activation and pseudo-differentiation of an innate immunity gene. **J. Adamik, A. Su and P.E. Auron**. Duquesne Univ.

## 925. CHROMATIN ARCHITECTURE AND ASSEMBLY

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A23 **925.1** Transcription factor access to their sites in chromatin. **M. Floer and A. Gjidoda**. Michigan State Univ.
- A24 **925.2** Structural studies of the histone chaperone Hif1, a component of the Hat1 chromatin assembly complex. **A. Bigeh, E. Pickle, M.J. Bagley, N. Seangmany and R.N. Dutnall**. Univ. of San Diego.

## 926. CHROMATIN CHANGES IN DEVELOPMENT

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A25 **926.1** Epigenetic regulation in leukemia cell differentiation. **K. Zhang, M. Filippova, V. Filippov and P.J. Duerksen-Hughes.** Loma Linda Univ.
- A26 **926.2** Characterization of the cell morphology differences between pre-diapause and diapause embryos of the killifish *Austrofundulus limnaeus*. **L. Toni and P. Padilla.** Univ. of North Texas.

## 927. CHROMATIN REMODELING

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A27 **927.1** Role of the Ccr4-Not complex in histone acetylation. **S. Mehrotra and A. Vancura.** St. John's Univ., NY.
- A28 **927.2** Development of vitamin D-resistance in breast cancer cells through SLUG-mediated coordinate repression of CYP2R1, CYP27B1 and VDR gene promoters. **M.K. Mittal, S. Misra and G. Chaudhuri.** Meharry Med. Col.

## 928. DYSREGULATION OF GENE EXPRESSION IN DISEASE

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A29 **928.1** Evaluation of a new single tube RNA amplification method with low 3'/5' ratios. **J. Coleman, R. Jin and W. Patton.** ENZO Life Sci., Farmingdale, NY.
- A30 **928.2** Hypoplastic left heart syndrome: molecular consequences of transcription factor mutations. **A.E. Shay, S. Kirwin, C. Prospero, C. Pizarro and V. Funanage.** Univ. of Delaware and Nemours A.I. duPont Hosp. for Children.
- A31 **928.3** Changes in genes methylation of the TLR pathway in livers of mice fed DDC. **J. Oliva and S.W. French.** LA BIOMED.
- A32 **928.4** Expressional repression of hepatic cytochrome P450 2d in ICR mice infected with *Babesia microti*. **Y. Shimamoto, K. Watanabe, M. Sasaki, H. Ikadai, M. Ishizuka, F. Hoshi, N. Yokoyama, I. Igarashi and H. Kitamura.** Sch. of Vet. Med., Kitasato Univ., Grad. Sch. of Vet. Med., Hokkaido Univ., Obihiro Univ. of Agr. and Vet. Med. and Grad. Sch. of Med. Sci., Nagoya City Univ., Japan.
- A33 **928.5** Relationship of gene expression and sex hormone receptors in primary breast carcinoma and metastases from the same patient. **S.A. Andres and J.L. Wittliff.** Univ. of Louisville.
- A34 **928.6** The  $\beta$ -catenin/Tcf-4 pathway regulates *high mobility group a1* expression in colorectal cancers. **J.A. Deng, A.T. Brock, B.M. Bush and T.F. Sumter.** Winthrop Univ., SC.

- A35 **928.7** Cosmc is silenced in human Tn4 B cells through hypermethylation of the gene promoter. **T. Ju, R. Mi, L. Song, Y. Wang, X. Ding, V.K. Crew, S.D. Lehoux, I. van Die, A.B. Chapman and R.D. Cummings.** Emory Univ. Sch. of Med., Bristol Inst. for Transfusion Sci. and VU Univ., Amsterdam.
- A36 **928.8** Epigenetic dysregulation via regulator of calcineurin 1 in Alzheimer's disease. **H. Wong, J. Levens, B. Rothermel, E. Klann and C.A. Hoeffler.** New York Univ., NYU Sch. of Med. and Univ. of Texas Southwestern Med. Ctr.
- A37 **928.9** Early postnatal striatal gene expression networks in rat: relevance to schizophrenia. **G. Novak, T. Fan and S.R. George.** Univ. of Toronto and Ctr. for Addiction and Ment. Hlth., Toronto.
- A38 **928.10** Establishment of an NIH-3T3 transiently transfected Ikaros system to study its effects on gene expression. **M. Meyer, T. Van der Steen and G. Dorsam.** North Dakota State Univ.
- A39 **928.11** Dereglulation of E-cadherin and MTA2 in tamoxifen-resistant breast cancer cells. **M.M. Hathaway and M.C. Louie.** Dominican Univ. of California.
- A40 **928.12** Genetic association of SIX1 gene variants and primary open-angle glaucoma in Caucasians. **R. Shaw, Y. Wang, Y. Chen, H. Du and K. Zhang.** UCSD.

## 929. REGULATION OF TRANSCRIPTION BY SIGNAL TRANSDUCTION

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A41 **929.1** Transcription factor profile of homocysteine-induced genes in human monocytes. **S. Meng, S. Ciment, M. Jan, X. Yang and H. Wang.** Temple Univ. Sch. of Med.
- A42 **929.2** ERK2-dependent activation of c-Jun is required for nontypeable *H. influenzae*-induced Cxcl2 upregulation in the inner ear fibrocytes. **J.-I. Woo, S. Oh, D. Lim and S. Moon.** House Res. Inst. and Univ. of Southern California.
- A43 **929.3** Estrogen and vitamin D control of transcription in MCF-7 cells. **J.N. Magill and J.M. Schmitt.** George Fox Univ., OR.
- A44 **929.4** CTGF/CCN2 induction by TGF-1  $\beta$  requires Ets-1 in osteoblasts. **J.A. Arnott, M. Geisinger, R. Astaiza, T. Butler, S. Popoff and S.L. Planey.** The Commonwealth Med. Col. and Temple Univ. Sch. of Med.
- A45 **929.5** Effect of statins on heme-oxygenase-1 in macrophages and NIH 3T3 cells. **A. Habib, M.F. Mrad, C.A. Mouawad, M. Al-Hariri and J. Alam.** American Univ. of Beirut and Ochsner Clin. Fndn., New Orleans.
- A46 **929.6** Hiding in plain sight: elucidation of mechanisms underlying metastatic melanoma immune escape via suppression of major histocompatibility complex II through dysregulation of the JAK/STAT pathway. **J.L. Osborn and S.F. Greer.** Georgia State Univ.
- A47 **929.7** PKC $\delta$  regulates MCP-1 expression at the transcription level in vascular smooth muscle cells. **J. Ren, S. Morgan, Y. Si and B. Liu.** Univ. of Wisconsin-Madison.

## 930. SIGNALING TO THE NUCLEUS

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A48 **930.1** The retinoblastoma protein regulates Wnt signaling activity in the MC3T3 osteoblasts. **V. Vazquez-Rivera, A. Cruz, R. Noel, Jr. and P. Santiago-Cardona.** Ponce Sch. of Med. and Univ. of Puerto Rico, Ponce.
- A49 **930.2** Regulation of nitric oxide synthesis by beta-adrenergic receptors in the nuclear envelope. **G. Vaniotis, C. Merlen, A. Tadevosyan, L. Villeneuve, D. Chatenet, R. Zamboni, A. Fournier, T. Hebert and B. Allen.** Montreal Heart Inst., INRS-Inst. Armand Frappier, Laval and McGill Univ.
- A50 **930.3** Mechanism of TRAF6 intranuclear translocation. **A-J. Su, J. Adamik, J. Sydeski-Hurd and P.E. Auron.** Duquesne Univ.

## 931. TRANSCRIPTIONAL REGULATION

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A51 **931.1** Activation of transcription of hepatic HMG-CoA reductase by insulin requires tristetraprolin. **G.C. Ness and J. Edelman.** Univ. of South Florida.
- A52 **931.2** Transcriptional regulation of xenobiotic detoxification in *Drosophila*. **J.R. Misra, M.A. Horner, G. Lam and C.S. Thummel.** Univ. of Utah Sch. of Med.
- A53 **931.3** Identification of protein-interacting partners of USF2 in erythroid cells. **J. Masannat, J. Barrow and J. Bungert.** Univ. of Florida.
- A54 **931.4** A systematic approach to transcriptional regulator function discovery: function discovery for Bxe\_B3018. **R. Martí-Arbona, P.J. Unkefer and C.J. Unkefer.** Los Alamos Natl. Lab.
- A55 **931.5** Discovery and characterization of an L-tryptophan responsive transcriptional regulator of the oxidative tryptophan degradation pathway in *Burkholderia xenovorans*. **R.S. Hall, C.J. Unkefer and P.J. Unkefer.** Los Alamos Natl. Lab.
- A56 **931.6** The characteristics and roles of TamR, a MarR family transcriptional regulator from *Streptomyces coelicolor*. **H. Huang and A. Grove.** LSU.
- A57 **931.7** The ELL component of the SEC complex facilitates RNA polymerase II pause site entry and release. **J.S. Byun and K. Gardner.** NCI/NIH.
- A58 **931.8** Diaphanous 1 negatively regulates cortisol biosynthesis in H295R human adrenocortical cells. **D. Li, H. Wang and M. Sewer.** Skaggs Sch. of Pharm. and Pharmaceut. Sci., UCSD.
- A59 **931.9** Role of the twist proteins and ADD1 in the regulation of the CHRDL1 gene. **J. Casanovas, H.L. Franco and C.L. Cadilla.** Univ. of Puerto Rico Sch. of Med.
- A60 **931.10** Towards predicting the behavior of *E. coli* LacI and FadR transcription factors to variations in their operator sequences. **T.S. Maity, R. Jha, C. Strauss, J. Dunbar and C. Kuske.** Los Alamos Natl. Lab.

- A61 **931.11** Use of qChIP to identify genes targeted by the Ikaros tumor suppressor. **J.L. Payne, C. Song, N.F. Ortiz, J. Sloane, K.J. Payne, M.A. Payne and S. Dovat.** La Sierra Univ., CA, Penn State Col. of Med., Univ. of Puerto Rico, Río Piedras Campus and Loma Linda Univ. Sch. of Med.
- A62 **931.12** Physical and functional characterization of distinct single-stranded DNA-binding subdomains in purine-rich element binding protein B (Purβ). **A. Rumora, S-X. Wang, L. Ferris, S. Everse and R. Kelm.** Univ. of Vermont.
- A63 **931.13** Human *Cosmc* and *T-synthase* genes are transcriptionally regulated by SP1/SP3 transcription factors. **T. Ju, R. Mi, Y. Wang, X. Ding, L. Song, I. van Die, A.B. Chapman and R.D. Cummings.** Emory Univ. Sch. of Med. and VU Univ., Amsterdam.
- A64 **931.14** Extracellular matrix modulates cytokine gene expression in endothelial cells. **T. Kovala, Z. Holmes and L. Rossi.** Northern Ontario Sch. of Med. and Laurentian Univ., Canada.
- A65 **931.15** Characterization of a novel overexpression system in *Haloferax volcanii*. **B. Huff, J. Hilty, J. Hemmingsen and M.E. Ginn-Pease.** Capital Univ., OH.
- A66 **931.16** Replication-dependent expression of herpes simplex virus late genes is controlled by P-TEFb/CDK9 and DSIF/SPT5. **P. Elias and K-W. Tang.** Univ. of Gothenburg, Sweden.
- A67 **931.17** Characterization of a metal-dependent regulator protein from *Thermobifida fusca*. **W.R.P. Novak, Z.M. Lu, J.B. Granger, J.B. Ferguson and P.J. Santa Maria.** Wabash Col., IN.
- A68 **931.18** Is expression of C4 PDK and its regulator, the PDK regulatory protein co-regulated by light intensity in maize leaves? **C. Poudyal and C.J. Chastain.** Minnesota State Univ. Moorhead.
- A69 **931.19** VMP1 is a novel inducible gene which activation is a switch for autophagy. **A. Lo Re, M.I. Molejón, A. Ropolo, V. Boggio and M.I. Vaccaro.** Univ. of Buenos Aires.

## 932. COUPLING OF DNA REPAIR AND REPLICATION

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A70 **932.1** Expression and purification of the human xeroderma pigmentosum F (XPF/ERCC1) complex in bacterial cells for protein binding assays and crystallographic studies. **J. Anduaga, K. Duprez, E. Hilaro and L. Fan.** Univ. of California, Riverside.
- A71 **932.2** Herpes simplex virus: manipulating DNA damage response pathways. **S.K. Weller, A.J. Schumacher and K.N. Mohni.** Univ. of Connecticut Hlth. Ctr.
- A72 **932.3** A dominant role for an error-prone DNA polymerase in recombination drives evolution. **R.T. Pomerantz, I. Kurth, M. Goodman and M. O'Donnell.** Rockefeller Univ. and Univ. of Southern California.

## 933. TELOMERES AND TELOMERASE

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A73 **933.1** Identification of the telomerase RNA in thermotolerant yeast *Hansenula polymorpha*. **E.M. Smekalova and M.I. Zvereva**. Lomonosov Moscow State Univ.
- A74 **933.2** TRF2 regulates differential DNA damage response signaling from intermediate-state and uncapped-state telomeres. **A.J. Cesare, M.T. Hayashi and J. Karlseder**. Salk Inst. for Biol. Studies.
- A75 **933.3** Reciprocal telomerase inhibition by human and *Xenopus* PinX1. **J. Shampay, D. Constant, J. Gaubatz, P. Fink, G. Bazilevsky, I. Cylinder and J. Pires**. Reed Col., OR.
- A76 **933.4** Subtelomere recombination is frequent in tumors lacking telomerase. **T. Morrish, V. Behera, S. Dria, S.J. Wheelan and C.W. Greider**. Johns Hopkins Univ.
- A77 **933.5** Telomere homeostasis in budding yeast is regulated by a single mechanism involving replication fork collapse. **V. Lundblad and M. Paschini**. Salk Inst. for Biol. Studies.
- A78 **933.6** NIP45 promotes telomere targeting to PML bodies in ALT cells. **D.D. Farley and H. Yu**. Univ. of Texas Southwestern Med. Ctr.
- A79 **933.7** Telomere dysfunction as a tool to identify novel DNA damage factors. **C. Bartocci, J. Yates III and E. Lazznerini Denchi**. The Scripps Res. Inst.

## 934. CELL CYCLE REGULATION

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A80 **934.1** Extracellular ATP induces the inactivation of FoxO transcription factors and cell cycle progression of MCF-7 cells. **P.G. Scodelaro Bilbao and R.L. Boland**. Natl. Univ. - CONICET, Bahia Blanca, Argentina.
- A81 **934.2** The disruption of the mitotic cell cycle by inositolless death in *Saccharomyces cerevisiae*. **B.A. Hanson, P. O'Connor, J. Munezero and V. Croglio**. Canisius Col., NY.
- A82 **934.3** Structure of human Mad1 C-terminal domain reveals its kinetochore-targeting function. **S. Kim, H. Sun, D. Tomchick, H. Yu and X. Luo**. Univ. of Texas Southwestern Med. Ctr.
- A83 **934.4** Whi3p localizes to cytoplasmic foci during slow growth at high OD in *Saccharomyces cerevisiae*. **J.P. Degallier, J. Tembreull, K. Theede and S.P. Segal**. Winona State Univ., MN.
- A84 **934.5** The regulation of aurora kinase B by O-GlcNAcylation. **E.P. Tan, A. Potnis and C. Slawson**. Univ. of Kansas Med. Ctr.
- A85 **934.6** Functional redundancy between Cdc20 ubiquitination and p31<sup>comet</sup>. **L. Jia, B. Li, R. Warrington, X. Hao, S. Wang and H. Yu**. Univ. of Texas Southwestern Med. Ctr. and Tongji Med. Col., China.
- A86 **934.7** Identification of OGT interacting proteins at M phase. **M.S.D. Chambers, M.T. Villar, A. Artigues and C. Slawson**. Rockhurst Univ., MO and Univ. of Kansas Med. Ctr.

## 935. CHROMOSOME END PROTECTION

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A87 **935.1** Blocking ubiquitin deposition at telomeres: the molecular mechanism of TRF2-mediated end protection. **K. Okamoto and E. Lazznerini Denchi**. The Scripps Res. Inst.

## 936. GENOME REARRANGEMENTS/ CHROMOSOMAL INSTABILITY

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A88 **936.1** Identification and sequence characterization of DNA double strand break hotspots. **T-Y. Roh, K. Shin and J. Park**. POSTECH, Pohang, South Korea.
- A89 **936.2** Depletion of MutS $\beta$  slows GAA•TTC repeat expansion in a cellular model of Friedreich ataxia. **A. Halabi, S. Ditch, J. Wang and E. Grabczyk**. LSU Hlth. Sci. Ctr., New Orleans.

## 937. MEIOSIS

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A90 **937.1** Replication protein A and sex: what's phosphorylation got to do with it? **T.M. Wilson, G. Piya and S.J. Haring**. North Dakota State Univ.

## 938. TELOMERASE

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A91 **938.1** The isoprenoid perillyl alcohol inhibits telomerase activity in prostate cancer cells. **T.R. Sundin, D. Gauthier, D. Peffley and P. Hentosh**. Old Dominion Univ.
- A92 **938.2** Posttranscriptional regulation of telomerase reverse transcriptase in human T cells. **C. Streater, J. An and N.P. Weng**. Univ. of Maryland Eastern Shore and NIA/NIH, Baltimore.
- A93 **938.3** Telomerase activity, HPV presence and splice pattern of hTERT mRNA in cervical intraepithelial neoplasias and adjacent normal tissues. **D.A. Skvortsov, A.A. Petrenko, L.I. Korolenkova, M.I. Zvereva, M.P. Rubtsova, F.L. Kissel'jov and O.A. Dontsova**. Lomonosov Moscow State Univ. and N.N. Blokhin Cancer Res. Ctr., Moscow.

A94 **938.4** Damage-induced association of Rap1p with an internal binding site stimulates de novo telomere addition. **K.L. Friedman, M.H. Platts, U.C. Obodo, S.R. Paul, S.M. Velkovsky and I.M. Eli.** Vanderbilt Univ.

### 939. TELOMERE LENGTH REGULATION

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A95 **939.1** Accelerated aging during chronic oxidative stress: a role for PARP-1? **D.M. Boesten, J.M. Houben, L. Timmermans, A. Bast and G.J. Hageman.** Maastricht Univ., Netherlands.

A96 **939.2** Novel telomere-anchored PCR approach for studying sexual stage telomeres in *Aspergillus nidulans*. **K.E. Kirk, N. Wang, S. Rizvydeen, P. Kuprys, T. Hauer, M. Vahedi, S. Davis and P. Mirabito.** Lake Forest Col., IL and Univ. of Kentucky.

### 940. RIBOSOMES: REGULATION OF ACCESS TO MRNA

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A97 **940.1** Specific domains in yeast eukaryotic initiation factor (eIF) 4G bias the RNA unwinding specificity of eIF4F towards duplexes with a 5'-overhang. **V. Rajagopal, E-H. Park, A.G. Hinnebusch and J.R. Lorsch.** Johns Hopkins Univ. Sch. of Med. and NICHD/NIH.

### 941. RNA-BASED REGULATION: A DIVERSITY OF MECHANISMS

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A98 **941.1** Structure and mechanism of the CRISPR associated complex for antiviral defense (CASCADE). **C.M. Lawrence, N.G. Lintner, M. Kerou and M.F. White.** Montana State Univ. and Biomed. Sci. Res. Complex, St. Andrews, U.K.

A99 **941.2** Long non-coding RNA NEAT 1 & 2 regulates phosphorylation of SR proteins and PKC $\beta$ II splicing during 3T3 L1 adipogenesis. **D.R. Cooper, G. Carter, P. Li, J. Watson and N.A. Patel.** Univ. of South Florida and J.A. Haley Veterans Hosp.

A100 **941.3** Transgene regulation in plants by alternative splicing of a suicide exon. **M.C. Hammond, S.F. Hickey, M. Sridhar, A. Westermann, Q. Qin, P. Vijayendra and G. Liou.** Univ. of California, Berkeley and Univ. of Wuerzburg.

### 942. CATALYTIC RNA

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A101 **942.1** Translation initiation of non-LTR retrotransposons by HDV-like self-cleaving ribozymes. **D.J. Ruminski and A. Luptak.** Univ. of California, Irvine.

A102 **942.2** The roles of peripheral domains in HDV-like ribozymes. **N.J. Riccitelli, J. Webb and A. Luptak.** Univ. of California, Irvine.

### 943. MOLECULAR RECOGNITION OF RNA

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A103 **943.1** Development of bovine immunodeficiency virus (BIV) Tat peptide analogs as inhibitors of BIV transcription. **J.J. Grist, H.J. Wright and E.D. Collins.** San Jose State Univ.

A104 **943.2** Sequence selective recognition of double helical RNA using nucleobase-modified PNA. **E. Rozners, T. Zengeya, T. Muse and P. Gupta.** Binghamton Univ.

A105 **943.3** Structural insights into RNA recognition and activation by innate immune pattern-recognition receptor RIG-I. **F. Jiang, A. Ramanathan, M.T. Miller, G-Q. Tang, M. Gale, Jr., S.S. Patel and J. Marcotrigiano.** Rutgers Univ., Piscataway, UMDNJ-Robert Wood Johnson Med. Sch. and Univ. of Washington Sch. of Med.

### 944. NON-CODING RNAS

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A106 **944.1** Mutagenesis of argonaute 2 in studying microRNA loading. **K.A. Doxtader, J. Androsavich and N. Walter.** Univ. of Michigan.

A107 **944.2** tRNA wobble-uridine modification pathways play critical roles in maintaining growth under nutrient limitation by altering the translational capacity of the cell. **S. Laxman and B.P. Tu.** Univ. of Texas Southwestern Med. Ctr.

A108 **944.3** A normal-tumor switch alters the activity of KLF4-miR-206 signaling in breast cancer. **C-C. Lin and J.M. Ruppert.** West Virginia Univ.

A109 **944.4** Role of long noncoding RNAs in polycomb-mediated gene silencing. **C. Zhao and S. Manakov.** Sanford-Burnham Med. Res. Inst.

A110 **944.5** Identification of pro-metastatic signatures in vesicles released from breast cancer primary tumors. **S. Pinto and D.M. Duelli.** Lake Forest Col. and Rosalind Franklin Univ. of Med. and Sci.



## 945. RNA FOLDING

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A111 **945.1** Use of 2-aminopurine to detect positional ambiguity in group II single- nucleotide bulge loops. **E.L. McMichael and M.J. Serra.** Allegheny Col., PA.
- A112 **945.2** Kinetics of tRNA folding monitored by aminoacylation. **H. Bhaskaran, A. Rodriguez-Hernandez and J.J. Perona.** Portland State Univ.

## 946. RNA STRUCTURE AND DYNAMICS

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A113 **946.1** Thermodynamic examination of U6 ISL bulged RNA. **A. O'Connell and N. Grover.** Colorado Col.
- A114 **946.2** Thermodynamic investigation of the dinucleotide bulge of domain V of group II intron. **S.L. Mhlanga and N. Grover.** Colorado Col.
- A115 **946.3** Thermodynamic examination of bulge sequence, ion binding, and helical context of 2X2 and 2X1 bulges in RNA. **P. Mahajan and N. Grover.** Colorado Col.
- A116 **946.4** Thermodynamic examination of small symmetric and asymmetric loops containing A•C and G•U base pairs in the context of group I intron. **E. Shishkova and N. Grover.** Colorado Col.
- A117 **946.5** Thermodynamic comparison of dinucleotide bulges in DNA and RNA. **W.C. Lockwood and N. Grover.** Colorado Col.

## 947. RNA STRUCTURE AND TRANSLATION

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A118 **947.1** Iron-induced eukaryotic initiation factor/mRNA binding affinity change. **J. Ma, M.A. Khan, W.C. Merrick, S. Haldar, E.C. Theil and D.J. Goss.** Grad. Ctr. and Hunter Col., CUNY, Case Western Reserve Univ. and Children's Hosp. Oakland Res. Inst.
- A119 **947.2** Preliminary in vitro functional analysis of the DEAD-box protein DDX3. **S.N. Floor, A. Smith, K. Zhou and J.A. Doudna.** Univ. of California, Berkeley and HHMI.

## 948. RNA STRUCTURE, FUNCTION AND REGULATION

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A120 **948.1** Analysis of junctions in RNA with coaxial stacked helices. **K.N. Fuhr, C. Laing, N. Kim and T. Schlick.** Long Island Univ., NYU, Wilkes Univ., PA and NYU Sch. of Med.
- A121 **948.2** Investigating the role of the nematode-specific FAR family of proteins. **K.A. Neutzling, A.C. Foudjet, P. Comella, M. Schlotterback and J. Bath.** Concordia Col., MN.

## 949. RNA TRANSPORT AND LOCALIZATION

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A122 **949.1** ZBP1 KH34 consensus RNA-binding site identifies post-transcriptional regulatory networks. **J. Chao and R. Singer.** Albert Einstein Col. of Med.
- A123 **949.2** Characterizing the role of Puf3 in sexual development of *Cryptococcus neoformans*. **J.N. Kaur and J.C. Panepinto.** Univ. at Buffalo SUNY.

## 950. RNA TURNOVER

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A124 **950.1** Activity induces Arc mRNA degradation that is dependent upon translation and NMDA receptor activation. **S.L. Farris and O. Steward.** Univ. of California, Irvine.
- A125 **950.2** Ribosomal protein transcripts as an endogenous source of nucleotide precursors in *Cryptococcus neoformans*. **D. Banerjee and J. Panepinto.** Univ. at Buffalo SUNY.
- A126 **950.3** Mechanism of processive and cap-stimulated mRNA poly(A) tail degradation. **A. Virtanen, N. Henriksson, P. Nilsson and M. Lindell.** Uppsala Univ., Sweden.

## 951. RNA-BASED GENE REGULATION

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A127 **951.1** Interplay of microRNAs and RNA binding proteins. **J.D. Port and J. Polk.** Univ. of Colorado Sch. of Med., Aurora.
- A128 **951.2** Development of RNAi tools for studying *Leishmania (Viannia)* and their application to the study of the *Leishmania* flagellum. **L-F. Lye, K. Owens, T. Notton, E. Acino, J. Marcus and S.M. Beverley.** Washington Univ.

A129 **951.3** Involvement of the adenine/uridine-rich element binding proteins and microRNA pathway in the regulation of human interleukin-3 mRNA. **M. Martinez, P. Marin, J.A. Gonzalez and C.I. Gonzalez.** Univ. of Puerto Rico, Med. Sci. Campus and Rio Piedras Campus.

A130 **951.4** Discrete LIN28 binding sites in mature messenger RNA sequences reveals regulation of a network of splicing factors and downstream alternative splicing patterns. **M.L. Wilbert, S.C. Huelga, A.Q. Vu, T.J. Stark, K.B. Massirer, S. Chen, T.Y. Liang and G.W. Yeo.** UCSD.

A131 **951.5** Structural basis for the regulation of endothelin-1 mRNA stability by glyceraldehyde-3-phosphate dehydrogenase. **J.P. Neal and E.D. Garcin.** Univ. of Maryland Baltimore County.

## 952. SMALL RNAS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A132 **952.1** Regulation of exclusively testis-expressed microRNA-469 by gonadotropin-regulated testicular RNA helicase controls male germ cells development. **L-S. Dai, C.H. Tsai-Morris, H. Sato, J. Villar, J-B. Zhang and M.L. Dufau.** NICHD/NIH and Col. of Animal Sci. and Vet. Med., Jilin Univ., China.

A133 **952.2** Construction and characterization of a null allele of the *hfq* gene of the dissimilatory metal reducing bacterium *Shewanella oneidensis*. **C. Brennan, M. Keane, C. D'Agostino, M. Goulet, Z. Sexton, K. Hoegler, B. Tjaden and B. Pellock.** Providence Col. and Wellesley Col.

A134 **952.3** Dissecting the interactions between human argonaute proteins and RISC components. **Y-C. Chen, J-W. Huang and C-Y. Chu.** Natl. Taiwan Univ.

A135 **952.4** Rapidly evolving microRNAs retain their targets by a co-evolution mechanism. **M. Ramaiah, E.Y. Shum and M.F. Wilkinson.** UCSD.

A136 **952.5** The small RNA complement of salamander limb regeneration. **M.T. Lovci, W. Zhu, G. Pao, D. Kuo, J. Smith, I. Verma, S.R. Voss, S. Bryant, D. Gardiner, T. Harkins, G.W. Yeo and T. Hunter.** UCSD, The Scripps Res. Inst., Salk Inst., Univ. of Kentucky, Univ. of California, Irvine and Roche Applied Sci., Indianapolis.

A137 **952.6** Specific microRNA (miRNA) species regulate the expression of the beta-site APP-cleaving enzyme (BACE1) in relevant human cell types with implications for Alzheimer disease. **D.K. Lahiri and J.M. Long.** Indiana Univ. Sch. of Med.

A138 **952.7** Analysis of small RNAs associated with plant senescence. **C.D. Wright, S.R. Thatcher, S. Burd, A. Lers and P.J. Green.** Delaware Biotechnol. Inst., Newark and Volcani Ctr., Bet-Dagan, Israel.

## 953. FACTORS MODULATING PROTEIN QUALITY CONTROL

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A139 **953.1** Influx of acetyl-CoA into the ER lumen regulates the induction of autophagy during the UPR. **L. Puglielli and M. Pehar.** Univ. of Wisconsin-Madison.

## 954. PROTEIN QUALITY CONTROL AND DISEASE

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A140 **954.1** Characterization of potential virulence factors in *Rickettsia prowazekii* as lysine methyltransferases. **A.H. Abeykoon, C-C. Chao, D.C.H. Yang and W-M. Ching.** Georgetown Univ. and Naval Med. Res. Ctr., Silver Spring, MD.

A141 **954.2** Using bakers' yeast to identify genetic modifiers of alpha-1 antitrypsin deficiency. **C.L. Gelling and J.L. Brodsky.** Univ. of Pittsburgh.

A142 **954.3** Manipulating the ERAD pathway to regulate GABA<sub>A</sub> receptor protein homeostasis. **D. Han and T. Mu.** Case Western Reserve Univ.

A143 **954.4** The ER chaperones BiP and Jem1/Scj1 are genetic modifiers of TorsinA, the AAA+ ATPase associated with the neurological disease primary torsion dystonia. **L.F. Zacchi, H-C. Wu, K. Niemeyer, S. Bell, M. Zolkiewski and J. Brodsky.** Univ. of Pittsburgh and Kansas State Univ.

A144 **954.5** Protein disulfide isomerases promote the endoplasmic reticulum associated degradation of diverse substrates using different mechanisms. **S. Grubb, L. Guo, E.A. Fisher and J.L. Brodsky.** Univ. of Pittsburgh and NYU.

A145 **954.6** The ER luminal chaperone, Lhs1/GRP170, plays a unique role in the degradation of the epithelial sodium channel. **T.M. Buck, L. Plavchak, O. Kashlan, T.R. Kleyman and J.L. Brodsky.** Univ. of Pittsburgh.

A146 **954.7** The mechanism of [*PS<sup>+</sup>*] prion curing in response to mild thermal stress. **C.L. Klaips and T.R. Serio.** Brown Univ.

A147 **954.8** Inhibitor-mediated protein degradation. **L. Hedstrom, M.J.C. Long, R. Coffey and D.R. Gollapalli.** Brandeis Univ.

## 955. MOLECULAR CHAPERONES: MECHANISM AND FUNCTION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A148 **955.1** Low-level oxidative stress increases chaperone protein activity and alters steroid receptor•hsp90 heterocomplex formation. **O.J. Stone, H.R. Franklin and P.J.M. Murphy.** Seattle Univ.

- A149 **955.2** Functional complementation of Hsp90 domains. **K.A. Maharaj, S. Gill and D.T. Gewirth.** Hauptman-Woodward Med. Res. Inst. and Univ. at Buffalo, SUNY.
- A150 **955.3** Essential role of the ubiquitin-selective chaperone CDC48 in a poikilothermic vertebrate in cold adaptation. **S. Imamura, T. Yabu and M. Yamashita.** Natl. Res. Inst. of Fisheries Sci., Yokohama and Nihon Univ., Japan.
- A151 **955.4** Characterization of the interaction between Hsp70s and lipids: evolutionary and functional implications. **N. Nikolaidis, C. McCallister, G. Donnelly and D. Le.** California State Univ., Fullerton.
- A152 **955.5** Regulation of chaperone activity in the endoplasmic reticulum. **K. Gehring and G. Kozlov.** McGill Univ.
- A153 **955.6** The apoptosis related BIM is an HSP70-specific client protein. **A. Rodina, Y. Kang, T. Taldone, P. Patel, H. Patel and G. Chiosis.** Mem. Sloan-Kettering Cancer Ctr.

## 956. PROTEASES IN DISEASE

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A154 **956.1** Cisplatin-induced, coordinated transcriptional reprogramming of neurotrypsin and other proteases in cisplatin-resistant ovarian cancer cells. **I. Garcia-Bassets and A. Almenar-Queralt.** UCSD.
- A155 **956.2** Suppression of MazF toxicity by fusing a C-terminal segment of MazE to MazF, and its activation by sequence specific HIV-1 and HCV proteases. **J-H. Park, Y. Yamaguchi and M. Inouye.** Robert Wood Johnson Med. Sch. and Rutgers Univ., Piscataway.
- A156 **956.3** Screening and kinetic studies of new cathepsin D inhibitors. **D.R. Sheppard, L. Wen, J-K. Huang and R.M. McConnell.** Western Illinois Univ.
- A157 **956.4** Evaluation of synthetic thiosemicarbazone containing compounds as inhibitors of human recombinant cathepsin B. **J.A. Lucas, N.R. Yelma, L. Wen, J-K. Huang and R.M. McConnell.** Western Illinois Univ.
- A158 **956.5** The role of the vacuolar H<sup>+</sup>-ATPase subunit a isoforms in secretion and activation of cathepsin L in human breast cancer cells. **K.M. Folkers and A.M. Hinton.** Denison Univ., OH.
- A159 **956.6** Impaired lysosomal maturation of pro-cathepsin D to active cathepsin D in a childhood neurodegenerative lysosomal storage disease. **G. Chandra, A. Saha, M.R. Moralle, Z. Zhang, C. Sarkar, S. Peng and A.B. Mukherjee.** NICHD/NIH.
- A160 **956.7** Regulation of levels and localization of peptidases in prostate cancer cells by steroid hormones. **C.C. DeFries, Y. Liu, L.A. Bruce, R.G. Gambe, N.S. Belayneh, M.J. Tetel and A.J. Wolfson.** Wellesley Col.
- A161 **956.8** The pro-inflammatory but not protective effects of protease-activated-receptor-2 in the airway require  $\beta$ -arrestin-2. **H. Nichols and K. DeFea.** Univ. of California, Riverside.

- A162 **956.9** Deletion of the cathepsin B gene improves memory deficits in an Alzheimer's disease mouse model expressing APP containing the wild-type  $\beta$ -secretase site sequence. **V. Hook, J. Yu, H. Zhu, S. El-Amour, G. Hook and M. Kindy.** Skaggs Sch. of Pharm., UCSD, Med. Univ. of South Carolina, Univ. of Cincinnati, American Life Sci. Pharmaceut., San Diego and Applied Neurotechnol., Charleston.

## 957. PROTEASOMES: STRUCTURE AND REGULATION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A163 **957.1** Ubiquitin chain trimming recycles the substrate binding sites of the 26 S proteasome and promotes degradation of lysine 48-linked polyubiquitin conjugates. **C-W. Liu, N-Y. Zhang, A.D. Jacobson and A. MacFadden.** Univ. of Colorado Sch. of Med. and Med. Col. of Wisconsin.

## 958. REGULATION OF PROTEIN SYNTHESIS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A164 **958.1** The role of mitochondrial peptide deformylase in coordinating respiratory chain assembly. **B.J. Battersby, U. Richter, T. Lahtinen, P. Ruotsalainen, M. Myöhänen and P. Marttinen.** Univ. of Helsinki.
- A165 **958.2** A comprehensive analysis of lysine acetylation in ribosomal proteins. **H. Koc, H. Cimen, A. Stallard, Z.C. Koc and E.C. Koc.** Penn State, Altoona and University Park and Marshall Univ. Sch. of Med.
- A166 **958.3** Hepatic HRI eIF2 $\alpha$  kinase-mediated translational suppression activates nuclear factor kappa B in response to heme-deficiency stress. **Y. Liu and M.A. Correia.** UCSF.
- A167 **958.4** Characterization of npl3-95 as a prion-like protein involved in translation termination in *Saccharomyces cerevisiae*. **D.P. Bracho, M.E. Correa, C. Lasalde, J.A. González, L.A. Estrella and C.I. González.** Univ. of Puerto Rico Med. Sci. Campus.

## 959. FRONTIERS IN MECHANISTIC ENZYMOLOGY

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A168 **959.1** Conditional protein splicing of inteins with a non-canonical C-terminal glutamine. **M.C. Nicastrì, K. Xega, J.N. Reitter and K.V. Mills.** Col. of Holy Cross, MA.
- A169 **959.2** Non-canonical inteins: protein splicing by alternate mechanisms. **K.V. Mills, J.N. Reitter, K.R. Connor, M.C. Nicastrì, L.M. Urbanski, J.E. Williams, K.M. Colelli, G. Savidis and M.D. Marieni.** Col. of Holy Cross, MA.

- A170 **959.3** Unique biogenesis of carbon-nitrogen-cleaving enzyme harnessing a new mechanism. **M. Kobayashi, Z. Zhou and Y. Hashimoto.** Grad. Sch. of Life and Environ. Sci., Univ. of Tsukuba, Japan and Jiangnan Univ. Sch. of Biotech., China.
- A171 **959.4** High-pressure adaptation in piezotolerant enzymes studied with cytochromes P450 from deep-sea bacteria. **D.R. Davydov and E.V. Sineva.** UCSD Skaggs Sch. of Pharm. and Pharmaceut. Sci.
- A172 **959.5** Identification and function of leash forming residues in the FoF1 ATP synthase molecular motor using single molecule measurements. **W.D. Frasch, J.L. Martin and J. Hudson.** Arizona State Univ. Sch. of Life Sci.
- A173 **959.6** Fluorescence detection of obligatory conformations in catalysis and control of NOS. **J.C. Salerno, J.L. Baquerizo, K.D. Harris, B.L. Hopper, C.G. Enweani, E.N. Umejiego, R. Razdan, J.L. McMurry, C.A. Chrestensen and D.K. Ghosh.** Kennesaw State Univ.

## 960. METABOLIC ENGINEERING: FROM ANTIBIOTICS TO BIOFUELS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A174 **960.1** Heterologous expression of human phosphodiesterase 3A improves ethanol production in *Saccharomyces cerevisiae*. **D.K. Rhee, S.C. Hockman, F. Ahmad and V.C. Manganiello.** NHLBI/NIH.

## 961. ENERGETICS AND DESIGN

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A175 **961.1** The search for novel substrate specificity in mutants of L-alanine dehydrogenase. **H. Aldeborgh and E. Mundorff.** Vassar Col.

## 962. ENZYME INHIBITORS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A176 **962.1** Investigation of 2-fold disorder of inhibitors and relative potency by crystallizations of HIV-1 protease in ritonavir and saquinavir mixtures. **F.M. Olajuyigbe, N. Demitri and S. Geremia.** Univ. of Florida and Univ. of Trieste, Italy.
- A177 **962.2** Antibiotic resistance in bacteria: structure of a novel ss-DNA metalloenzyme inhibitor. **R. Pyle, K. Fuson, R.B. Sutton, J.A. Morales and R.W. Shaw.** Texas Tech Univ. and Texas Tech Univ. Hlth. Sci. Ctr.
- A178 **962.3** Identification of potent inhibitors of *Bacillus anthracis* FtsZ: a target for antimicrobial agents. **M-Y. Yoon and H-C. Park.** Hanyang Univ., South Korea.

- A179 **962.4** In silico studies to explain the interactions to inactivate NADPH oxidase by apocynin and its dimmer. **M.E. Macias-Perez, F. Martinez-Ramos, I.I. Padilla-Martinez, J. Correa-Basurto, L.E. Tolentino-Lopez and M.C. Rosales-Hernandez.** ESM-, ESCN-, and UPIBI-IPN, Mexico City.
- A180 **962.5** Competitive titrations of SULT1A1:TNP-AMP reveals biological nucleotide affinities for a sulfotransferase. **K. Gaffney, J. Macdonald, E.D. Martin and J.D. Beckmann.** Alma Col., MI.
- A181 **962.6** An equation to model fluorescent probe displacement by non-fluorescent competitive ligands. **J.D. Beckmann, E.D. Martin and K. Gaffney.** Alma Col., MI.
- A182 **962.7** Kinetic analysis and antitumor activity of thiosemicarbazone benzophenone inhibitors of cathepsin L. **G.E. Chavarria, T.E. Strecker, G.D. Kishore Kumar, L. Jones, D.J. Chaplin, K.G. Pinney and M.L. Trawick.** Baylor Univ. and Oxigene Inc., San Francisco.

## 963. ENZYME KINETICS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A183 **963.1** Cysteine sulfinic acid decarboxylase activity of *Aedes aegypti* aspartate 1-decarboxylase: the structural basis of its substrate selectivity. **P. Liu, H. Ding, B.M. Christensen and J. Li.** Virginia Tech and Univ. of Wisconsin-Madison.
- A184 **963.2** Property of the antioxidant activity using xanthine oxidase reaction. **N. Masuoka, A. Maeta, W. Kamimura and I. Kubo.** Okayama Univ. of Sci., Japan and Univ. of California, Berkeley.
- A185 **963.3** Kinetics of exoglucanase and endoglucanase produced by *Aspergillus niger* NRRL 567. **S. Ahmed, M.I. Ghorri, M.A. Malana and A. Jamil.** Univ. of New Mexico Sch. of Med. and Univ. of Agriculture and Bahauddin Zakaria Univ., Pakistan.
- A186 **963.4** Determining the effect of dithiolethione compounds on the activity of human glyceraldehyde-3-phosphate dehydrogenase. **J.T. Chavis III, J. Neal, C. Switzer, D.A. Wink, Jr. and E. Garcin.** Univ. of Maryland Baltimore County and NCI/NIH.
- A187 **963.5** Kinetic analysis of  $\beta$ -galactosidase activity from *Thermococcus kodakarensis* KOD1, an extreme thermophile. **K. Hwa, B. Subramani, S. Shen and Y-M. Lee.** Natl. Taipei Univ. of Technol. and Inst. of Biol. Chem., Acad. Sinica, Taipei.
- A188 **963.6** Intein-mediated peptide bond cleavage adjacent to asparagine or glutamine. **S.L. Chin, A.C. Nadelson, L.M. Urbanski, J.N. Reitter and K.V. Mills.** Col. of Holy Cross, MA.
- A189 **963.7** ATP alters IKK-2 inhibitor affinity for IKK2 enzyme and reveals non-equivalent inhibitor binding sites. **J.Y. Liu, K. Stevens and R. Mourey.** Gilead Sciences, Seattle.
- A190 **963.8** Understanding the role of tyrosine 381 in the activity of *E. coli* aminopeptidase N. **P. Crawford, B. Kimberley, C. Kassl, N. Nelson, M. Anliker, F.C. Golich and M.W. Crowder.** Augustana Col., IL and Miami Univ., OH.
- A191 **963.9** Redox regulation of rice endosperm ADP-glucose pyrophosphorylase. **A. Tuncel and T. Okita.** Washington State Univ.

- A192 **963.10** A kinetic approach to distinguish between catalytic mechanisms of protein kinase autophosphorylation. **J. Wang, J-W. Wu and Z-X. Wang.** Sch. of Life Sci., Tsinghua Univ., China.
- A193 **963.11** Molecular characterization of *C. elegans* Hsp70-1 and the effects of polyhistidine tagging on purification yield and ATPase activity. **O.O. Odunuga, E.I. Polvadore, K.H. Choi and S.A. Bollinger.** Stephen F. Austin State Univ., TX.
- A194 **963.12** Characterization of a hypotaurocyamine kinase from the protozoan, *Phytophthora sojae*, and its implications on the evolution of substrate specificity in the phosphagen kinase family. **B. Begres, A. Palmer, J. Van Houten, M.J. Snider and D. Fraga.** Col. of Wooster, OH.
- A195 **963.13** Analysis of substrate specificity of 6-hydroxynicotinate-3-monooxygenase (NicC) from *Bordetella bronchiseptica*. **M.R. Bauerle, W. Ammons, K. Shvets and M.J. Snider.** Col. of Wooster, OH.
- A196 **963.14** Elucidation of mechanisms of biochemical regulation of fumarase activity under physiological conditions. **M. Mescam, K.C. Vinnakota and D.A. Beard.** Med. Col. of Wisconsin.

## 964. ENZYMES AS DRUG TARGETS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A197 **964.1** Structural analysis of a secretory phospholipase A2 from *Clonorchis sinensis*: therapeutic implications for hepatic fibrosis. **G. Hariprasad, A. Srinivasan, P. Kaur, M. Kumar and T.P. Singh.** All India Inst. of Med. Sci., New Delhi.
- A198 **964.2** High-throughput screening for *Plasmodium falciparum* glucose-6-phosphate dehydrogenase-6-phosphogluconolactonase inhibitors. **J. Preuss, M. Hedrick, E. Sergienko, A. Pinkerton, E. Jortzik, S. Rahlfs, K. Becker and L. Bode.** UCSD, Sanford-Burnham Med. Res. Inst. and Justus Liebig Univ., Giessen.
- A199 **964.3** Hymegluslin inhibition of bacterial hydroxymethylglutaryl-CoA synthase (mvaS). **H.M. Miziorko, D.A. Skaff, K.X. Ramyar, W.J. McWhorter and B.V. Geisbrecht.** Univ. of Missouri-Kansas City.
- A200 **964.4** Toward development of selective DXP synthase inhibitors. **C.L. Freel Meyers and F. Morris.** Johns Hopkins Univ. Sch. of Med.
- A201 **964.5** Dynamics of induced-fit in HIV reverse transcriptase specificity and resistance. **K.A. Johnson, S. Kirmizialtin, V. Nguyen, A. Li and R. Elber.** Univ. of Texas at Austin.
- A202 **964.6** A new approach for the identification of allosteric binding sites in proteins. **P. Striebeck and D.J. Manstein.** Hannover Med. Sch., Germany.
- A203 **964.7** Biochemical characterization of PqsD activity in alkylquinolone biosynthesis in *Pseudomonas aeruginosa*. **Y-M. Zhang, M.W. Yang, A. Zhou, Z. Szulc and C. Davies.** Med. Univ. of South Carolina.
- A204 **964.8** Recovery of activity and stability for clinical mutants of aspartoacylase. **S.P. Zano, Y. Wijayasinghe, J. Smith, G.A. Maltbie and R. Viola.** Univ. of Toledo.
- A205 **964.9** A real-time assay for monitoring *Mycobacterium tuberculosis* trehalose phosphate phosphatase activity. **J.J. Lindenberger, D.H. Lajiness and D. Ronning.** Univ. of Toledo.

- A206 **964.10** Development of an LC-MS/MS based biochemical assay to evaluate isoprenylcysteine carboxyl methyltransferase as a cancer target. **P. Bingham and K. Maegley.** Pfizer, La Jolla.
- A207 **964.11** Identifying new drug targets against African trypanosomiasis. **S. Kalidas and M. Phillips.** Univ. of Texas Southwestern Med. Ctr.
- A208 **964.12** *Leishmania mexicana* potential drug target. **T. Kreiss, S.J. Patel, N. Goodey, J.J. Siekierka and A. Sayakci.** Montclair State Univ., NJ.
- A209 **964.13** Time-dependent inhibitors of lymphoid tyrosine phosphatase. **V. Ahmed and A.M. Barrios.** Univ. of Utah.

## 965. AGING METABOLISM

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A210 **965.1** A novel anti-aging compound extends longevity by remodeling neutral lipid metabolism. **V. Titorenko, A. Beach, V. Richard and M. Burstein.** Concordia Univ., Canada.
- A211 **965.2** Yeast aging proteome unveiled a novel aging regulation pathway mediated by the chromatin remodeling complex ISW2. **W. Dang, P. Jansen, J. Dorsey, K. Cao, R. Perry, M. Kaerberlein, B.K. Kennedy, M. Vermeulen and S. Berger.** Univ. of Pennsylvania, Univ. Med. Ctr. Utrecht, Netherlands, Univ. of Washington and Buck Inst. for Res. on Aging, Novato, CA.
- A212 **965.3** Evaluation of the effects of linolenic acid on chronological aging and mitochondrial function of yeast. **M.F. Quintero, R. Aguilar-Toral, A.G. Campos-Arroyo, E. Calderón-Cortés, J.F. Covián-Nares and C. Cortés-Rojo.** Michoacana Univ. of San Nicolás de Hidalgo and Technol. Inst. of Morelia, Mexico.
- A213 **965.4** Decline in adipogenesis contributes to peripheral subcutaneous fat loss in older humans. **G. Caso, M.A. McNurlan, I. Mileva, S. Stein and M.C. Gelato.** Stony Brook Univ. Med. Ctr.
- A214 **965.5** PCR markers, stress, and healthy aging. **C. Perry, K. Lu, T. Alarcon, D. Hedges and B.L. Nielsen.** Brigham Young Univ.

## 966. CANCER CELL METABOLISM

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A215 **966.1** Hyperactivation of mitochondrial metabolism in cancer cells in situ. **M. Lisanti and F. Sotgia.** Kimmel Cancer Ctr., Thomas Jefferson Univ.
- A216 **966.2** Glucuronides of antitumor agents C-1311 and C-1305 modulate cytotoxicity in cancer cells. **M. Pawlowska, R. Chu, S.M. Bratton, E. Augustin, Z. Mazerska, T.C. Chambers and A. Radomska-Pandya.** Gdansk Univ. of Technol. and Univ. of Arkansas for Med. Sci.
- A217 **966.3** Role of hyaluronidases in prostate cancer metastasis. **L. Labrada, L. Gurski and K. van Golen.** Univ. of Delaware.

- A218 **966.4** Potassium channels on natural killer cells in the presence of breast carcinoma cells. **S. Koshy, D. Wu, R. Tajhya, X. Hu, A. Odejimi, P. Yotnda and C. Beeton.** Baylor Col. of Med.
- A219 **966.5** Adaptive exploitation of stromal cell metabolism by tumor cells. **B. Patel, Y. Rattigan, E. Ackerstaff, J. Koutcher, G. Sukenick, J. Glod and D. Banerjee.** UMDNJ-Cancer Inst. of New Jersey, John Hopkins Univ. and Mem. Sloan-Kettering Cancer Ctr.
- A220 **966.6** Effect of zinc on carbonic anhydrase IX activity in MDA-MB-231 breast cancer cells. **S.C. Frost, C. Tu and D.N. Silverman.** Univ. of Florida.

## 967. METABOLISM AND CANCER

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A221 **967.1** Retinoic acid induces a metabolic switch in SH-SY5Y cells from glycolysis to oxidative phosphorylation. **Z. Xun, D-Y. Lee, J. Lim, C. Canaria, A. Barnebey, S. Yannonne, B. Bowen, T. Northen and C. McMurray.** Lawrence Berkeley Natl. Lab. and Mayo Clin. and Fndn.
- A222 **967.2** Mutational activation of PI3'-kinase- $\alpha$  dramatically accelerates BRAF<sup>V600E</sup> or KRAS<sup>G12D</sup>- induced lung tumorigenesis. **C.L. Trejo, S. Greenberg, V. Marsh, W. Phillips and M. McMahon.** UCSF and Peter MacAllum Inst., East Melbourne.
- A223 **967.3** The promise of CD44v6, a therapeutic target for colon cancer. **S. Misra, V.C. Hascall, R.R. Markwald and S. Ghatak.** Med. Univ. of South Carolina and Cleveland Clin.
- A224 **967.4** Inhibitor of CYP 3A4 with novel synthetic coumarin and flavanone analogs. **D.A. Swift and N. Hopkins.** Tulane Univ.
- A225 **967.5** Thioredoxin1 as a novel serum marker for human ovarian cancer. **M-K. Cha, B-J. Park and I-H. Kim.** Paichai Univ., South Korea.
- A226 **967.6** Self-polymerizing Zfra peptides elicit immune response for targeting cancer. **W-P. Su, M-H. Lee, S-R. Lin, J-Y. Chang and N-S. Chang.** Natl. Cheng Kung Univ., Taiwan.
- A227 **967.7** Sustained hypercalcemia primes non-invasive breast cancer cells for metastasis to high calcium microenvironments. **A.M. Sakwe, R. Koumangoye and J. Ochieng.** Meharry Med. Col.
- A228 **967.8** BRAF<sup>V600E</sup> and PI3'K-activated signaling pathways cooperate to regulate phosphorylation of ribosomal protein S6 in human melanoma cells. **J.M. Silva and M. McMahon.** UCSF.

## 968. METABOLISM AND NEURODEGENERATION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A229 **968.1** Arachidonic acid inhibits retinoic acid-induced neuritogenesis of human neuroblastoma SH-SY5Y cells. **F. Amissah, L.T. Ayuk-Takem and N.S. Lamango.** Florida A&M Univ.

- A230 **968.2** Effects of leptin signaling on the development of Alzheimer's disease pathology. **T. Platt, D. Niedowicz, C. Beckett and P. Murphy.** Univ. of Kentucky.
- A231 **968.3** Effects of orange juice and vitamin C on the expression of some selected genes ( TNF $\alpha$ , Sod3 , p53, Pgr) in Sprague-Dawley rat brain. **O.A. Ebuehi, A.B. James, Y. Salami and I. Mgbeadichie.** Univ. of Lagos, Nigeria.

## 969. METABOLISM AND NUTRITION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A232 **969.1** Role of melanocortin 4 receptor in obesity. **N. Nwana, R. Dhir, X. Yin and R. Ahima.** Univ. of Maryland Eastern Shore and Univ. of Pennsylvania.
- A233 **969.2** Trichosanthis Radix inhibits 3T3-L1 adipogenesis. **C-Y. Lin, Y-T. Shen, Y-Y. Li, Y-L. Huang and J-S. Lai.** Asia Univ., Taiwan and Council of Agr. Taichung, Taiwan.
- A234 **969.3** Efficacy and security of 3 analogues of L-carnitine in vitro and in vivo models. **L. Rodríguez-Fragoso, A. Gómez-Solis, R. De la Cruz Cordero, J. Reyes Esparza, A. Avalos-Soriano and M.A. Duarte.** Autonomous Univ. of State of Morelos and Ctr. for Res. and Technol. Develop. in Chronic Dis., Queretaro, Mexico.
- A235 **969.4** Neuronal dCbl downregulates the EGFR-ERK pathway and controls the production of insulin-like peptides in drosophila. **Y. Yu, Y. Sun, S. He, W. Li and Y. Liu.** Shanghai Inst. for Biol. Sci., Chinese Acad. of Sci.
- A236 **969.5** Using *Drosophila* as a model system to study cold tolerance. **D. Luor, K. Parikh, D. Shain and N. Yakoby.** Rutgers, The State Univ. of New Jersey, Camden.
- A237 **969.6** Decreased phosphorylation of histone H3 serine 10 by genistein is associated with the transcriptional upregulation of ATF3 in DLD-1 colon cancer cells. **Y. Zhang, R.S. Strakovsky, H. Chen and Y-X. Pan.** Univ. of Illinois at Urbana-Champaign.
- A238 **969.7** Substrain-specific cholesterol-lowering effects of oats in mice: clues for mechanism of action? **K. Andersson, U. Andersson, J. Xu, K. Swärd, S. Ahrné, G. Molin, C. Holm and P. Hellstrand.** Lund Univ., Sweden.
- A239 **969.8** Measuring glycogen breakdown pathways using fluorescent derivatives of glucose. **P. Clifford, B. Lundbeck, M. Bernart and G. Parker.** Utah Valley Univ.
- A240 **969.9** Neuroprotection of estrogen on hypoglycemic attack is through AKT/GSK3 $\beta$  pathway. **E. Alecea, D. Yohanand, J. Cohen, S. Addya, S. Chakraborty and T.R. Chakraborty.** Adelphi Univ., NY Thomas Jefferson Univ. and New York City Col. of Technol.
- A241 **969.10** The effects of betaine supplementation on Pcyt2+/- (ETKO) mice. **S. Sivanesan and M. Bakovic.** Univ. of Guelph, Canada.
- A242 **969.11** Effect of very high fat diet on body weight, hormonal levels and estrous cycle. **A. Eldib, T. Eliscar and T.R. Chakraborty.** Adelphi Univ., NY.
- A243 **969.12** BPA leaching in baby bottles upon microwave heating: a simulation of real food conditions. **A. Tarasenko and B. Sampoli Benitez.** Maryland Manhattan Col.
- A244 **969.13** Strong antioxidant activity of the novel selenium-containing imidazole compound, selenoneine. **M. Yamashita, S. Imamura, M.A. Hossain, K. Touhata, T. Yabu and Y. Yamashita.** Natl. Res. Inst. of Fisheries Sci., Yokohama.

A245 **969.14** Vitamin C regulates iron uptake from transferrin – a novel role for ascorbate in iron metabolism? **D.R. Richardson, S. Chikhani, V. Richardson and D.J.R. Lane.** Univ. of Sydney.

## 970. CELL PROLIFERATION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A246 **970.1** Comparative induction of p53-regulated gene expression by replicative senescence, pharmacological senescence, and DNA damage. **P. Gorjala, A-T. Mohammedabdul and R.K. Gary.** Univ. of Nevada, Las Vegas.
- A247 **970.2** Methionine sulfoxide reductase A regulates cell growth through the p53-p21 pathway. **H-Y. Kim and S.H. Choi.** Yeungnam Univ. Col. of Med., South Korea.
- A248 **970.3** Intersectin 1 is required for neuroblastoma tumorigenesis. **A. Russo and J. O'Bryan.** Univ. of Illinois at Chicago.
- A249 **970.4** On the mechanism of *Pasteurella multocida* toxin induced mitogenesis: mTOR mediated upregulation of survivin and aurora kinase B in cultured cells. **H. Oubrahim, A. Wong, B. Wilson and P.B. Chock.** NHLBI/NIH and Univ. of Illinois at Urbana-Champaign.

## 971. CYTOKINE AND GROWTH FACTOR SIGNALING

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A250 **971.1** The structural basis for neuropilin-ligand interactions. **M. Parker, X. Li, H-F. Guo, P. Xu and C.W. Vander Kooi.** Univ. of Kentucky.
- A251 **971.2** Ligand induced activation of VEGFr during angiogenesis. **X. Li, P. Xu, J.E. Toombs, M.W. Parker, R.A. Brekken and C.W. Vander Kooi.** Univ. of Kentucky and Univ. of Texas Southwestern Med. Ctr.
- A252 **971.3** Novel anti-inflammatories: effect of amidation inhibitors on inflammatory pathways in macrophages. **J. Lucrezi, T. Hiremath and S.W. May.** Georgia Tech.
- A253 **971.4** In vivo microdialysis sampling of adipokines from rat mammary fat pad: comparison of dialysates to whole tissue concentrations. **G. Bajpai and J.A. Stenken.** Univ. of Arkansas.
- A254 **971.5** Micro-patterned arrays of epidermal growth factor (EGF) reveal stimulated association of paxillin, ERK, and F-actin with EGF receptors during cell signaling. **A. Singhai, K.L. Bryant, B.A. Baird, S.R. Hammes and D.A. Holowka.** Cornell Univ. and Univ. of Rochester.
- A255 **971.6** Chondrocyte phenotype of mice expressing reduced levels of perlecan/HSPG2, an essential component of cartilage. **D.A. Lowe, P.P. Srinivasan and C. Kirn-Safran.** Univ. of Delaware.
- A256 **971.7** IL-35 is a novel responsive anti-inflammatory cytokine? a new system of categorizing anti-inflammatory cytokines. **X. Li, J. Mai, A. Virtue, H. Wang and X-F. Yang.** Temple Univ. Sch. of Med.

A257 **971.8** Brain-derived neurotrophic factor receptor TrkB exists as a preformed dimer in living cells. **I. Maruyama and J. Shen.** Okinawa Inst. of Sci. & Technol.

A258 **971.9** Functional characterization of two distinct interferon gamma structurally related protein IFN $\gamma$ rel 1 and IFN $\gamma$ rel 2, in ginbuna crucian carp. **Y. Shibasaki, T. Yabu, T. Moritomo and T. Nakanishi.** Col. of Bioresource Sci., Nihon Univ., Japan.

A259 **971.10** Effect of hepatocyte growth factor in alveolar epithelial cells. **A.R. López Mercado, K. Poonyagariyagorn, K. Misono, D. Dikeman and E. Neptune.** Univ. of Puerto Rico, Río Piedras Campus and Johns Hopkins Univ.

## 972. G PROTEINS AND PROTEIN KINASES

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A260 **972.1** Prediction of the risk for hypertension among carrier of C825T genetic polymorphism of G protein beta 3 gene (GNB3). **N.S. El Din Hemimi, M.M. Abd El Salam and D.J. Ahmad.** Dubai Med. Col., United Arab Emirates and Ain Shams Univ., Egypt.
- A261 **972.2** Biochemical requirements for suppressing a constitutively active allele of Gs alpha. **R. Tobar-Rubin, D. Sultan, D. Janevska and R.P. Rylaarsdam.** Benedictine Univ., IL.
- A262 **972.3** The role of PkcA in septum formation in *Aspergillus nidulans*. **J.L. Henley, L. Jackson-Hayes, T. Hill, D. Loprete, O. Dawodu, C. Delbove and A. Poullard.** Tougaloo Col., MS, Rhodes Col., TN and Rust Col., MS.
- A263 **972.4** RGS domain-mediated dimerization regulates GRK5 plasma membrane localization and function. **H. Xu, X. Jiang and P.B. Wedegaertner.** Thomas Jefferson Univ.
- A264 **972.5** Define a novel role for Gi $\alpha$  proteins in differentially regulating RTK-mediated signaling in response to growth factors. **W-M. Chu, Z. Wang, R. Dela Cruz, C.H. Chu and M. Jiang.** Univ. of Hawaii and UCLA.
- A265 **972.6** Epidermal growth factor receptor transactivation and fibronectin matrix assembly by the G-protein coupled receptor, GPER, requires a transmembrane signaling complex consisting of PTPN12, integrin  $\alpha 5 \beta 1$ , and MMP-3. **H.T. Magruder and E.J. Filardo.** Brown Univ. and Rhode Island Hosp.
- A266 **972.7** The CC-type chemokine receptor 1 is constitutively associated with  $\beta$ arrestin2: role of receptor domains. **C.T. Gilliland, C. Salanga, J. Trejo and T. Handel.** UCSD.
- A267 **972.8** Regulator of G protein signaling 6 ensures coordination of motor movement by modulating GABA $_B$  receptor signaling. **A. Stewart, B. Maity, J. Yang, L. Loo, A.J. Shepherd, D.P. Mohapatra and R.A. Fisher.** Univ. of Iowa.
- A268 **972.9** A role of GRK5 in neuronal morphogenesis: promoting actin bundling and targeting bundles to membrane structures. **F. Wang, Y. Chen, H. Long, Z. Wu and I. Ma.** Shanghai Med. Col., Fudan Univ.
- A269 **972.10** Diversity of heterotrimeric G proteins in plant innate immunity – evidence of a G protein code. **S.A. Lawrence and N.K. Clay.** Yale Univ.

A270 **972.11** Direct G protein signaling mediates components of the vascular smooth muscle response to insulin-like growth factor. **P. Zahradka and R. Perrault.** Univ. of Manitoba and St. Boniface Hosp. Res. Ctr.

A271 **972.12** Unraveling the molecular mechanism behind thrombin-induced myofibroblast transition. **J.A. Meyer and J. Strande.** Med. Col. of Wisconsin.

### 973. GTPASES

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A272 **973.1** Bacterial GTPases may be regulators of cell wall assembly. **J.N. Winters, N. Rizzo and P.E. March.** Emmanuel Col., MA.

A273 **973.2** Distribution and localization of Rho GTPases in rat brain. **L. Martínez-Alcantar, E. Meléndez-Herrera, M. Clemente-Guerrero, A. Saavedra-Molina and S. Manzo-Avalos.** Univ. Michoacana de San Nicolás de Hidalgo, Mexico.

A274 **973.3** The cpSRP54-cpFtsY interaction in the chloroplast SRP pathway. **Z.M. Lu, S. Chandrasekar and S-o. Shan.** Wabash Col., IN and Caltech.

A275 **973.4** Expression and purification of Cdc42 and PBD46. **E.J. Evans and P.D. Adams.** Wabash Col. and Univ. of Arkansas.

### 974. HORMONE RECEPTORS

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A276 **974.1** Role of GPER in estrogen-mediated inhibition of cardiomyocyte hypertrophy. **S.E. Huffman, T.R. Kennedy, A.J. Baute and R.L. Waikel.** Eastern Kentucky Univ.

A277 **974.2** AKAP79 controls  $\beta$ 1-adrenergic receptor trafficking by multiple regulatory mechanisms. **X. Li and S. Bahouth.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.

A278 **974.3** Regulation of estrogen receptors and CREB-binding protein following traumatic brain injury. **I. Zee and K.A. Duncan.** Vassar Col.

A279 **974.4** IGF1-receptor signaling modulates diastolic cardiac function in aging hearts. **A. Godecke, C. Kessels, L. Peiseler, A. Raupach, C. Jacoby, A. Lindecke, K. Koehrer, J. Heger and S. Moellendorf.** Heinrich Heine Univ., Dusseldorf and Justus Liebig Univ., Giessen.

A280 **974.5** MED1 coactivation of androgen receptor-dependent transcription is mediated through a newly discovered noncanonical binding motif. **F. Jin and J. Fondell.** UMDNJ, Piscataway.

### 975. INTEGRATION AND ORGANIZATION OF SIGNALING PATHWAYS

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A281 **975.1** Constitutive K-Ras<sup>G12D</sup> activation of ERK2 specifically regulates 3D invasion of human pancreatic cancer cells via MMP-1. **G.P. Botta, M.J. Reginato, A.K. Rustgi and P.I. Leikes.** Drexel Univ. Col. of Med. and Sch. of Biome. Engin. and Univ. of Pennsylvania.

A282 **975.2** Vasoactive intestinal peptide receptor 1 and 2 expressing cells result in cellular migration through alternative signaling pathways. **T. Van der Steen, M. Meyer, S. Dorsam and G. Dorsam.** North Dakota State Univ.

A283 **975.3** Biochemical and mutational analysis of intracellular regions of the plexin-B1 guidance receptor as a R-RasGAP. **S. Kim, P.K. Hota and M. Buck.** Case Western Reserve Univ.

### 976. SIGNALING IN BACTERIAL RECEPTOR SYSTEMS

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A284 **976.1** IL-1 $\beta$  loss contributes to reduced toxicity of the TRIF-biased TLR4 agonist monophosphate lipid A. **C.A. Embry, S. Ganhapudhi, D. Desta and T. Mitchell.** Stetson Univ., Inst. for Cell. Therapeut., Louisville and Univ. of Louisville Sch. of Med.

### 977. TOXINS

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

A285 **977.1** Structural basis for type VI secretion effector recognition by a cognate immunity protein. **M. Li, I. Le Trong, M.A. Carl, E.T. Larson, S. Chou, J.A. De Leon, S.L. Dove, R.E. Stenkamp and J. Mougous.** Univ. of Washington and Harvard Med. Sch.

A286 **977.2** Gene expression profile of staphylococcal enterotoxin B and lipopolysaccharide-induced human PBMCs. **C. Mendis.** Univ. of Wisconsin-Platteville.

A287 **977.3** *Zoanthus sociatus* extract blocks the nifedipine sensitive-Ca<sup>2+</sup> influx in beta cells and impairs glucose-stimulated insulin secretion. **C.M. Diaz-Garcia, C. Sanchez-Soto, D. Fuentes-Silva, C. Leon-Pinzon, D. Dominguez-Perez, C. Varela, A. Rodriguez-Romero, O. Castañeda and M. Hiriart.** UNAM, Mexico City, Univ. Central "Martha Abreu" de Las Villas and Univ. of Havana, Cuba.



## 978. PROTEOMICS AND BIOINFORMATICS

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A288 **978.1** Characterization of diverse internal binding sequences to PDZ domains by screening special random peptide library in yeast two-hybrid system. **Y. Mu, S. Hu, X. Wang and Y. Gao.** Inst. of Basic Med. Sci., Chinese Acad. of Med. Sci. and Peking Union Med. Col.
- A289 **978.2** Largescale analysis of synaptic phosphorylation and O-GlcNAcylation reveals complex interplay between these post-translational modifications. **J.C. Trinidad, D.T. Barkan, B. Gullledge, A. Thalhammer, A. Sali, R. Schoepfer and A.L. Burlingame.** UCSF and University Col. London.
- A290 **978.3** Gene identification in *Pseudomonas aeruginosa*: from bioinformatics to experimental analysis. **S. Oden, Y. Zhang, S. Jin, S. Tornaletti and L. Brocchieri.** Univ. of Florida.
- A291 **978.4** In silico modeling of novel analgesic peptides and expression in suitable host organisms. **V.R. Joginapally, C. Pasha, V. Banothu, S. P and J. Kiran.** Osmania Univ. and Srinidhi Inst. of Sci. and Technol., India.
- A292 **978.5** Quantitative proteomic analysis of proteins and post-translational modifications during the metaphase to anaphase transition after altered O-GlcNAcylation. **S.A. Whelan, E.P. Tan, C.E. Costello, M. McComb and C. Slawson.** Boston Univ. and Univ. of Kansas Med. Ctr.
- A293 **978.6** Genetic responses in a plant-endophyte interplay. **J. Robb, H. Shittu, K.V. Soman, A. Kurosky and R.N. Nazar.** Univ. of Guelph, Canada and Univ. of Texas Med. Branch.
- A294 **978.7** Improving a software system for protein active site determination. **G.J. Dodge, C. Corwin, H.J. Bernstein and P.A. Craig.** Rochester Inst. of Technol. and Dowling Col., NY.
- A295 **978.8** Mining open reading frames of the human secretome identifies a novel candidate ligand in esophageal cancer related gene-4. **X. Dang, S. Podvin, D. Larocca, S. Muchinyi, R. Coimbra, B. Eliceiri and A. Baird.** UCSD Sch. of Med. and Mandala Biosci., San Diego.
- A296 **978.9** A statistical analysis and approach to protein surface modeling. **L. Doucette, P.A. Craig and J. Halavin.** Rochester Inst. of Technol.
- A297 **978.10** An expanded self-antigen peptidome and proteome is carried by the human lymph as compared to the plasma. **C.C. Clement and L. Santambrogio.** Albert Einstein Col. of Med.
- A298 **978.11** *S. pyogenes* is reliant on salvage of host pyridine precursors for NAD synthesis: implications for pathogenesis and antibacterial intervention. **L. Sorci, I. Blaby, V. de Crécy-Lagard and A. Osterman.** Marche Polytech Univ., Ancona, Italy, Sanford-Burnham Med. Res. Inst., Ja Jolla and Univ. of Florida.
- A299 **978.12** An integrated experimental workflow to increase throughput and data robustness for analysis of mammalian protein interaction networks. **D. Auerbach, R. Bruderer, T. Uhlmann and M. Rezwani.** Dualsystems Biotech AG, Schlieren, Switzerland.

## 979. GLOBAL ANALYSIS OF PROTEIN FUNCTION

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A300 **979.1** Proteomic analyses of genes regulated by heterogeneous nuclear ribonucleoproteins A/Bs in Jurkat cells. **Y-m. Yeh, P-R. Huang, C-C. Wu and T-C.V. Wang.** Chang Gung Univ., Taiwan.

## 980. PROTEIN PROFILING IN NORMAL AND DISEASE STATES

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A301 **980.1** Transmembrane-176A and 176B proteins are directly linked to cancer pathology. **V.K. Valluri, W. Podevin, Q. Bui, V. Nguyen and M.P. Cuajungco.** California State Univ., Fullerton.
- A302 **980.2** Adiposity, but not chronological age, promotes accumulation of some old and damaged proteins. **R. Grubina, K.A. Klaus, D.M. Morse and K.S. Nair.** Mayo Clin.
- A303 **980.3** Proteomic profiling of chemoresistance in pancreatic adenocarcinoma. **S-i. Hwang, K.Q. McKinney, T. Truong, Y-y. Lee and D. Sindram.** Carolinas Med. Ctr., Charlotte.

## 981. GENOMICS

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A304 **981.1** Use of AFLP to study the genetic variability of *Leishmania* sp. **C.M. Restrepo, E. Pérez Lao, C. De La Guardia, O.E. Sousa, J.E. Calzada and R. Leonart.** INDICASAT, Univ. of Panama and Gorgas Commemorative Inst., Panama.
- A305 **981.2** Molecular characterization of the 1-deoxy-D-xylulose-5-phosphate synthase from marine bacterium, *Kocuria gwangalliensis*. **Y.T. Kim.** Pukyong Natl. Univ., South Korea.

## 982. TOXICOGENOMICS

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 1:05 PM-2:35 PM

- A306 **982.1** Study of molecular events associated with single wall carbon nanotubes mediated cellular cytotoxicity. **V. Goornavar, P. Ravichandran, S. Biradar and G.T. Ramesh.** Norfolk State Univ.

**983. COMPUTATIONAL APPROACHES IN SYSTEMS BIOLOGY****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A307 **983.1** Computational analysis between two different hemoglobins from Caspian Sea sturgeons (*Acipenser persicus* and *Acipenser stellatus*) induced by n-dodecyltrimethylammonium bromide. **S. Ariaenejad, S. Jami, M.H. Rezaei, M.R. Fatemi, N. Poursasan, K. Kavousi and A.A. Moosavi-Movahedi.** Islamic Azad Univ., Iran, IFRO, Tehran and Univ. of Tehran.
- A308 **983.2** Development of pattern recognition algorithms for identification of gut microorganisms using fatty acid signatures. **F. Shen, D. Ballesteros, M. Sasser, L. Cimini and P. Dhurjati.** Univ. of Delaware and MIDI Inc., Newark, DE.
- A309 **983.3** Use of phylogenetics for the purpose of quality control in the green algae genus *Chlorella*. **T.L. Jensen, R.M. Stubbendeck, A.L. Barnes, K.M. Wichers, B.J. Keller and C. Bailey.** Univ. of Nebraska-Lincoln.
- A310 **983.4** Comparative analysis of *M. pneumoniae* models using the cytoSEED plugin for metabolic model visualization. **N.L. Hazekamp, J. Kammeraad, B. Bockstege and M. DeJongh.** Hope Col., MI and Univ. of Notre Dame.
- A311 **983.5** Structural adaptation of microvessels in disease states. **E.F. Threlkeld, L. Little, J.Y. Park, P. Varin, J. Geddes and A. Sarang-Sieminski.** Franklin W. Olin Col. of Engin., MA.
- A312 **983.6** Identifying drug response signatures using genome-scale metabolic network analysis of human cell line expression data. **D. Zielinski, M. Mo and B. Palsson.** UCSD.
- A313 **983.7** MethCy: DNA methylation analysis software. **S. Muhie, S. Bhattacharya, R. Hammamieh, N. Chakraborty and M. Jett.** U.S. Army Ctr. for Envrn. Hlth. Res., Fort Detrick, MD and George Mason Univ.

**984. SURFACE PLASMON RESONANCE****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A314 **984.1** Kinetic characterization of calmodulin-troponin C chimeras binding to endothelial and neuronal nitric oxide synthases. **C.C. Brown, K.A. Helms, S.A. Hill, D. Ghosh, J.C. Salerno and J.L. McMurry.** Kennesaw State Univ., GA.
- A315 **984.2** Kinetic characterization of binding among *Helicobacter pylori* nickel maturation enzyme accessory proteins. **S.A. Hill, K.A. Helms, C.C. Brown, S.L. Benoit, R.J. Maier and J.L. McMurry.** Kennesaw State Univ. and Univ. of Georgia.

**985. FUNCTIONAL PROTEOMIC STUDIES****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 1:05 PM-2:35 PM

- A316 **985.1** Protein Structure Initiative: Biology-Materials Repository: developing a public resource for structural biology plasmids. **C. Cormier, J. Park, M. Fiacco, J. Steel, J. Kramer and J. LaBaer.** Arizona State Univ.
- A317 **985.2** Identifying targets and characterizing the role of aPKCs in murine embryonic stem cells. **M.L. Duarte, A.C. Zeri, J.E. Krieger and D. Schechtman.** Univ. of São Paulo, Natl. Lab. of Luz Síncrotron and Inst. of Coração, São Paulo.
- A318 **985.3** The uterine smooth muscle S-nitrosylproteome in pregnancy and functional effects of S-nitrosoglutathione. **C. Ulrich, D. Quilici, K. Schegg, I. Buxton, S. Barnett and N. Heyman.** Univ. of Nevada Sch. of Med. and Univ. of Nevada Reno.
- A319 **985.4** Characterization of a novel *Aedes aegypti* ferritin subunit identified utilizing proteomic techniques. **D.L. Geiser, W. Li, A.C. Gucinski, N. Patel, P. Patel, V.H. Wysocki and J.J. Winzerling.** Univ. of Arizona.

**986. ORGANIZATION OF THE SECRETORY PATHWAY****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A320 **986.1** Regulation of I-kappa-B kinase pathway by CARMA 1•Bcl-10•MALT-1 complex promotes SNARE complex formation and secretion in platelets. **M. Banerjee, Z. Karim, J. Zhang and S.W. Whiteheart.** Univ. of Kentucky.
- A321 **986.2** An unconventional Rab GTPase is involved in the regulation of unique secretory organelles in *Toxoplasma gondii*. **J. Heng, K. Kremer and M. Meissner.** Univ. of Glasgow.

**987. MEMBRANE BIOGENESIS****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

**Organelle Dynamics****Systems Biology**

*Presentation time:* 12:25 PM-1:55 PM

- A322 **987.1** Time-dependent changes in long range sphingolipid organization revealed by high-resolution secondary ion mass spectrometry. **M.L. Kraft, H.A. Klitzing, K. Lou, J. Zimmerberg and P.K. Weber.** Univ. of Illinois at Urbana-Champaign, NICHD/NIH and Lawrence Livermore Natl. Lab.

## 988. MEMBRANE TRANSPORT

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A323 **988.1** The binding of Vps33p to the N-terminal domain of the yeast vacuolar syntaxin Vam3p is not required for yeast vacuole fusion. **M. Lee, Y. Ko, S. Cho and Y. Jun.** Sch. of Life Sci., Gwangju Inst. of Sci. and Technol., South Korea.
- A324 **988.2** The actions of SNAREs and Munc18 in neuronal vesicle fusion. **J. Shen.** Univ. of Colorado Boulder.
- A325 **988.3** Short-hairpin RNA-mediated silencing of NKCC1 in COS7 cells and its effect on cell volume. **S.A. Alshahrani and M. Di Fulvio.** Wright State Univ.
- A326 **988.4** Role of cystein residues in the normal operation and assembly of K<sup>+</sup>-Cl<sup>-</sup> cotransporter isoform 2. **G. Carpentier, L. Caron, M. Jacob-Wagner and P. Isenring.** Laval Univ., Canada.
- A327 **988.5** Ribosomal S-6 kinase and Rho-associated kinase phosphorylation of NHE1. **A. Dornbusch, N. Berthelsen, K. Anderson, J.J. Provost and M. Wallert.** Minnesota State Univ. Moorhead and North Dakota State Univ.
- A328 **988.6** The effect of phenolic compounds on the transport of 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine in Caco-2 cell monolayers. **Y.-J. Hong, M.-H. Nam, J.-S. Oh, J.-G. Oh and K.-W. Lee.** Korea Univ.
- A329 **988.7** The V-ATPase subunit d: new roles for functionally and structurally coupling of V1-Vo. **E. Weber and K.J. Parra.** Univ. of New Mexico.
- A330 **988.8** Isolation and mass spectrometric analysis of native protein complexes in rat liver mitochondrial contact sites. **K. Lee, J. Kerner and C. Hoppel.** Case Western Reserve Univ.
- A331 **988.9** Regulation of PI4KII $\alpha$  distribution between the Golgi and endosomal compartments. **M. Jovic, N. Bojjireddy, M. Kean, A.-C. Gingras, J. Brill and T. Balla.** NICHD/NIH, Samuel Lunenfeld Res. Inst. and The Hosp. for Sick Children, Toronto.
- A332 **988.10** A new functional role of potassium. **X. Wu, J. Lee and H. Kim.** Univ. of Nebraska-Lincoln.
- A333 **988.11** *Trypanosoma brucei* Tim50 is a mitochondrial inner membrane protein translocator, which regulates expression and function of VDAC. **M.R. Duncan, M.S. Fullerton, U.K. Singha and M. Chaudhuri.** Meharry Med. Col.
- A334 **988.12** *Trypanosoma brucei* Tim50, a protein translocator of mitochondrial inner membrane, possesses dual specific phosphatase activity. **M.S. Fullerton, M.R. Duncan and M. Chaudhuri.** Meharry Med. Col.

## 989. SIGNALING TO THE CYTOSKELETON

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A335 **989.1** Microtubule stability, Golgi organization, and transport flux require dystonin-a2/MAP1B interaction. **S.D. Ryan, K. Bhanot, Y. De Repentigny, A. Chu, A. Blais and R. Kothary.** Ottawa Hosp. Res. Inst. and Univ. of Ottawa.

- A336 **989.2** NMR analysis of actin binding protein cofilin. **N.J. Audette, S. Yan, D. Kudryashov and T. Polenova.** Univ. of Delaware and The Ohio State Univ.

## 990. LIPID REGULATION OF PROTEIN FUNCTION

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A337 **990.1** Genetic determinants of human serum sterol levels. **A.R. Stiles and D.W. Russell.** Univ. of Texas Southwestern Med. Ctr.
- A338 **990.2** The role of an ER-localized metalloprotease in yeast cell wall integrity. **K.A. Hecht, V.A. Wytiaz and J.L. Brodsky.** Univ. of Pittsburgh.
- A339 **990.3** Differential regulation of Rap1 through bioactive lipid production in the human platelet. **M. Holinstat, J. Yeung, J. Vescei, A. Arnouk, K. Ikea and T.R. Holman.** Thomas Jefferson Univ. and Univ. of California, Santa Cruz.

## 991. LIPID SIGNALING, INFECTION AND ATHEROSCLEROSIS

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:25 PM-1:55 PM

- A340 **991.1** The regulation of thrombosis and hemostasis by fatty acid metabolites. **J. Yeung, A. Arnouk, J. Vescei, K. Ikei, T.R. Holman and M. Holinstat.** Thomas Jefferson Univ. and Univ. of California, Santa Cruz.
- A341 **991.2** Expression of human C-reactive protein in *Pichia pastoris*. **E.T. Smith, A. Thirumalai, S.K. Singh, A. Agrawal and D.A. Johnson.** James H. Quillen Col. of Med., East Tennessee State Univ.
- A342 **991.3** The characterization and identification of ceramide-1-phosphate binding proteins. **K.E. Ward and R.V. Stahelin.** Univ. of Notre Dame and Indiana Univ. Sch. of Med. South Bend.
- A343 **991.4** Functions of monocyte chemotactic protein-3 in transgenic mice fed high-fat diet. **S.J. An, M.-s. Choi, C.K. Chae, G.T. Oh and Y.B. Park.** Kyungpook Natl. Univ. and Ewha Woman's Univ., South Korea.
- A344 **991.5** Defining the role of SREBPs in viral infection. **A.G. York and S.J. Bensinger.** UCLA.
- A345 **991.6** Hyperhomocysteinemia accelerates atherosclerosis and induces inflammatory monocyte differentiation in hyperglycemic mice. **P. Fang, D. Zhang, X. Jiang, X. Yang and H. Wang.** Temple Univ.
- A346 **991.7** Roles and specificities of LPS from highly pathogenic *Burkholderia* species. **K.A. Brown, O. Qazi, A. Gnanam, W. Nieves, B. Judy, L. Morici, A. Torres and D.M. Estes.** Univ. of Texas at Austin, Tulane Univ. Sch. of Med., Univ. of Texas Med. Branch and Univ. of Georgia Col. of Vet. Med.
- A347 **991.8** Cholesterol crystals of atherosclerotic lesions induce endothelial dysfunction via RhoA activation. **Y. Baumer, S. Meiler, P. Anastasiadis, J. Allen and W.A. Boisvert.** Univ. of Hawaii John A. Burns Sch. of Med. and Col. of Engin.

## 992. ENDOCANNABINOID METABOLISM AND SIGNALING

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A348 **992.1** Regulation of cannabinoid receptor signaling by RGS (regulators of G-protein signaling) proteins: a new paradigm for modulating CB1 and CB2 receptor-mediated signalosome. **S. Mukhopadhyay, S. Jha, V. Poltoratsky, G. LaRoche, P. GiGuere, E. Oestreich and D. Siderovski.** North Carolina Central Univ. and Univ. of North Carolina at Chapel Hill.

## 993. LIPID SIGNALING

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A349 **993.1** Tamoxifen enhances chemotherapeutic efficacy of C6-ceramide and increases induction of apoptosis in human colorectal cancer cells by upregulation of MAPK signaling pathway and downregulation of inhibitor of apoptosis protein, survivin. **S. Morad, J. Madigan, D.W. Rosenberg, M. Kester, S.S. Shanmugavelandy and M.C. Cabot.** John Wayne Cancer Inst., Santa Monica, Univ. of Connecticut Hlth. Ctr. and Penn State Hershey Med. Ctr.

A350 **993.2** Regulation of D5 dopamine receptor signaling in lipid rafts in HEK-293 cells. **Y. Zhang, H. Li, P.A. Jose and P. Yu.** Children's Natl. Med. Ctr.

A351 **993.3** Isozyme-specific interaction of protein kinase C  $\delta$  with mitochondria dissected using live cell fluorescence imaging. **A.X. Wu-Zhang and A.C. Newton.** UCSD.

A352 **993.4** Mechanisms of radiomitigative cell signaling via lysophosphatidic acid receptors. **G. Tigyi, G. Nagyne-Kiss, J. Fells, D. Liu, J. Yue, S. E, K. Thompson, R. Yates, L. Balazs, A. Parrill, W. Deng, R. Gupte, D. Miller and F-T. Lin.** Univ. of Tennessee Hlth. Sci. Ctr., Univ., Memphis, Rx Bio. Inc., Memphis and Baylor Col. of Med.

A353 **993.5** Coordination of stress response signaling and phospholipid metabolism in yeast. **S.A. Jesch, M.L. Gaspar and S.A. Henry.** Cornell Univ.

A354 **993.6** PTEN binding properties for different model membrane morphologies. **A. Gericke, A.H. Ross, K.E. King, B.M. Neuman and Z. Jiang.** Worcester Polytech Inst., Univ. of Massachusetts Med. Sch. and NHLBI/NIH.

## 994. LIPIDS AND CONTROL OF GENE EXPRESSION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A355 **994.1** Membrane lipid composition influences a neuronal cell fate decision in *C. elegans*. **K. Kauv, J.C. Bettinger and A.G. Davies.** Virginia Commonwealth Univ.

A356 **994.2** Acid ceramidase represses steroidogenic factor 1-dependent gene transcription by binding to the receptor in the nucleus of H295R human adrenocortical cells. **N.C. Lucki, D. Li, S. Bandyopadhyay, E. Wang, A.H. Merrill and M.B. Sewer.** Skaggs Sch. of Pharm. and Pharmaceut. Sci., UCSD and Georgia Tech.

A357 **994.3** Expression of ABCB1 in the human adrenocortical cell line H295R. **J.L. Powers, J. Kim, D. Oso, J. Przeluska, P. Jenkins and S. Walden.** Kennesaw State Univ., GA.

A358 **994.4** Isolation and identification of the *NRO1* gene, which is responsible for recognition of fatty acid species in the yeast *Saccharomyces cerevisiae*. **C. Peirce, R. O'Brien, K. Heneveld, J. Stukey and V. McDonough.** Hope Col., MI.

A359 **994.5** The role of Nro1p in recognition and signaling the presence of dietary unsaturated fatty acids. **M. Willey, J. Stukey and V. McDonough.** Hope Col., MI.

## 995. LIPIDS AND INFLAMMATION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A360 **995.1** Inhibition of HIV protease inhibitor-induced inflammatory response and ER stress by raltegravir in macrophages. **R. Zhao, X. Zhang, R. Cao, P.B. Hylemon, W.M. Pandak, L. Zhang, G. Wang and H. Zhou.** Virginia Commonwealth Univ., China Pharmaceut. Univ. and McGuire VA Med. Ctr., Richmond, VA.

A361 **995.2** Oleic acid attenuates trans-10, cis-12 (10,12) conjugated linoleic acid-mediated inflammatory signaling in primary human adipocytes. **M.A. Reardon, S. Govern, K. Martinez, C.C. Chung, T. Reid and M. McIntosh.** Univ. of North Carolina at Greensboro.

A362 **995.3** FTY720-phosphate (gilenya) selectivity of S1P1 GPCG requires motifs in intracellular loop 1 and transmembrane domain 2. **G. Tigyi, W.J. Valentine, V.I. Godwin, D.A. Osborne, D. Liu, Y. Fujiwara, J. Van Brocklyn, R. Bittman and A. Parrill.** Univ. of Tennessee Hlth. Sci. Ctr., Univ. of Memphis, The Ohio State Univ. and Queens Col., CUNY.

A363 **995.4** Nanoclusters of biosynthetic enzymes define the supramolecular organization of leukotriene synthesis on nuclear membranes. **M. Turman and R. Soberman.** Massachusetts Gen. Hosp.

## 996. LIPIDS IN PATHOGENIC PROCESSES

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A364 **996.1** Lipid metabolism alterations in U87 glioma cells deficient in very long-chain acyl-CoA synthetase 3 are associated with a less malignant phenotype. **P.A. Watkins, Z. Pei, E.A. Kolar, E.M. Clay, X. Shi and J. Laterra.** Johns Hopkins Univ. Sch. of Med. and Kennedy Krieger Inst., Baltimore.

A365 **996.2** Importance of very long chain acyl-CoA synthetase 3 (ACSVL3) in cholesterol homeostasis and lipid raft signaling in U87 glioma cells. **E.A. Kolar, J-P. Richard, Z. Pei, J. Laterra and P.A. Watkins.** Johns Hopkins Univ. Sch. of Med. and Kennedy Krieger Inst.

## 997. PROTEIN-LIPID INTERACTIONS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A366 **997.1** Fatty acids and their thioester derivatives as ligands for human PPAR $\alpha$  – a comparison to murine PPAR $\alpha$ . **D.P. Oswal, M. Balanarasimha, A. Kaliappan, S.D. Rider and H. Hostetler.** Wright State Univ.
- A367 **997.2** Phosphorylation of Prdx6 mediated by MAP kinase induces conformational change with concomitant increase in its phospholipase A<sub>2</sub> activity. **H. Rahaman, S. Zhou, C. Dodia, T. Shuvaeva, S.I. Feinstein and A.B. Fisher.** Univ. of Pennsylvania Perelman Sch. of Med.
- A368 **997.3** Characterization of the effects of lipid-binding on the chaperone activities of 70-kDa heat-shock proteins. **C.M. McCallister and N. Nikolaidis.** California State Univ., Fullerton.
- A369 **997.4** Characterization of the lipid-binding sites of HSPA1A, a member of the 70-kDa heat shock protein family. **G. Donnelly, C.M. McCallister, D. Le and N. Nikolaidis.** California State Univ., Fullerton.
- A370 **997.5** Structural properties of functional HDL and variants of apoA-I. **J. Petrlova, L. Zhu, M. Mörgelin, H. Hebert, C. Jegerschöld, J.C. Voss and J.O. Lagerstedt.** Lund Univ., Royal Inst. of Technol. and Karolinska Inst., Sweden.
- A371 **997.6** Assessing aggregation and membrane binding of LLO domains. **Q. Huang, Y. Wang and M. Roberts.** Boston Col. and UCSD.
- A372 **997.7** Human apoA-I lysine residues promote association with lipopolysaccharides and phosphatidylglycerol bilayers. **I. Biglang-awa, W.H.J. Beck, C. Adams, H. Vincent, E.J. Haas-Stapleton and P.M. Weers.** California State Univ., Long Beach.
- A373 **997.8** Impact of hydrophobic lipophilic molecules on worm burden in BALB/c mice infected with *Heligmosomoides polygyrus*. **A.C. Foudjet.** Concordia Col., MN.

## 998. NEW METHODOLOGIES FOR TARGET DISCOVERY AND TARGET VALIDATION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A374 **998.1** Development of a Parkinson's disease model in medaka fish. **S.J. Ferng, D.E. Gonzalez, T. Falk, H.L. Rilo and S.J. Sherman.** Univ. of Arizona.
- A375 **998.2** In vitro evidence that peptides derived from the candidate tumor suppressor gene esophageal cancer-related gene 4 internalize into cells through the innate immunity receptor complex. **S. Podvin, X. Dang, A. Kurabi, R. Coimbra, B. Eliceiri and A. Baird.** UCSD.

A376 **998.3** A high-throughput screen for inhibitors of xenobiotic detoxification in nematodes. **C.K. Leung, A.S. Deonaraine and K.P. Choe.** Univ. of Florida.

A377 **998.4** A novel, time resolved immunofluorescence screening assay to assess PAR2 ligand binding. **J. Hoffman, A. Flynn, D.V. Tillu, J. Vagner, T.J. Price and S. Boitano.** Univ. of Arizona.

## 999. TARGETED CANCER DRUG DEVELOPMENT: DEFINING MOLECULAR PROFILES OF SENSITIVITY

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

- A378 **999.1** Androgen receptor regulation by microtubule-targeting chemotherapeutics in prostate cancer. **S. Martin and N. Kyprianou.** Univ. of Kentucky.
- A379 **999.2** Thermodynamic characterization of a riboflavin-dendrimer platform for targeted drug delivery applications. **A.B. Witte, C.M. Timmer, S.K. Choi, B. Orr, M. Banaszak Holl, J. Baker and K. Sinniah.** Calvin Col., MI and Univ. of Michigan.
- A380 **999.3** Dualistic role of tumor-directed antibodies on carcinoma progression. **O.M. Pearce, P.C. Soto, P. Secrest, N. Varki, P. Crocker, J. Bui and A. Varki.** UCSD and Col. of Life Sci., Univ. of Dundee, U.K.
- A381 **999.4** Synergistic anti-tumor effect by a combination treatment with the dietary flavonoid luteolin and the chemotherapy drugs Tasigna or Adrucil in human pancreatic cancer cells. **E. Aksamitiene, S. Achanta, A. Kiyatkin and J.B. Hoek.** Thomas Jefferson Univ.
- A382 **999.5** A copper complex, ghn-12, as a sensitization of DNA to UVA offers potential for a novel photochemotherapy. **F-J. Lai, C-H. Liang, C-L. Cheng, R-K. Lin, N-S. Chang and C-C. Lin.** Chi Mei Med. Ctr., Tainan, Natl. Chung Hsing Univ., Taiwan, Natl. Tainan Inst. of Nursing and Natl. Cheng Kung Univ. Med. Col., Taiwan.
- A383 **999.6** Anti-angiogenic effects of zoledronic acid on osteotropic breast cancer cells. **C. Contreras, S. Morshedean, W. Hamud, B. Dhakal, B. Khanal and J.A. Bush.** California State Univ., Fresno, Sanford-Burnham Med. Res. Inst. and UCSF.
- A384 **999.7** Differential sensitivity of melanoma cell lines with differing B-Raf mutational status to the new oncogenic B-Raf kinase inhibitor UAI-201. **M. Lee, J-H. Ahn and S.K. Ahn.** Univ. of Incheon and Youai Co. Ltd., South Korea.
- A385 **999.8** The effect of benzosuberene analogues on endothelial cell morphology and tube formation. **J.K. Tidmore, T.E. Strecker, S.O. Odutola, A.K. Charlton-Sevcik, R.P. Tanpure, C.S. George, M. Sriram, D.J. Chaplin, K.G. Pinney and M.L. Trawick.** Baylor Univ. and OXIGENE Inc., South San Francisco.

**1000. CHEMICAL PROBES AND THEIR USE IN IDENTIFYING NEW THERAPEUTIC TARGETS****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A386 **1000.1** Activity-based probes for penicillin-binding protein imaging. **O. Kocaoglu, B. Lanning, L. Cozy, R. Calvo, D. Kearns and E.E. Carlson.** Indiana Univ.

**1001. MEMBRANE PROTEINS AS DRUG TARGETS****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A387 **1001.1** Catalytic transitions in the MDR1 P-glycoprotein probed by target molecular dynamics. **J.G. Wise.** Southern Methodist Univ.

A388 **1001.2** Biological evaluation of cyclized cystine knot peptides targeting human melanocortin receptors. **J. Bao, M. Cai, D. Craik and V. Hruby.** Univ. of Arizona and Univ. of Queensland, Australia.

A389 **1001.3** MG53 reduces cell death associated with hemorrhagic shock ischemia/reperfusion injury by increasing membrane repair capacity. **J.G. Moloughney, J. Hersey, T. Tan, H. Hsai and N. Weisleder.** UMDNJ-Robert Wood Johnson Med. Sch. and TRIM-edicine, North Brunswick, NJ.

A390 **1001.4** Relative location of transmembrane regions of GABAA receptors probed by cysteine substitution and crosslinking. **J.A. Hicks, C.M. Borghese, R.A. Harris and J.R. Trudell.** Univ. of Texas at Austin and Stanford Univ. Sch. of Med.

A391 **1001.5** Expressioneering™ technology accelerates functional expression and crystallization of GPCRs for drug discovery. **S. Sen, L. Franz, D. Mead and E. Steinmetz.** Lucigen Corp., Middleton, WI.

A392 **1001.6** Biophysical and biochemical characterization of protein D/E: a putative glycoprotein involved in sperm/egg binding and fusion. **C.L. Copeland, E.A. Socolovsky, V. Ramesh, G.T. Ramesh and J.C. Hall.** Norfolk State Univ.

**1002. NEW TARGETS FOR DRUG DISCOVERY: ANTIBACTERIALS****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A393 **1002.1** Characteristic features of human catalytic light chain, 22F6, showing the suppression of influenza virus infection by the different way. **N. Fujimoto, E. Hifumi and T. Uda.** Oita Univ. and CREST of JST, Saitama, Japan.

A394 **1002.2** Characterization of an anti-pathogenic lactonase from Palk Bay metagenome. **S.T. Karutha Pandian, C. Nithya and D. Viszwapriya.** Alagappa Univ., India.

A395 **1002.3** High throughput identification of compounds targeting influenza RNA-dependent RNA polymerase activity. **C-Y. Su and C-H. Wong.** Academia Sinica, Taipei.

A396 **1002.4** Characterization of *E. coli* mutants resistant to LpxC inhibitors. **D. Zeng, P. Zhou and C.R.H. Raetz.** Duke Univ. Sch. of Med.

A397 **1002.5** Structure-activity relationships of diacetylene-based LpxC inhibitors. **C-J. Lee, X. Liang, E. Park, D. Zeng, S. Swanson, X. Chen, R.A. Nicholas, C.R.H. Raetz, E.J. Toone and P. Zhou.** Duke Univ. and Univ. of North Carolina at Chapel Hill.

**1003. NEW TARGETS FOR DRUG DISCOVERY: NUCLEAR HORMONE RECEPTORS****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:25 PM-1:55 PM

A398 **1003.1** Characterization of novel anti-androgens as potential prostate cancer therapeutics. **S. Jobbagy, P.K. Mantravadi, R. Sikes and J. Koh.** Univ. of Delaware.

## POSTER PRESENTERS: UPLOAD YOUR POSTER

Where: E-Poster Counter, Hall D Lobby

Deadline: Wed., April 25, 3:30 PM

Uploaded posters will be available online to all registered attendees following the meeting at [www.experimentalbiology.org](http://www.experimentalbiology.org)

# Nutrition

## 1004. INNOVATIVE TOOLS FOR ASSESSMENT OF DIET, PHYSICAL ACTIVITY, AND RELATED BEHAVIORS

### Poster

(Sponsored by: Nutritional Epidemiology RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C1 I 1004.1 Development and validation of a quantitative FFQ for Guam. **R.T. LeonGuerrero, R. Novotny, L. Wilkens and M. Chong.** Univ. of Guam, Univ. of Hawaii at Manoa.
- C2 II 1004.2 Mediterranean diet adherence is decreasing in healthy subjects over the years 1996-2010 also in Mediterranean area. **G.M. Trovato, G.F. Martines and D. Catalano.** Univ. of Catania, Italy.
- C3 I 1004.3 Plasma nutrient biomarkers of dietary intake in postmenopausal women with and without coronary heart disease: insights from the Women's Health Initiative Observational Study. **N.R. Matthan, E.M. Ooi, S.L. Booth, L. Van Horn, M.L. Neuhouser and A.H. Lichtenstein.** Tufts Univ., Northwestern Univ. and Fred Hutchinson Cancer Res. Ctr.
- C4 II 1004.4 Classification of the items (ingredients) in a 40-day rotating menu offered to day-care center attendees in a government-sponsored program (SOSEP) according to the Monteiro scale of food-processing. **M-J. Soto-Méndez, L. Hernández and N.W. Solomons.** CeSSIAM, Guatemala City.
- C5 I 1004.5 Stable isotope markers of sweetened beverage consumption: relationships with health outcomes in a Yup'ik Eskimo study population. **S.H. Nash, A. Bersamin, A.R. Kristal, B.B. Boyer and D.M. O'Brien.** Univ. of Alaska Fairbanks and Fred Hutchinson Cancer Res. Ctr.
- C6 II 1004.6 Development of an atlas of food photographs with visual references and evaluation study on its use for assisting to estimate food weight in dietary recall. **Z. Wang, Z. Sun, C. Zhong, J. Wu, P. Fan and Z. Li.** Sch. of Publ. Hlth., Nanjing Med. Univ., China.
- C7 I 1004.7 Pre-pregnancy micronutrient intake assessed by food frequency questionnaire in the Alberta Pregnancy Outcomes and Nutrition Study. **S.M. Ramage, C. Berglund, L.J. McCargar and R.C. Bell.** Univ. of Alberta.
- C8 II 1004.8 Alternative Healthy Eating Index and its association with adequate intake and nutritional status in HIV+ adults. **A. Campa, G. Hernandez, S.S. Martinez, Y. Li, S. Lai, J.B. Page and M.K. Baum.** Florida Intl. Univ., Johns Hopkins Univ. Bloomberg Sch. of Publ. Hlth. and Univ. of Miami.
- C9 I 1004.9 Comparison of the InBody 520 bioimpedance analyzer to air displacement plethysmography for body composition measurements in a healthy adult population. **A. Barber, K. Hobb and M. Kern.** San Diego State Univ.
- C10 II 1004.10 Urinary sugars (sucrose and fructose) associations with self-reported sugars intake: the influence of plausibility of reported energy intake. **R.S. Sharma, S.B. Roberts, N.L. Polissar, C.J. Boushey, O.H. Maroney, K.N. Fieselmann, R.E. Ebner, P.J. Fuss and M.A. McCrory.** Purdue Univ., USDA at Tufts Univ., Mountain-Whisper-Light Stats., Seattle and Univ. of Hawaii.

- C11 I 1004.11 An open-label study to assess the efficacy of a dietary supplement in subjects who display subjective memory complaints. **S.P. Hirsh, P. Zhang and S. Joyal.** Life Ext. Clin. Res. Inc. and Life Ext. Fndn. Inc., Fort Lauderdale.

## 1005. APPLICATIONS AND CHALLENGES OF PUBLIC USE DATA SETS FOR SECONDARY ANALYSIS NUTRITION RESEARCH

### Poster

(Sponsored by: Nutritional Epidemiology RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C12 I 1005.1 Nutrient intakes from restaurants: What We Eat in America, 2007-2008. **D.G. Rhodes, J.C. Clemens, M.E. Adler and A.J. Moshfegh.** USDA, Beltsville, MD.
- C13 II 1005.2 Contribution of food categories to energy intake of the U.S. population: what we eat in America, NHANES 2007-2008. **M.K. Hoy, J. Clemens, D.G. Rhodes and A.J. Moshfegh.** USDA, Beltsville, MD.
- C14 I 1005.3 Candy consumption in the United States. **L. Shumow, L.M. Barraj, M.M. Murphy, X. Bi and A.R. Bodor.** Natl. Confectioners Assn. and Exponent Inc., Washington, DC.
- C15 II 1005.4 Energy and nutrient contributions from dairy foods consumed as snacks by 9-18 year old children: results from analyses of NHANES 2003-2006 dietary data. **D.R. Keast, N. Auestad, V.L. Fulgoni III and E.E. Quann.** Food & Nutr. Database Res. Inc., Okemos, MI, Natl. Dairy Council, Rosemont, IL and Nutr. Impact LLC, Battle Creek, MI.

## 1006. LONGITUDINAL AND CROSS-SECTIONAL ANALYSIS OF ASSOCIATIONS BETWEEN DIET AND HEALTH OUTCOMES

### Poster

(Sponsored by: Nutritional Epidemiology RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C16 I 1006.1 Adherence to Mediterranean diet assessed using various a priori scores is associated with reduced 6-year risk of metabolic syndrome in French adults. **N. Ahluwalia, C. Lassale, S. Hercberg, L. Fezeu, D. Lairon and E. Kesse-Guyot.** Univ. of Paris13, INSERM U557, Bobigny and INSERM UMR1260, Marseille.
- C17 II 1006.2 Autoimmune disease in anorexia nervosa and bulimia nervosa. **A. Gerhardt.** Univ. of California, Davis, Sacramento.
- C18 I 1006.3 Long-term physical illness in anorexia nervosa and bulimia nervosa. **A. Gerhardt.** Univ. of California, Davis, Sacramento.

C19 II 1006.4 Association of adverse antenatal and perinatal events with occurrence of autism: a case control study. **Y.M. Al-Farsi, M.M. Al-Khaduri, M.M. Al-Sharbaty, M. Waly, O.A. Al-Farsi, M.A. Al-Shafae and R.C. Deth.** Col. of Med. and Hlth. Sci., Sultan Qaboos Univ., Oman and Northeastern Univ.

### 1007. APPLICATION OF NOVEL STATISTICAL METHODS FOR USE IN NUTRITIONAL EPIDEMIOLOGY

#### Poster

(Sponsored by: Nutritional Epidemiology RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C20 I 1007.1 Alternatives for energy-adjustment of nutrient intakes. **J. Rhee, E. Cho and W. Willett.** Harvard Sch. of Publ. Hlth.

### 1008. DIETARY SUPPLEMENTS AS A POPULATION EXPOSURE IN CAUSATION, PREVENTION, AND MANAGEMENT OF DISEASE

#### Poster

(Sponsored by: Nutritional Epidemiology RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C21 I 1008.1 The local prevalence of vitamin D deficiency or insufficiency in Southeast Michigan. **Z. Duanmu, R.P. Shah, V. Reddy, A.Y. Shah, B.J. Marella, N. Gupta, F. Roth, M.J. Knapp and D.M. Shah.** Michigan Physicians Group, Berkley.

C22 II 1008.2 Calcium supplements and the risk of myocardial infarction. **T.C. Wallace, R. Heaney, S.L. Kopecky, K.C. Maki, J. Hathcock and D. MacKay.** Council for Responsible Nutr., Creighton Univ. Med. Ctr., Mayo Clin. and Biofortis-Provident Clin. Res., Glen Ellyn, IL.

C23 I 1008.3 Effects of isoflavones supplements and exercise on biomarkers of CVD in Korean postmenopausal women. **H. Lee, J. Kim, O. Lee and R. Choue.** Grad. Sch. of East-West Med. Sci. and Kyung Hee Univ., South Korea.

### 1009. INFLUENCES OF WATER AND BEVERAGE CONSUMPTION ON NUTRITION AND HEALTH STATUS

#### Poster

(Sponsored by: Nutritional Epidemiology RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C24 I 1009.1 Factors associated with low water intake among U.S. high school students. **S. Park, H.M. Blanck, B. Sherry, N. Brener and T. O'Toole.** Ctrs. for Dis. Control and Prevent.

C25 II 1009.2 Non-diet soda intake independent of weight status is associated with asthma among U.S. adolescents. **S. Park, H.M. Blanck, B. Sherry, S. Everett Jones and L. Pan.** Ctrs. for Dis. Control and Prevent.

C26 I 1009.3 Orange juice consumption is associated with enhanced antioxidant intake status in the U.S. population: a cross-sectional study. **S.G. Lee, B. Lloyd, Y. Wang, M. Yang, S-J. Chung and O.K. Chun.** Univ. of Connecticut, PepsiCo, Valhalla and Kookmin Univ., South Korea.

C27 II 1009.4 Heat-processed carcinogens: what can we learn from the "coffee - cancer paradox"? **J.R. Coughlin.** Coughlin & Assocs., Viejo, CA.

### 1010. NUTRITION EDUCATION IN DIVERSE POPULATIONS

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C28 I 1010.1 An estimate of nutritional status of students in Astana. **N. Slivkina, E. Dalenov and O. Iderbayev.** Med. Univ. of Astana, Kazakhstan.

C29 II 1010.2 Lessons learned in conducting nutrition-related research in African American older adults. **O.T. Babatunde, A. Campa and S.P. Himburg.** East Carolina Univ. and Florida Intl. Univ.

C30 I 1010.3 Effect of nutrition knowledge on dietary attitude and self-efficacy of senior elementary school students. **H-J. Chung and H-J. Park.** Inha Univ., South Korea.

C31 II 1010.4 Dietary habits and degree of satisfaction with meal service by students with visual impairment. **H-J. Chung and H-J. Park.** Inha Univ., South Korea.

C32 I 1010.5 Head Start preschool teachers' willingness to implement nutrition and agricultural-based learning centers in the classroom. **C.E. Dunham, R. Cash, V. Carraway-Stage and L.S. Goodell.** North Carolina State Univ. and Bright Horizons at North Carolina State Univ.

C33 II 1010.6 Knowledge, awareness of diabetes mellitus, and weight change among Iranian adults living in the United States. **H. Etemadinejad, E. Kirk, J. Kloubec and S. Koutoubi.** Bastyr Univ., WA.

C34 I 1010.7 Correction of eating habits and prevention of weight gain by nutrition education in Korean college students. **S.Y. Bu.** Kyungil Univ., South Korea.

### 1011. PREVENTING CHILDHOOD OBESITY

#### Poster

(Sponsored by: Nutrition Education RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C35 I 1011.1 Child characteristics drive parental feeding practices in African American and Latino parents. **C. Quesada, K. Lora, D. Wakefield and A. Ferris.** Univ. of Connecticut Hlth. Ctr.

C36 II 1011.2 Risk factors for childhood obesity in Head Start and early Head Start children. **B. Copeland and A.A. Johnson.** Howard Univ.



- C37 I 1011.3 Familial determinants of body mass index in Colombian 5-18-year-old children. **I.G. Casanova, A.D. Stein, O.L. Sarmiento and M. Pratt.** Emory Univ. and Sch. of Med., Univ. of los Andes, Colombia.
- C38 II 1011.4 Childhood overweight and obesity models with high correlated food consumption data. **I. Méndez-Gómez-Humarán, I. Méndez-Ramírez, T. Shamah-Levy, H. Moreno-Macías and C. Murata.** Math. Res. Ctr., Guanajuato, UNAM, Mexico City, Natl. Inst. of Publ. Hlth., Cuernavaca, Metropolitan Univ.-Campus Iztapalapa and Natl. Inst. of Pediat., Mexico City.
- C39 I 1011.5 A conceptual model elucidating the relationships between television and childhood health outcomes. **A. Berhaupt-Glickstein, J. Martin-Biggers, J. Worobey and C. Byrd-Bredbenner.** Rutgers Univ.
- C40 II 1011.6 Relationship of parental dyad feeding styles on children's weight status and related obesogenic behaviors. **A.R. Mobley, R.L. Vollmer and M. Sigman-Grant.** Univ. of Connecticut and Univ. of Nevada, Las Vegas.
- C41 I 1011.7 Don't forget about dad: exploring paternal influences on children's weight status and eating behaviors. **R.L. Vollmer, M. Sigman-Grant and A.R. Mobley.** Univ. of Connecticut and Univ. of Nevada, Las Vegas.
- C42 II 1011.8 The regularity of breakfast could drive teenager to consume more fruits and vegetables. **D. Shin and S-M. Lee.** Kyungnam Univ., South Korea.
- C43 I 1011.9 Summer camp promotes anthropometric changes in overweight youth in Fresno, California. **G. George, C. Schneider, D. Ginsburg and L. Kaiser.** Univ. of California, Davis.
- C44 II 1011.10 Snacking is associated with better diet quality and reduced risk of overweight and abdominal obesity in children. **T.A. Nicklas, C.E. O'Neil and V.L. Fulgoni III.** Baylor Col. of Med., LSU and Nutr. Impact LLC, Battle Creek.
- C45 I 1011.11 Dietary protein, skeletal muscle mass, and obesity risk in adolescent girls. **S.R. Hasnain, J.G. Buendia, M.L. Bradlee and L.L. Moore.** Boston Univ. Sch. of Med.
- C46 II 1011.12 Incongruence between mother perceptions and preschooler's actual weight status using BMI categories. **A. Lindsay, A. Hite, T. Byington, M. Lu and M. Sigman-Grant.** Univ. of Nevada, Las Vegas and Sch. of Community Hlth. Sci., Univ. of Nevada, Reno.
- C47 I 1011.13 Early life risk factors for obesity in childhood: a cumulative risk model. **D. Dev and B. McBride.** Univ. of Illinois at Urbana Champaign.
- C48 II 1011.14 Feeding practices correlated with authoritative parenting style and responsive feeding style scores. **K.L. Dickin, L. Hubbs-Tait, M. Sigman-Grant, L. Jahns and A.R. Mobley.** Cornell Univ., Oklahoma State Univ., Univ. of Nevada, Las Vegas, USDA, Grand Forks and Univ. of Connecticut.
- C49 I 1011.15 Qualitative assessment of resources needed by third and fourth year medical students for the prevention and treatment of childhood obesity. **A.A. Raad, N.K. Cooke, D.S. Alexander, B.A. Lang, J.R. Wheeley and L.S. Goodell.** North Carolina State Univ.
- C50 II 1011.16 An ecological study on food consumption patterns and childhood obesity in schools. **L. Cuevas-Nasu, T. Shamah-Levy, I. Méndez-Gómez-Humarán and I. Méndez-Ramírez.** Natl. Publ. Hlth. Inst., Cuernavaca, Math. Res. Ctr., Guanajuato and UNAM, Mexico City.

## 1012. NUTRIGENOMICS: POPULATION, RACIAL/ ETHICAL DIFFERENCES

### Poster

(Sponsored by: Obesity RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C51 I 1012.1 Genetic polymorphisms in AHR and CYP1A2 are associated with habitual caffeine consumption and are modified by age and smoking. **A.R. Josse, L.A. Da Costa, H. Campos and A. El-Sohemy.** Univ. of Toronto and Harvard Sch. of Publ. Hlth.
- C52 II 1012.2 Leucine and calcitriol modulation of human airway inflammation and hyperreactivity. **A. Bruckbauer, J. Biggerstaff and M.B. Zemel.** Nutraceut. Discoveries Inc. and Univ. of Tennessee, Knoxville.
- C53 I 1012.3 CVT-10216 selectively suppresses binge eating of palatable foods and attenuates dopamine release in the accumbens of rats. **M.E. Bocarsly, N.M. Avena, B.G. Hoebel, D. Paredes, M.P. Arolfo, L. Yao, P. Fan and I. Diamond.** Princeton Univ., Univ. of Florida, Lieber Inst. for Brain Develop., Baltimore and Gilead Sci., Palo Alto.
- C54 II 1012.4 Higher energy expenditure but lower physical activity levels with increasing obesity. **J.P. DeLany, J.M. Jakicic, D.E. Kelley, K.C. Hames and B.H. Goodpaster.** Univ. of Pittsburgh and Merck Sharp & Dohme Corp., Rahway, NJ.
- C55 I 1012.5 Relationship between adipokines, lipid profile, and insulin sensitivity in older African Americans: adiponectin as a potential cardioprotective mediator. **J.L. Lemacks, J. Ilich-Ernst, P.A. Ralston, C. Coccia, I. Young-Clark, K. Wickrama and C.M. Harris.** Florida State Univ., Texas A&M Univ.-Kingsville, Univ. of Georgia and Florida A&M Univ.
- C56 II 1012.6 Genetic variation in the vitamin D receptor and the plasma proteome. **B. García Bailo, A. Badawi and A. El-Sohemy.** Univ. of Toronto and Publ. Hlth. Agcy. of Canada, Toronto.
- C57 I 1012.7 Contribution of total and central adiposity to systemic adipokines during weight loss. **N. Gletsu-Miller and E. Lin.** Purdue Univ. and Emory Univ.
- C58 II 1012.8 Leptin and adiponectin are both suppressed upon activation of nucleotide oligomerization domain containing protein 1 during adipocyte differentiation. **J.S. Purohit, P. Hu, J. Chen and L. Zhao.** Univ. of Tennessee, Knoxville.

## 1013. PROTEIN AND AMINO ACID METABOLISM

## Poster

(Sponsored by: Energy and Macronutrient Metabolism RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C59 I 1013.1 Sex differences in plasma amino acid and fat free mass responses to military training. **S.M. Pasiakos, L.M. Margolis, J.P. Karl, J.C. Rood, S.J. Cable, K.W. Williams, A.J. Young and J.P. McClung.** U.S. Army Res. Inst. of Environ. Med., Natick, MA, Pennington Biomet. Res. Ctr., LSU Syst. and Directorate of Basic Combat Trng., Fort Jackson, SC.
- C60 II 1013.2 Amino acid metabolism during endotoxemia in fed pigs. **K.L. Price, E.M. Ramirez, H. Lee, G.R. van Eyk, M.D. Hanigan and J. Escobar.** Virginia Tech.
- C61 I 1013.3 A high protein diet upregulates whole-body protein turnover during energy deficit. **L.M. Margolis, J.J. Cao, E.R. Sauter, L.D. Whigham, J.P. McClung, G.F. Combs, A.J. Young and S.M. Pasiakos.** U.S. Army Res. Inst. of Environ. Med., Natick, MA, USDA, Grand Forks and Univ. of North Dakota Sch. of Med. and Hlth. Sci.
- C62 II 1013.4 Diet-induced alterations in lysine catabolism in pig liver. **S.K. Gatrell, L.E. Berg, J.G. Grimmer, T.A. Wilmoth, J.S. Moritz and K.P. Blemings.** West Virginia Univ.
- C63 I 1013.5 Protein distribution effect on indices of satiety. **M.M. Mamerow, J.A. Mettler, K.L. English, D.K. Layman, E. Volpi and D. Paddon-Jones.** Univ. of Texas Med. Branch and Univ. of Illinois, Urbana.
- C64 II 1013.6 Glutamine prevents body weight loss in lactating gilts. **H.E.C.C.C. Manso, H.C. Manso-Filho, W.M. Dutra-Júnior, R.S. de Aquino, C.R. Ribeiro-Júnior, E.T. Nogueira, M. Kutschenko, D.F. de Oliveira, J.T. D'Paula and M. Watford.** Fed. Rural Univ. of Pernambuco, Brazil, Ajinomoto do Brazil, São Paulo and Rutgers Univ.
- C65 I 1013.7 Muscle protein synthesis is suboptimal following a typical carbohydrate-rich breakfast. **M.M. Mamerow, J.A. Mettler, K.L. English, D.K. Layman, E. Volpi and D. Paddon-Jones.** Univ. of Texas Med. Branch and Univ. of Illinois at Urbana-Champaign.
- C66 II 1013.8 Clearance of glutamine in mares. **H.E.C.C.C. Manso, H.C. Manso-Filho, D.F. de Oliveira, R.S. de Aquino, C.R.R. Gouveia-Júnior, E.T. Nogueira, M. Kutschenko, J.T. D'Paula, S.K. Mélo, T.L.A.C. de Almeida, R.B. Bernardo and M. Watford.** Fed. Rural Univ. of Pernambuco, Brazil, Ajinomoto of Brasil, São Paulo and Rutgers Univ.
- C67 I 1013.9 Effect of protein blend versus whey protein ingestion on muscle protein synthesis following resistance exercise. **P.T. Reidy, D.K. Walker, J.M. Dickinson, D.M. Gundermann, M.J. Drummond, K.L. Timmerman, C.S. Fry, M. Cope, R. Mukherkea, E. Volpi and B.B. Rasmussen.** Univ. of Texas Med. Branch and Solae LLC, St. Louis.
- C68 II 1013.10 Dose and time dependent effects of leucine or carbohydrate supplements to reduce AMPK and eEF2 phosphorylation and extend postprandial muscle protein synthesis in rats. **G.J. Wilson, D.K. Layman, C.J. Moulton and P.J. Garlick.** Univ. of Illinois at Urbana-Champaign.
- C69 I 1013.11 Protein intake and yoga influence whole body protein turnover in middle-aged women. **M. Colletto, J. Rodriguez, J. DeFavero and N. Rodriguez.** Univ. of Connecticut.
- C70 II 1013.12 Human postprandial blood concentrations of leucine and insulin increase phosphorylation of mTOR in C2C12 myoblasts. **D.K. Walker, M.J. Drummond and B.B. Rasmussen.** Univ. of Texas Med. Branch.
- C71 I 1013.13 Insulin-independent mechanisms of action of pre-meal consumption of whey protein on post-meal glycemic response in healthy adults. **T. Akhavan, B.L. Luhovyy, P.H. Brown and G.H. Anderson.** Univ. of Toronto and Kraft Foods Global LLC, Glenview, IL.
- C72 II 1013.14 The abundance of the mRNA translation initiation inhibitor PDCD4 in I6 myotubes is regulated by mTORC1 and the proteasome. **O.J. Adegoke, D.M. Kakade and N. Islam.** York Univ., Canada.
- C73 I 1013.15 Fractional synthesis rate of creatine from arginine in healthy adult men. **C. Tomlinson, M. Rafii, R. Kamaleswaran, R.O. Ball and P.B. Pencharz.** The Hosp. for Sick Children, Toronto, Univ. of Toronto and Univ. of Alberta.
- C74 II 1013.16 Constitutive activation of mTOR pathway by leucine causes heart hypertrophy which can be blocked by rapamycin. **J. Davoodi and S. Hutson.** Virginia Tech and Univ. of Tehran.
- C75 I 1013.17 Effects of methionine supplementation on cysteine and glutathione production in malnourished infants. **C.O. Green, A. Badaloo, J.W. Hsu, C. Taylor-Bryan, M. Reid, T. Forrester and F. Jahoor.** Univ. of West Indies, Jamaica and USDA and Baylor Col. of Med.
- C76 II 1013.18 Fasting and refeeding regulate in different manner SNAT 2, SREBP-1 and 2, mTOR, serum insulin in animals fed different types of protein. **R.I. Ortiz-Huidrobo, C. Marquez-Mota, A. Quiñonez-Peña, E. Tovar-Lopez, A. Galvez-Mariscal, A.R. Tovar and N. Torres.** Natl. Inst. of Med. Sci and Nutr. Salvador Zubirán and UNAM, Mexico City.
- C77 I 1013.19 Tryptophan requirement of young, growing sows during pregnancy. **S. Moehn, D.J. Franco, J.K. Josephson, P.B. Pencharz and R.O. Ball.** Univ. of Alberta and The Hosp. for Sick Children, Toronto.
- C78 II 1013.20 Dietary cod protein improves skeletal muscle regeneration partly through its high levels of arginine, lysine, glycine and taurine. **J. Dort, N. Leblanc, C. Côté and H. Jacques.** Laval Univ., Canada.
- C79 I 1013.21 Isoleucine requirement for pregnancy in adult sows. **S. Moehn, D.J. Franco, J.K. Josephson, P.B. Pencharz and R.O. Ball.** Univ. of Alberta and The Hosp. for Sick Children, Toronto.
- C80 II 1013.22 BCATm and BCKDH expression in mouse adipose tissue upon different metabolic challenges. **L.G. Noriega, I. Torre-Villalvazo, A. Contreras, N. Torres and A.R. Tovar.** Natl. Inst. of Med. Sci. and Nutr. Salvador Zubirán, Mexico City.
- C81 I 1013.23 Dietary supplementation with monosodium glutamate is safe and improves growth performance in postweaning pigs. **R. Rezaei, D. Knabe, C. Tekwe, M. Ficken, S. Fielder, S. Eide, S. Lovering and G. Wu.** Texas A&M Univ. and Texas A&M Univ. Syst.
- C82 II 1013.24 Generation of branched chain  $\alpha$ -keto acid dehydrogenase enzyme complex E1 $\alpha$  knockout mouse models. **M. Taghavi and S. Hutson.** Virginia Tech.
- C83 I 1013.25 Determination of glutamate requirement in growing rats by indicator amino acid oxidation. **R. Sakai, T. Kuwahara, Y. Kawamata, H. Uneyama, K. Torii**

- and **H. Nakamura**. Ajinomoto Co. Inc., Kawasaki, Japan.
- C84 II **1013.26** Analysis of extracellular levels of serotonin in rat amygdala after oral administration of large amounts of tryptophan. **F. Yoshizawa, M. Honda and K. Sugahara**. Utsunomiya Univ., Japan.
- C85 I **1013.27** Precursors for citrulline synthesis: facts and artifacts. **J.C. Marini**. USDA/ARS, Baylor Col. of Med.
- C86 II **1013.28** The effects of combination treatment of parenteral arginine and a nitric oxide synthase inhibitor L-NAME on oxidative stress in rats with sub-acute peritonitis. **H-C. Lo and C-H. Lee**. Fu Jen Catholic Univ. and Changhua Christian Hosp., Taiwan.
- C87 I **1013.29** Nitrogen metabolisms of dietary glutamate and the other non-essential amino acids in rats. **H. Nakamura, Y. Kawamata, T. Kuwahara, K. Torii and R. Sakai**. Ajinomoto Co. Inc., Kawasaki-shi, Japan.
- C88 II **1013.30** Effect of zinc deficiency on nutrient delivery to the rat fetus. **L.A. Hanna, M.S. Clegg, M.D. Gedestad and C.L. Keen**. California State Univ., Sacramento and Univ. of California, Davis.
- C89 I **1013.31** SECIS- and UGA position-dependent incorporation of selenocysteine into mammalian selenoproteins. **A.A. Turanov, D.L. Hatfield and V.N. Gladyshev**. Brigham and Women's Hosp., Harvard Med. Sch. and NCI/NIH.
- C90 II **1013.32** Partially hydrolyzed soy protein shows enhanced transport of amino acids compared to nonhydrolyzed protein across an intestinal epithelial cell monolayer. **N.J. McGraw, N. Napawan, M. Toland, J. Schulze, B. Tulk and E.S. Krul**. Solae LLC, St. Louis and Univ. of California, Davis.
- C91 I **1013.33** Effect of alkali extraction on the digestibility and bioavailability of rice protein. **M. Kubota, Y. Saito, T. Masumura, T. Kumagai, R. Watanabe, S. Fujimura and M. Kadowaki**. Niigata Univ., Japan, Kyoto Prefect. Univ., Kameda Seika Co. Ltd., Niigata and Univ. of Niigata Prefect., Japan.
- C92 II **1013.34** New beneficial effects of alkali-extracted rice protein in type 2 diabetic Goto-Kakizaki rats. **R. Watanabe, M. Kubota, R. Ito, A. Saito, M. Fujii and M. Kadowaki**. Univ. of Niigata Prefect., Niigata Univ. and Kameda Seika Co. Ltd., Niigata, Japan.
- C93 I **1013.35** Extraction of protein from red crab (*Chionoecetes japonicus*) shell by commercial proteases and their characteristics. **B-Y. Seo, K-H. Min, S. Ochirkuu and Y-S. Song**. Inje Univ., South Korea.
- Abstract 1013.36 moved to Session 387 at 3:45 PM.**

## 1014. LIPID AND FATTY ACID METABOLISM AND TRANSPORT

### Poster

(Sponsored by: Energy and Macronutrient Metabolism RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C95 I **1014.1** High fasting ghrelin concentrations are related to low fatty acid flux in overweight subjects. **Y. Hovhannisyan, J. Lee, M. Ramos-Roman, D. Bradford, M. Valdez and E. Parks**. Univ. of Texas Southwestern Med. Ctr.
- C96 II **1014.2** Functional analysis of liver and intestinal FABPs in the intestine: comparison of LFABP and IFABP null mice. **A.M. Gajda, Y.X. Zhou, W. Fortson, S. Kodukula and J. Storch**. Rutgers Univ. and Res. Diets Inc., New Brunswick, NJ.
- C97 I **1014.3** Relationships between concentrations of arachidonic and docosahexaenoic acids in cord blood and placental polychlorinated dibenzo-p-dioxins, dibenzofurans, and polychlorinated biphenyls at delivery. **Y.T. Su, P-Y. Sun, S-L. Wang and M-C. Huang**. Kaohsiung Med. Univ. Hosp., Kaohsiung Med. Univ. and Natl. Hlth. Res. Insts., Zhunan, Taiwan.
- C98 II **1014.4** Metabolomics-based investigation of cocaine-induced disruption of lipid metabolism. **X. Shi, D. Yao, L. Wang and C. Chen**. Univ. of Minnesota, St. Paul.
- C99 I **1014.5** Gender influences metabolic syndrome criteria. **D. Aguilar, J. Barona, C.E. Dugan, C.J. Andersen, C.N. Blesso and M.L. Fernandez**. Univ. of Connecticut.
- C100 II **1014.6** Development of a whole-body model of vitamin A metabolism in neonatal rats treated with oil or vitamin A and retinoic acid based on compartmental analysis of retinol tracer kinetics. **L. Tan, A.E. Wray, M.H. Green and A.C. Ross**. Penn State.
- C101 I **1014.7** Elongase of long chain fatty acids family 6 and stearoyl-CoA desaturase-1 indices suggests potential metabolic benefits in patients with a range of liver fat contents. **J.J. Lee, D.L. Bradford, M.J. Valdez, Y. Hovhannisyan, J.E. Lambert, M.A. Ramos-Roman and E.J. Parks**. Univ. of Texas Southwestern Med. Ctr.
- C102 II **1014.8** Ground beef consumption and MUFA:SAT alters HDL oxylipin profile in healthy men. **X. Wu, S.B. Smith, S.F. Crouse, T.L. Pedersen, J.W. Newman and R.L. Walzem**. Texas A&M Univ., USDA, Davis and Univ. of California, Davis.
- C103 I **1014.9** Effect of ground beef fatty acid composition on atherosclerotic cardiovascular disease risk factors in healthy men. **X. Wu, X. Cao, A.J. Clifford, S.B. Smith, S.F. Crouse and R.L. Walzem**. Texas A&M Univ. and Univ. of California, Davis.
- C104 II **1014.10** In vivo postprandial lipid partitioning in liver and muscle of diabetic rats is disturbed. **J.J. Prompers, R.A.M. Jonkers, L.J.C. van Loon and K. Nicolay**. Eindhoven Univ. of Technol. and Maastricht Univ. Med. Ctr., Netherlands.
- C105 I **1014.11** Rab2 plays a role in lipid metabolism in the intestine. **B. Chung and A. Schürmann**. German Inst. of Human Nutr., Nuthetal.
- C106 II **1014.12** Effects of 12 types of oils from plant seeds on lipid metabolism of mice. **K.S. Choi, K.H. Chung, K.O. Shin, S.M. Huh, S.O. Kim and Y.H. Kim**. Sahmyook Univ., Sahmyook Foods, Seoul and Kyongggi Univ., South Korea.

## 1015. DIETARY FACTORS AFFECTING LIPID METABOLISM

### Poster

(Sponsored by: Energy and Macronutrient Metabolism RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C107 I **1015.1** Effects of retinoid catabolism on the gene expression in primary rat hepatocytes and hepatoma cells. **Y. Li and G. Chen.** Univ. of Tennessee, Knoxville.
- C108 II **1015.2** Palm olein increases plasma cholesterol moderately compared with olive oil in healthy individuals. **T. Tholstrup, J. Hjerpsted and M. Raff.** Fac. of Life Sci., Copenhagen Univ.
- C109 I **1015.3** Low-fat dairy favorably affects lipoprotein metabolism and C reactive protein in subjects with metabolic syndrome. **C.E. Dugan, D. Aguilar, J. Barona and M.L. Fernandez.** Univ. of Connecticut.
- C110 II **1015.4** The role of dietary fiber in regulating lipid bioaccessibility of almonds during mastication. **P.R. Ellis, M. Grundy, T. Grassby, G. Mandalari, R.M. Faulks, S.E.E. Berry, K.W. Waldron and P.J. Butterworth.** Sch. of Med., King's Col. London and Inst. of Food Res., Norwich, U.K.
- C111 I **1015.5** Early biochemical changes and histological analysis in adipose tissue and liver of rats fed high-fat diet with different fatty acid composition. **A. Diaz-Villaseñor, N. Lara, B. Tinoco, A.R. Tovar and N. Torres.** Natl. Inst. of Med. Sci. and Nutr. Salvador Zubirán, Mexico City.
- C112 II **1015.6** Effect of plant sterol esters on cardiovascular risk factors in hypercholesterolemic adults. **K.A. Sauder, T.L. Psota, P.M. Kris-Etherton, D. Bagshaw, P. Alaupovic and S.G. West.** Penn State and Oklahoma Med. Res. Fndn.
- C113 I **1015.7** Effect of mineralized water consumption on postprandial lipemia. **Y. Zaïr, B. Housez, M. Pichelin, F. Raoux, M. Cazaubiel and K. Ouguerram.** Inst. du Thorax and Biofortis, Nantes and Multimed, Paris.
- C114 II **1015.8** Practical utility of lipid predictive equations in a diabetic population. **S.E. Horton, K.A. Sauder, P.M. Kris-Etherton and S.G. West.** Penn State.
- C115 I **1015.9** Effect of ProAlgaZyme on plasma lipid profile in diet induced hypercholesterolemic hamsters. **A. Geamanu, N. Saadat, A. Goja, M. Wadehra and S. Gupta.** Wayne State Univ.
- C116 II **1015.10** Conjugated linoleic acid-induced lipolysis in 3T3-L1 adipocytes. **S.M. Ippagunta and K.M. Barnes.** West Virginia Univ.
- C117 I **1015.11** The impact of selective high fat diets on altered thyroid animal model. **V.W. White, N.L. Dawkins, T. Graham and R.D. Pace.** Tuskegee Univ.
- C118 II **1015.12** Influence of resistance training combined with daily consumption of an egg-based or bagel-based breakfast on lipid concentrations and blood pressure. **K. Hobb, Z. Clayton, M. Shelechi, L.M. Hernandez, A. Barber, Y. Petrisko, S. Hooshmand and M. Kern.** San Diego State Univ.
- C119 I **1015.13** Effect of *Chlorella vulgaris* on serum cholesterol-regulation in healthy subjects and hypercholesterolemia. **N.H. Ryu, S.M. Kim, J.E. Park, Y.J. Lee, J.Y. Kim and O. Kwon.** Ewha Womans Univ., South Korea.

## 1016. POLYUNSATURATED FATTY ACIDS AND HEALTH

### Poster

(Sponsored by: Energy and Macronutrient Metabolism RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C120 I **1016.1** Association between erythrocyte n-3 fatty acid levels and the risk of depression: case-control study in Korea. **Y. Park.** Hanyang Univ., South Korea.
- C121 II **1016.2** The effect of dietary fat and omega-3 fatty acids on whole body lipid oxidation. **C. Ainslie-Waldman, L.R. Young, M.S. Kurzer, S.K. Raatz and A.S. Csallany.** Univ. of Minnesota, St. Paul and USDA, Grand Forks.
- C122 I **1016.3** Fish oil supplementation as adjunct therapy for periodontitis. **A. Coates, M. Bartold, T. Hughes and P. Howe.** Sch. of Hlth. Sci., Univ. of South Australia and Sch. of Dent., Univ. of Adelaide.
- C123 II **1016.4** Twice-weekly consumption of farmed Atlantic salmon increases plasma content of phospholipid n-3 fatty acids. **M.J. Picklo, T.A. Rosenberger, G.S. Burr, W.R. Wolters and S.K. Raatz.** USDA, Grand Forks, Univ. of North Dakota and USDA, Franklin, ME.
- C124 I **1016.5** Exogenous modification of platelet membranes with the omega-3 fatty acids DHA and EPA impairs thrombogenesis. **N.M. Ensz, C.E. Hjelmén, L.S. McComas, G.W. Tormoen, I.A. Patel, O.J.T. McCarty and M.K. Larson.** Augustana Col., SD, Oregon Hlth. & Sci. Univ. and Oregon State Univ.
- C125 II **1016.6** Effect of chronic fish oil supplementation on renal function parameters of healthy and cachectic rats. **R. Fernandez and I. Coelho.** Fed. Univ. of Parana, Brazil.
- C126 I **1016.7** Polymorphisms in FADS2 correlated with altered desaturase activity in a type-2 diabetic cohort. **P-C. Huang, H-R. Jhang, C-C. Hsu, K. Kothapalli, T. Brenna and M-C. Huang.** Kaohsiung Med. Univ., Kaohsiung Med. Univ. Hosp., Taiwan, Natl. Hlth. Res. Inst., Zunan, Taiwan and Cornell Univ.
- C127 II **1016.8** Survey of human milk fatty acid levels of U.S. women who provide expressed milk for feeding their preterm infants. **C.L. Berseht, S.H. Mitmesser, C. Harris, D.R. Hoffman and D. Diersen-Schade.** Mead Johnson Nutr., Evansville and Retina Fndn. of Southwest, Dallas.
- C128 I **1016.9** Estimating the RBC omega-3 index and breast milk DHA from dried samples collected on filter paper. **W.S. Harris.** OmegaQuant LLC, Sioux Falls, SD.
- C129 II **1016.10** Dietary lipids and its effect on lipids profile in serum of growing rats. **P. Perris, I. Fernandez, C. Mambrin, N. Slobodianik and S. Feliu.** Univ. of Buenos Aires. Fac. of Pharm. and Biochem.
- C130 I **1016.11** Acute effect of pistachios on postprandial endothelial function: influence of fat quantity and quality. **K.A. Sauder, S.G. West, J. Campbell, A.L. Jenkins, D.J.A. Jenkins and C.W.C. Kendall.** Penn State, Glycemic Index Labs., Toronto and Univ. of Toronto.
- C131 II **1016.12** Quantitative analysis of trans-fatty acids in human plasma. **H.C. Kuiper, T. Meyers, A.M. Ribera, M.C. Muresan, A.R. Smith, C.W. Waters and H.W. Vesper.** Ctrs. for Dis. Control and Prevent.

- C132 I **1016.13** Effect of docosahexaenoic acid ingestion on muscle damage response to resistance exercise and training. **J.W. Rankin, F.M. DiLorenzo and C.J. Drager.** Virginia Tech.
- C133 II **1016.14** The effect of dietary fatty acids on the recruitment of brown-like adipocytes in inguinal white adipose tissue. **M. Zhao, H. Guo and X. Chen.** Univ. of Minnesota, St. Paul.
- C134 I **1016.15** Effects of high-fat high-fructose diet and EPA supplementation on adipose tissue gene expression in adult rats. **V. Leray, C. Jonchère, M-Q. Zaman and P. Nguyen.** Oniris and Natl Vet Sch. Nantes, France.
- C135 II **1016.16** Docosahexaenoic acid regulates 5' AMP-activated protein kinase in adipocytes. **C-W. Huang, Y.J. Chen, Y-Y. Lin, H.J. Mersmann and S-T. Ding.** Natl. Taiwan Univ. and Baylor Col. of Med.
- C136 I **1016.17** Oxidation of U-13C- $\alpha$ -linolenic acid is independent of body weight in pigs fed flaxseed diets. **H.R. Martinez-Ramirez, J.K.G. Kramer and C.F.M. de Lange.** Univ. of Guelph, Canada.
- C137 II **1016.18** EPA decreases mRNA and protein for endocannabinoid receptors in myoblasts. **J. Kim, Y. Li and B.A. Watkins.** Univ. of Connecticut.
- C138 I **1016.19** Omega-6 to omega-3 fatty acid ratio and higher-order cognitive functions in 7-to-9-year-olds. **K. Will, C.L. Cheatham and J. Stegall.** Univ. of North Carolina at Chapel Hill, Kannapolis.
- C139 II **1016.20** EPA and DHA increase insulin receptor in proliferating but reduce GLUT4 in differentiated C2C12. **J. Kim, Y. Li and B.A. Watkins.** Univ. of Connecticut.
- C146 I **1017.7** The effect of feeding cinnamon on postprandial blood glucose and lactate in trained endurance athletes. **E. Ongkoputro, B. Burns-Whitmore, T. Spalding, B. Sokmen and W. Bidlack.** California State Polytech Univ., Pomona and Sonoma State Univ., CA.
- C147 II **1017.8** Changes in lipid soluble antioxidants after computer tomography in children. **A.A. Franke, B.M. Halm, J.F. Lai, C.M. Morrison, L.J. Custer and R.V. Cooney.** Univ. of Hawaii Cancer Ctr. and John A Burns Sch. of Med., Univ. of Hawaii.
- C148 I **1017.9** Association between the plasma proteome and serum ascorbic acid concentrations in humans. **L.A. Da Costa, B. García-Bailo, C.H. Borchers, A. Badawi and A. El-Soheby.** Univ. of Toronto, Publ. Hlth. Agcy. of Canada, Toronto and Univ. of Victoria, Canada.
- C149 II **1017.10** Association between the plasma proteome and plasma alpha-tocopherol concentrations in humans. **L.A. Da Costa, B. García-Bailo, C.H. Borchers, A. Badawi and A. El-Soheby.** Univ. of Toronto, Publ. Hlth. Agcy. of Canada, Toronto and Univ. of Victoria, Canada.
- C150 I **1017.11** Antioxidant and skin pores contraction activity of *Malus domestica* Borkh. **D-H. Son, M-H. Nam, C-O. Hong, S-H. Chun, Y-B. Kim and K-W. Lee.** Korea Univ. and Ipeeres Ltd., Gyeonggido, South Korea.
- C151 II **1017.12** Antioxidant and skin pores contraction activity of *Vaccinium corymbosum*. **D-H. Son, M-H. Nam, C-O. Hong, S-H. Chun, S-Y. Lee and K-W. Lee.** Korea Univ. and Ipeeres Ltd., Gyeonggido, South Korea.
- C152 I **1017.13** Role of *Actinidia chinensis* on suppression of UVA-mediated oxidative damage in HaCaT cells. **K-W. Lee, Y-H. Lee, Y-C. Koo, M-H. Nam, S-Y. Yang, Y-M. Ha and S-H. Chun.** Korea Univ.

## 1017. ANTIOXIDANT MICRONUTRIENTS

### Poster

(Sponsored by: Vitamins and Minerals RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C140 I **1017.1** Impact of normal or low organic mineral (Cu, Zn, Mn) diets on gene expression patterns in the intestine of broiler chicks. **K.M. Brennan, R.S. Samuel, T. Ao, M.J. Ford, A.J. Pescatore and A.H. Cantor.** Alltech Inc., Nicholasville, KY and Univ. of Kentucky.
- C141 II **1017.2** Dietary zinc intake is inversely associated with systolic blood pressure in obese Korean women. **J. Kim and S. Lee.** Daegu Univ., South Korea.
- C142 I **1017.3** Adequate vitamin B-6 is associated with increased antioxidant enzyme activity in critically ill surgical patients. **Y-C. Huang, C-H. Cheng, F-P. Chen and T-Y. Chiang.** Sch. of Nutr., Chung Shan Med. Univ. and Taichung Veterans Gen. Hosp., Taiwan.
- C143 II **1017.4** Variability of oxidant status in women of childbearing potential. **T. Artz, T. Jalili, M. Goodman and M.A. Murtaugh.** Univ. of Utah.
- C144 I **1017.5** Vitamin E intake and serum concentrations in older Black and White Americans using National Health and Nutrition Examination Survey 2003-2006 population. **T. Toft-Dupuy, C. Tangney, M. Gregoire and C. Bacon.** Rush Univ.
- C145 II **1017.6** Antioxidant capacity of tomato paste is stable during growing season and shelf-life. **B. Meckna, K.J. Reimers and A. Mark.** ConAgra Foods, Omaha.
- C153 I **1018.1** Changes in the carboxylase profile are associated with early and late differentiation stages of osteoblasts and adipocytes from human mesenchymal stem cells. **E. Cordonier, T. Kasputis, J.D. Mills, Z. Han, A.K. Pannier and J. Zemleni.** Univ. of Nebraska-Lincoln.
- C154 II **1018.2** Urinary excretion of 3-hydroxyisovaleryl carnitine is elevated in lactating women consuming a biotin intake exceeding current recommendations. **C.A. Perry, A. Gayle, O.V. Malysheva, J. Yan and M.A. Caudill.** Cornell Univ.
- C155 I **1018.3** Development of an outpatient biotin feeding protocol for studies of biotin requirements in adults. **W.K. Eng, D.W. Giraud, V.L. Schlegel, D. Wang and J. Zemleni.** Univ. of Nebraska-Lincoln.
- C156 II **1018.4** Vitamin B6 status of 20-59 year old adults in South Korea. **Y-N. Kim, S. Kim and Y-O. Cho.** Duksung Women's Univ., South Korea.
- C157 I **1018.5** Dietary folate and vitamin B6 intake insufficiencies among Cubans, Haitians and African-Americans with type 2 diabetes. **S. Ajabshir, J.A. Vaccaro, G.G. Zarini, A.K. Cheema and F.G. Huffman.** Florida Intl. Univ.

## 1018. WATER SOLUBLE VITAMINS

### Poster

(Sponsored by: Vitamins and Minerals RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C158 II 1018.6 Vitamin C status is associated with physical fitness and activity indices in college men: a cross-sectional study. **C.S. Johnston, L.L. Smith, A.K. Schlueter and P.D. Swan.** Arizona State Univ.

### 1019. MICRONUTRIENT BIOAVAILABILITY

#### Poster

(Sponsored by: Vitamins and Minerals RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C159 I 1019.1 Biofortified maize (*Zea mays* L.) provides more bioavailable iron than standard maize: studies in poultry (*Gallus gallus*) and an in vitro digestion/Caco-2 model. **E. Tako, O.A. Hoekenga, L.V. Kochian and R.P. Glahn.** USDA, Ithaca and Cornell Univ.

C160 II 1019.2  $\alpha$ -Tocopherol absorption into a three-dimensional human skin tissue model. **J.A. Evans, J. Garlick, E.J. Johnson, X-D. Wang and C-Y.O. Chen.** USDA and Tufts Univ.

C161 I 1019.3 Assessment of iron bioavailability in lentils: identifying commercial harvests with high Fe bioavailability. **D.M. DellaValle, R.P. Glahn and A. Vandenberg.** USDA, Ithaca and Univ. of Saskatchewan.

C162 II 1019.4 Vitamin D-casein fortification of cheese and its bioavailability. **B. Al-khalidi, R. Vieth, D. Rousseau, W. Chiu, M. Cockburn and I. Bromberg.** Univ. of Toronto, Mount Sinai Hosp., Ryerson Univ. and George Brown Col., Toronto.

C163 I 1019.5 Ultra-performance liquid chromatographic method with photodiode array ultraviolet detection for simultaneous determination of 25-hydroxyvitamin D3 and D2, retinol, and tocopherols in human plasma. **H. Cui, K.J. Schulze, M. Charurat and P. Christian.** Johns Hopkins Bloomberg Sch. of Publ. Hlth. and Univ. of Maryland Sch. of Med.

C164 II 1019.6 Dietary silicon intake of Korean young adult males and its relation to their bone status. **M-K. Choi and M-H. Kim.** Kongju Natl. Univ. and Kangwon Natl. Univ., South Korea.

C165 I 1019.7 Evaluation of a human efficacy trial: tracking biofortified iron through an intervention. **D.M. DellaValle, J.D. Haas, E. Boy, T. Shamah-Levy, S. Villalpando and R.P. Glahn.** USDA, Ithaca, Cornell Univ., HarvestPlus, Washington, DC and Natl. Inst. of Publ. Hlth., Cuernavaca.

C166 II 1019.8 Zinc transporter gene expression in type 2 diabetes mellitus is coordinated. **M. Foster, A. Chu, P. Petocz and S. Samman.** Univ. of Sydney and Macquarie Univ., Australia.

C167 I 1019.9 Effects of lead exposure and iron deficiency on the iron transporter expressions in rat brain. **K-o. Koo, S.G. Oh, M-h. Lee and J. Chung.** Kyung Hee Univ., South Korea.

C168 II 1019.10 White common beans (*Phaseolus vulgaris*) have higher in vitro iron bioavailability than colored seed coat varieties. **M. Mutambuka, P. Murphy, S. Hendrich and M.B. Reddy.** Iowa State Univ.

### 1020. B VITAMINS AND ONE-CARBON METABOLISM

#### Poster

(Sponsored by: Vitamins and Minerals RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C169 I 1020.1 Formate metabolism in the folate-deficient rat. **G.P. Morrow, S.G. Lamarre, M.E. Brosnan and J.T. Brosnan.** Mem. Univ. of Newfoundland, Canada.

C170 II 1020.2 Paternal folate status at mating influences fetal brain IGF-2 expression in rats. **Y.J. Choi, H.W. Kim, K.N. Kim, K.K. Mejos, E. Lim and N. Chang.** Ewha Womans Univ., South Korea.

C171 I 1020.3 Effect of paternal folate deficiency on brain development in postnatal rat pups. **H.W. Kim, K.N. Kim, Y.J. Choi, E. Lim, K.K. Mejos, H. Lee and N. Chang.** Ewha Womans Univ. and Ewha Womans Univ. Sch. of Med., South Korea.

C172 II 1020.4 Elevation of folate status in humans by 5-methyl-6S-tetrahydrofolate. **S.W. Bailey and J.E. Ayling.** Univ. of South Alabama.

C173 I 1020.5 Mathematical model gives insights into vitamin B6 and kynurenine metabolism. **L. Rios-Avila, H.F. Nijhout, M.C. Reed, H.S. Sitren and J.F. Gregory.** Univ. of Florida and Duke Univ.

C174 II 1020.6 Characterization of circulating phosphatidylcholine fatty acids in non-pregnant women with supplemental DHA and variable choline intake. **A.A. West, X. Jiang, C. Perry, J. Yan and M.A. Caudill.** Cornell Univ.

C175 I 1020.7 Dietary resistant starch attenuates perturbations in carbohydrate and methyl group metabolism in type 1 diabetic rats. **K.L. Schalinske, A. Smazal, E.A. Smith and M. Small.** Iowa State Univ.

### 1021. MICRONUTRIENT INTERVENTIONS

#### Poster

(Sponsored by: Vitamins and Minerals RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C176 I 1021.1 Impact of iron-contained micronutrient supplementation on macrosomia and large for gestational age births. **J-m. Liu, Z. Mei, R. Ye, M. Serdula, H-t. Li and M. Cogswell.** Peking Univ. Hlth. Sci. Ctr. and Ctrs. for Dis. Control and Prevent.

C177 II 1021.2 Impact of iron-containing micronutrient supplementation on high hemoglobin concentration during pregnancy. **H-t. Li, Z. Mei, A. Ren, M. Serdula, M. Cogswell and J-m. Liu.** Peking Univ. Hlth. Sci. Ctr. and Ctrs. for Dis. Control and Prevent.

C178 I 1021.3 Effect modifiers for the safety and efficacy of iron intervention in the context of malaria: a review of data for an individual patient-based meta-analysis. **S. Namaste, F. Ashour, A. Porter, R. Raghavan, S. Pilch and D.J. Raiten.** NICHD/NIH and NLM/NIH.

- C179 II 1021.4 Rapid screening for zinc deficiency using portable X-ray fluorescence in fingernails. **K.A. Fu and J.J. Kehayias.** USDA at Tufts Univ.
- C180 I 1021.5 Challenges and progress towards universal salt iodization in Ethiopia. **T. G/Egziabher and M. Girma.** Hawassa Univ., Ethiopia and Oklahoma State Univ.
- C181 II 1021.6 Selenium-enriched probiotics alleviate murine male fertility compromised by high fat diet. **H.A.M. Ibrahim, S.F. Liao, Y. Zhu, C. Wu, C. Lu, M.O. Ezekwe and K. Huang.** Col. of Vet. Med., Nanjing Agr. Univ., China and Alcorn State Univ., MS.
- C182 I 1021.7 Effect of calcium intake on premenstrual symptoms. **C. Ko, B. Burns-Whitmore, T.W. Spalding and W.R. Bidlack.** California State Polytech Univ., Pomona.
- C183 II 1021.8 Effects of calcium and vitamin D supplementation on bone changes in male competitive road cyclists. **V.D. Sherk, D.W. Barry, K.C. Hansen, K.L. Villalon, P. Wolfe, S. Johnson and W.M. Kohrt.** Univ. of Colorado Denver, Aurora.
- C184 I 1021.9 Vitamin D supplementation and muscle responses in early pubertal adolescents. **C. Wright, E. Laing, J. Williams, N. Pollock, D. Hausman, C. Weaver, B. Martin, G. McCabe, M. Peacock, S. Warden, K. Hill and R. Lewis.** Univ. of Georgia, Georgia Hlth. Sci. Univ., Purdue Univ. and Indiana Univ. Sch. of Med.
- C185 II 1021.10 Effects of vitamin D supplementation on human skeletal muscle composition and regeneration. **D.K. Houston, M.L. Messi, A. Birbrair, J. Demons, S.B. Kritchevsky and O. Delbono.** Wake Forest Sch. of Med.
- C186 I 1021.11 Serum 25(OH)D, 1,25(OH)2D and parathyroid hormone responses to vitamin D supplementation in early pubertal children: a dose-response trial. **R. Lewis, E. Laing, C.M. Weaver, M. Peacock, D. Hausman, D. Hall, B. Martin, G.P. McCabe, S. Warden and K. Hill.** Univ. of Georgia, Purdue Univ. and Indiana Univ. Sch. of Med.
- C187 II 1021.12 Anti-osteoporosis effect of essential oil from plant Z-1. **G-H. Kim and K.M. Chang.** Duksung Women's Univ., South Korea.
- C188 I 1021.13 Vitamin A supplementation in low birth weight piglets using a vitamin A depleted swine model. **E. Heying, S.A. Arscott and S.A. Tanumihardjo.** Univ. of Wisconsin-Madison.
- C189 II 1021.14 Investigating piglet kidney vitamin A concentrations after high dose supplementation at birth. **B.M. Gannon, S.A. Arscott and S.A. Tanumihardjo.** Univ. of Wisconsin-Madison.
- C190 I 1021.15 The impact of voluntary micronutrient fortification of breakfast cereals on nutrient intakes (NHANES 2003-2006). **K.B. Miller, D. Liska, N. Almeida and V.L. Fulgoni III.** Kellogg Co. and Nutr. Impact LLC, Battle Creek.
- C191 II 1021.16 Multi-nutrient fortified juices improve vitamin D and vitamin E status in children. **C.E. Moore, C.D. Economou and M.F. Holick.** Texas Woman's Univ., Tufts Univ. Friedman Sch. of Nutr. Sci. and Policy and Boston Univ. Sch. of Med.
- C192 I 1021.17 Multivitamin use, alcohol intake, and oxidative stress in HIV+ individuals on antiretroviral therapy. **T. Stewart, A. Campa, D-H. Shin, S.S. Martinez, Y. Li, S. Williams, S. Barr, M. Parsons, M. Farsad, I. Hatsu, S. Luisi, C. Martinez, M. Oropeza, V. Ramamoorthy and M.K. Baum.** Florida Intl. Univ.

## 1022. SELENIUM

## Poster

(Sponsored by: Vitamins and Minerals RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C193 I 1022.1 Selenium-induced senescence involves heterochromatin formation. **J.J. Rouse and W-H. Cheng.** Univ. of Maryland College Park.
- C194 II 1022.2 Selenium inhibits the histone acetyltransferase activity of KAT3B in macrophages. **V. Narayan, R. Kodihalli and K.S. Prabhu.** Penn State and MIT.
- C195 I 1022.3 Association between selenium (Se) intake, plasma Se levels and disease progression in HIV-infected adults in Miami. **R. Trivedi, A. Campa, S.S. Martinez, J.B. Page, S. Lai and M.K. Baum.** Florida Intl. Univ., Univ. of Miami and Johns Hopkins Univ.
- C196 II 1022.4 Analysis of Se contents in Korean representative cereals and vegetables. **O. Lee, J. Yu, J. Moon and Y. Chung.** Yongin Univ. and KAERI, Daejeon, South Korea.
- C197 I 1022.5 Selenium supplementation as a cure for leukemia – eradication of leukemic stem cells. **U.H. Gandhi, S.N. Hegde, N. Kaushal, R. Paulson and K.S. Prabhu.** Penn State.

## 1023. DIET AND CANCER: ANIMAL STUDIES

## Poster

(Sponsored by: Diet and Cancer RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C198 I 1023.1 Dietary canola oil and growth of implanted drug-resistant MCF-7 human breast cancer in Balb/c nude mice. **L. Mabasa, K. Cho, S. Bae, M.W. Walters and C.S. Park.** North Dakota State Univ.
- C199 II 1023.2 Suppression of early colon cancer lesions by apigenin and naringenin is in part due to their downregulation of p21, TLR-4, and MCT-1 expression. **W.D. Daniels, T.P. Garcia, R.J. Carroll, B.S. Patil and N.D. Turner.** Texas A&M Univ.
- C200 I 1023.3 Spanish black radish (*Raphanus sativus* L. var. *niger*) diet enhances clearance of DMBAa and diminishes toxic effects on bone marrow progenitor cells. **M.Q. Kemp, A. N'Jai, B. Metzger, P. Hanlon, M. Williams, C. Czuypyrnski and D. Barnes.** Standard Process, Palmyra, WI, Univ. of Wisconsin-Madison and Abbott.
- C201 II 1023.4 Bioactive tomato components inhibit cancer promoting activity of testosterone in the mouse prostate epithelium. **H-L. Tan, A.C. Elsen, J.W. Erdman, Jr., J.M. Thomas-Ahner and S.K. Clinton.** The Ohio State Univ. and Univ. of Illinois, Urbana.
- C202 I 1023.5 Dietary modulation of liver lipogenic gene expression in obese female Zucker rats. **A. Al-Dwairi, F. Simmen, G. Fuchs, S. Korourian and R. Hakkak.** Univ. of Arkansas for Med. Sci. and Arkansas Children's Hosp.

- C203 II **1023.6** Chia seed extract does not affect zebrafish angiogenesis. **M.P. Meaney, D.C. Nieman, T. Leung, L. Cialdella-Kam and F. Jin.** Appalachian State Univ., North Carolina Central Univ. and Dole Nutr. Inst., Kannapolis.
- C204 I **1023.7** Effects of dehydroepiandrosterone treatment on liver steatosis using DMBA-induced mammary tumor obese Zucker rat model. **R. Hakkak and S. Korourian.** Univ. of Arkansas for Med. Sci. and Arkansas Children's Hosp.
- C205 II **1023.8** S-allylcysteine inhibits tumor growth and progression of oral cancer in both in vitro and in vivo models. **C-Y. Chang, W-Y. Huang, S-Y. Chen, M-H. Pai and F-Y. Tang.** China Med. Univ., Taiwan and Taipei Med. Univ.
- C206 I **1023.9** Comparative effects of soluble fiber (konjac glucomannan and oligofructose-rich inulin) and insoluble fiber cellulose on the colonic apoptotic response to acute azoxymethane challenge. **W-T.I. Wu and H-L. Chen.** Sch. of Nutr., Chung Shan Med. Univ., Taiwan.
- C207 II **1023.10** Effect of maternal methyl diet on epigenetic changes and mammary carcinogenesis in offspring. **S. Bae, K. Cho, L. Mabasa, M.W. Walters and C.S. Park.** North Dakota State Univ.
- C208 I **1023.11** Increased carcinogen-induced colon cancer in ER $\beta$ KO compared to wild type mice. **R.S. MacDonald, J. Przybyszewski and D.B. Lubahn.** Iowa State Univ. and Univ. of Missouri-Columbia.
- C209 II **1023.12** Protective effects of combined treatment of green tea and exercise in the mouse AOM/DSS colitis-associated carcinoma model. **S-Y. Kim and Y-S. Lee.** Sejong Univ., South Korea.
- C210 I **1023.13** Quercetin decreases tumorigenesis in a high fat diet-enhanced mouse model of breast cancer. **J. Steiner, J.M. Davis, J. McClellan, J. Green and E.A. Murphy.** Univ. of South Carolina, NCI/NIH and Univ. of South Carolina Sch. of Med.
- C211 II **1023.14** Effect of dietary genistein on hormone-dependent rat mammary carcinoma induced by ethyl methanesulphonate. **M. Ono, T. Koga, H. Ueo and S. Nakano.** Nakamura Gakuen Univ. Grad. Sch. of Hlth. and Nutr. Sci., Kyushu Univ. Grad. Sch. of Med. and Ueo Breast Surg. Hosp., Oita, Japan.
- C212 I **1023.15** Chronic consumption of high-fat diet stimulates tumor angiogenesis in the Lewis lung cancer allograft model. **H. Song, H.J. Cho and J.H.Y. Park.** Hallym Univ., South Korea.
- C213 II **1023.16** The citrus flavonone hesperetin inhibits growth of aromatase-expressing MCF-7 tumor and reduces the effective dose in letrozole-treated mice. **F. Li, L. Ye, F.L. Chan, S. Chen and L.K. Leung.** The Chinese Univ. of Hong Kong and Beckman Res. Inst. of City of Hope.
- C214 I **1023.17** Effects of contaminated fish oil on aberrant crypt foci formation and colonic cell kinetics. **B. Kang, J. Kim, E. Hoh and M.Y. Hong.** Sch. of Exer. and Nutr. Sci., San Diego State Univ. and Ewha Womans Univ., South Korea.

## 1024. DIET AND CANCER: TRANSLATIONAL, CLINICAL AND SURVIVORSHIP

### Poster

(Sponsored by: Diet and Cancer RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C215 I **1024.1** Lipocalin-2 serum levels decrease in a randomized dietary feasibility study for stage II-IV ovarian cancer survivors. **C. Garcia-Prieto, R. Paxton, M. Berglund, M. Hernandez, R.A. Hajek, B.C. Handy, J. Brown and L.A. Jones.** Univ. of Texas MD Anderson Cancer Ctr.
- C216 II **1024.2** A randomized parallel-group dietary feasibility study for stage II-IV ovarian cancer survivors. **M. Berglund, R.J. Paxton, C. Garcia-Prieto, M. Hernandez, R.A. Hajek, B.C. Handy, J. Brown and L.A. Jones.** Univ. of Texas MD Anderson Cancer Ctr.
- C217 I **1024.3** Effect of fish oil supplementation on bone turnover markers in women on aromatase inhibitors: a pilot study. **H.L. Hutchins-Wiese, R. Feinn, J.E. Kerstetter, S. Tannenbaum, K. Claffey and A.M. Kenny.** Univ. of Connecticut Hlth. Ctr. and Univ. of Connecticut.
- C218 II **1024.4** Influence of consumption of allyl isothiocyanate or cabbage and mustard on DNA integrity in humans. **C.S. Charron, B.A. Clevidence, G.P. Albaugh, M. Kramer, B.T. Vinyard, J.A. Milner and J.A. Novotny.** USDA, Beltsville, MD and NCI/NIH, Rockville.
- C219 I **1024.5** The role of folate status and methylenetetrahydrofolate reductase gene C677T polymorphism in sonic hedgehog signal and its altered methylation pattern in human colorectal carcinoma. **H.C. Feng, C-S. Kuo, Y-F. Tian, D-P. Sun, C-F. Li and R-F.S. Huang.** Fu Jen Univ., Taiwan and Chi-Mei Med. Ctr., Tainan.

## 1025. DIETARY BIOACTIVE COMPONENTS OF MEDICINAL, FUNCTIONAL AND WHOLE FOODS INCLUDING PROBIOTICS AND FERMENTED FOODS

### Poster

(Sponsored by: Dietary Bioactive Components RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C220 I **1025.1** Chemical characteristics and antioxidant activity of the laver (*Porphyra tenera*) grown in southwestern seashore of Korea. **K. Lee, M. Shin, S. Oh and E. Choe.** Soonchunhyang Univ., Chonnam Natl. Univ. and Inha Univ., South Korea.
- C221 II **1025.2** Polyphenolic and antioxidant properties of elderberry (*Sambucus*) fruits. **A.M. Finn, S.E. Milliron, K.E. Hummer and T. Wilson.** Winona State Univ., MN and USDA, OR.
- C222 I **1025.3** Fatty acid and dietary fiber content of the mesocarp of Hawaii grown avocados: potential for improved health benefits. **J.K.T. Iwasaki, K. Dieron and M.L. Stewart.** Univ. of Hawaii at Manoa.



- C223 II 1025.4 Chemical compositions and antioxidant activity of roasted Maegmundong (*Liriope platyphylla* tubers). **K. Lee, B. Kim and E. Choe.** Soonchunhyang Univ. and Inha Univ., South Korea.
- C224 I 1025.5 Analyses of chemical constituents and chlorophylls of soy sprouts. **K. Lee and Y. Kim.** Soonchunhyang Univ., South Korea.
- C225 II 1025.6 Extractable and non-extractable proanthocyanidins of Nonpareil, Carmel, and Butte California almonds. **B. Bolling, A. Roto, K. Kimball and L. Xie.** Univ. of Connecticut.
- C226 I 1025.7 Antioxidative activity and identification of flavor extract of safflower sprout leafy cultivated under different-colored lights. **M. Kang, H.W. Jang, T-S. Kim, M-S. Chang, C-G. Park and T. Shibamoto.** Hoseo Univ., South Korea, Univ. of California, Davis, Misuba RTech Ltd., Asan, NaturalSolution Co. and Suwoon Horticul. & Herbal Sci., RDA, Umswung, South Korea.
- C227 II 1025.8 Micronutrient content of herbal teas. **A.P. Benatrehina, L. Morris, L. McWhinney, K. Clinger and A. Marshall.** Lipscomb Univ., TN, Michigan State Univ. and Western Univ. Col. of Osteo. Med. of Pacific.
- C228 I 1025.9 Two GC-biased genotypes of *Ophiocordyceps sinensis* with distinct maturational patterns in the stroma of *Cordyceps sinensis*. **Y. Yao, L. Gao, J. Zhao and J-S. Zhu.** Pharmanex Beijing Pharmacol. Ctr., UCSD Sch. of Med., Nu Skin Ctr. for Anti-Aging Res., Provo, UT and Hong Kong Polytech Univ.
- C229 II 1025.10 Sage (*Salvia officinalis*) ameliorates experimentally induced neurodegeneration in *C. elegans*. **B.Y. Jamison, Y. Gomada, V. Maitin and D.A. Vatterm.** Texas State Univ., San Marcos.
- C230 I 1025.11 Cinnamon decreases excitation toxicity in primary neuronal cultures from chick embryos. **Y. Gomada, B.Y. Jamison, V. Maitin and D.A. Vatterm.** Texas State Univ., San Marcos.
- C231 II 1025.12 Sorghum extract increases the biliary secretion of cholesterol in rats. **J. Kim, S.K. Noh, M.C. Seo and G.S. Woo.** Changwon Natl. Univ. and Natl. Inst. of Crop Sci., RDA, Milyang, South Korea.
- C232 I 1025.13 Anti-adipogenic effect of buckwheat sprouts treated with methyl jasmonate in 3T3-L1 adipocytes. **O-H. Lee, B-r. Yoon, Y-J. Lee, J-H. Lim, H-J. Kim, K-J. Park, B-K. Kim and J-W. Jeong.** Kangwon Natl. Univ., South Korea and Korea Food Res. Inst., Seongnam-si.
- C233 II 1025.14 Consumption of cranberry beverage protected against oxidative damage, inflammation and bacteria adhesion in healthy humans. **B.P. Chew, B.D. Mathison, L.L. Kimble, K.L. Kaspar and C. Khoo.** Sch. of Food Sci., Washington State Univ. and Ocean Spray Cranberries Inc., Middleboro, MA.
- C234 I 1025.15 Tragopogon porrifolius improves serum lipid profile and increases short-term satiety in rats. **N. Zeeni, C.F. Daher and M. Mroueh.** Lebanese American Univ.
- C235 II 1025.16 Extracts of germinated wheat and barley reduce postprandial hyperglycemia by inhibiting  $\alpha$ -glucosidase in diabetic db/db mice. **H-D. Jang, B. Zhou and Y-I. Kwon.** Hannam Univ., South Korea.
- C236 I 1025.17 The administration of *Dioscorea batatas* extract and fish oil inhibits the development of oxazolone-induced atopic dermatitis-like skin lesions in hairless mice. **J. Park, G.E. Ji and M-K. Sung.** Sookmyung Women's Univ., Seoul Natl. Univ. and Bifido Inc., South Korea.
- C237 II 1025.18 Effect of fructooligosaccharides on improvement of blood glucose, calcium status and habitual bowel movement among college students in Korea. **B-H. Lee, E.J. Kim, M.Y. Kim, J-Y. Choi and M. Yu.** Chung-Ang Univ., South Korea.
- C238 I 1025.19 Anticancer and antimetastatic effects of bamboo salt. **K-Y. Park and X. Zhao.** Pusan Natl. Univ., South Korea.
- C239 II 1025.20 Antitumor activities and immunoregulation effects of fermented sesame sauce in sarcoma 180 tumor-bearing mice. **K-Y. Park, J. Song, J-H. Choi and J-H. Seo.** Pusan Natl. Univ. and Daesang R&D, Echeon, South Korea.
- C240 I 1025.21 Increased qualities of *doenjang* (Korean soybean paste) prepared with mixed starter cultures and its inhibitory effects on induction of acute colitis in mice. **K.Y. Park, J-K. Jeong, Y. Zheng and H.S. Choi.** Pusan Natl. Univ. and NIAST, RDA, Suwon, South Korea.
- C241 II 1025.22 Comparison of chemopreventive properties of *Zanthoxylum armatum* and *Hibiscus sabdariffa* on colorectal adenocarcinoma cell (COLO 201) through apoptosis process. **J.R. Khatiwada, L.L. Williams and S. Davis.** North Carolina A&T State Univ., Kannapolis.
- C242 I 1025.23 Potential role for lactic acid bacteria in immune modulation. **K. Karpa, I. Paul, J.A. Leckie, S. Shung, N. Carkaci-Salli, K.E. Vrana, D. Mauger, T. Fausnight and J. Poger.** Penn State Col. of Med.
- C243 II 1025.24 Effects of select human microbes on *Citrobacter rodentium* infection in mice. **S.H. Mitmesser, W.M. Russell, D. O'Mahny, J. MacSharry, A. Lyons, M. Ceddia and L. O'Mahony.** Mead Johnson Nutr., Evansville, IN and Alimentary Hlth., Cork, Ireland.
- C244 I 1025.25 Producing functional soy-based yogurt incubated with *Bifidobacterium longum* SPM1205 isolated from healthy adult Koreans. **J.Y. Kang, M.J. Kim, J.S. Moon, D.K. Lee, K.H. Lee, H.S. Shin and N.J. Ha.** Duksung Women's Univ. and Sahmyook Univ., South Korea.
- C245 II 1025.26 Antiobesity and lipid-lowering effects of *Bifidobacterium* spp. in high fat diet-induced obese rats. **H.M. An, M.J. Kim, J.S. Moon, J.Y. Kang, D.K. Lee, K.H. Lee, H.S. Shin and N.J. Ha.** Sahmyook Univ. and Duksung Women's Univ., South Korea.
- C246 I 1025.27 Use of a mixture of probiotic strains against Shiga toxin-producing *Escherichia coli* colonization in sheep. **E.C. Rigobelo, R.P. Maluta, S.A. Maestá, M.V.F. Lemos and F.A. Avila.** UNESP, Dracena and Jaboticabal, Brazil.
- C247 II 1025.28 Oleanolic acid retards resistin induction in differentiating adipocytes: role of Tyk2-Stat signaling. **H-S. Kim and Y-H. Kang.** Hallym Univ., South Korea.
- C248 I 1025.29 Dairy-derived bioactive compounds as modulators of stromal, adipocyte-like and osteoblast-like cell metabolism. **J. Ilich-Ernst, Y. Kim and O. Kelly.** Florida State Univ.
- C249 II 1025.30 Identification of the protease-resistant proteins from the major foods and their interactions to the intestinal mucosa of mouse. **J-Y. Lee, J-W. Lee, J.S. Kim and J. Lim.** Kyungpook Univ., South Korea.
- C250 I 1025.31 Inhibitory effects of phloretin on thrombin induction of protease activated receptor and inflammatory cytokines. **M. Kim and Y-H. Kang.** Hallym Univ., South Korea.

- C251 II **1025.32** Effects of whole eggs combined with other cooked breakfast foods on postprandial metabolism in older, overweight adults. **D.L. McKay, C-Y.O. Chen, H. Rasmussen and J.B. Blumberg.** USDA at Tufts Univ.
- C252 I **1025.33** Quality characteristics of Korean traditional pancake (jeon) containing blueberry for the global marketing as a functional food. **J-H. Jung, J. Yang, J. Park, J. Shin and H-S. Kim.** Sookmyung Women's Univ. and Joongbu Univ., South Korea.
- C253 II **1025.34** Development of Korean traditional pancake (jeon) containing black soybean for the global marketing as a functional food. **J-H. Jung, J. Yang, J. Park, J. Shin and H-S. Kim.** Sookmyung Women's Univ. and Joongbu Univ., South Korea.
- C254 I **1025.35** Development of functional Korean traditional pancake (jeon) for the global marketing. **J-H. Jung, J. Yang, J. Park, J. Shin and H-S. Kim.** Sookmyung Women's Univ. and Joongbu Univ., South Korea.
- C255 II **1025.36** Bioactive compounds and health benefits of traditional dried fruits. **A. Carughi.** Sun-Maid Growers of California, Kingsburg.

## 1026. CARDIOVASCULAR EFFECTS OF DIETARY BIOACTIVE COMPONENTS

### Poster

(Sponsored by: Dietary Bioactive Components RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C256 I **1026.1** Manganese downregulates ICAM-1 expression in endothelial cells treated with high glucose. **E. Burlet and S.K. Jain.** LSU Hlth. Sci. Ctr.-Shreveport.
- C257 II **1026.2** Anthocyanins and cardiovascular disease prevention. **T.C. Wallace.** Council for Responsible Nutr., Washington, DC.
- C258 I **1026.3** Association of vitamin D levels to blood pressure among blacks and whites. **R.O. Sakamoto, S. Tonstad, K. Jaceldo-Siegl, E. Haddad, K. Oda and G. Fraser.** Loma Linda Univ. and Univ. of Phoenix Sch. of Nursing, CA.
- C259 II **1026.4** Effects of dark chocolate on endothelial function in healthy adults. **C. Orsa, D. Plumlee, A. Wright and M.Y. Hong.** Sch. of Exer. and Nutr. Sci., San Diego State Univ.
- C260 I **1026.5** Low papaya consumption increases risk for low high-density lipoprotein cholesterol in Mexican college applicants. **M.A. Mosley, F.C.D. Andrade, J.M. Vargas Morales, C. Aradillas-Garcia and M. Teran-Garcia.** Univ. of Illinois at Urbana-Champaign and Autonomous Univ. of San Luis Potosi, Mexico.
- C261 II **1026.6** Dietary ellagic acid regulates serum cholesterol and retards atherosclerotic lesions in apoE knockout mice. **S-H. Park and Y-H. Kang.** Hallym Univ., South Korea.
- C262 I **1026.7** Wild blueberry diets attenuate phenylephrine (Phe)-induced vasoconstriction via NO-sGC-cGMP signaling, but not the COX pathway in spontaneously hypertensive rats. **A.S. Kristo, A.Z. Kalea, D.A. Schuschke and D. Klimis-Zacas.** Univ. of Maine, University Col. London and Univ. of Louisville.
- C263 II **1026.8** Effect of coenzyme Q10 and *Ardisia japonica* Blume on plasma and liver lipids, platelet aggregation and RBC Na efflux channels in simvastatin-treated hypercholesterolemic guinea pigs. **M-S. Kang, H-M. Yang, J-Y. Kang and J-S. Kang.** Jeju Natl. Univ., South Korea.
- C264 I **1026.9** *Aronia melanocarpa* (chokeberry) polyphenol rich extract reduces plasma cholesterol and improves antioxidant function in apolipoprotein E knockout mice. **B. Kim, C.S. Ku, T. Pham, Y. Park, D. Martin, L. Xie, R. Taheri, J. Lee and B. Bolling.** Univ. of Connecticut.
- C265 II **1026.10** Effect of *Ginkgo biloba* leaves on plasma and liver lipids, platelet aggregation and erythrocyte Na<sup>+</sup> efflux channels in ovariectomized rats. **S-H. Ryou, Y-H. Kang and J-S. Kang.** Jeju Natl. Univ. and Hallym Univ., South Korea.
- C266 I **1026.11** DHA supplementation does not improve Western diet-induced cardiomyopathy. **M.A. Frye, K.M. Jeckel, C.M. Mulligan, J.R. Hegarty, P.J. Chapman, M.J. Pagliassotti, D.N. Veeramachaneni and A.J. Chicco.** Colorado State Univ.
- C267 II **1026.12** Effects of prickly pear cactus (*Opuntia ficus-indica* var. Saboten) intake on blood lipids, platelet aggregation, antioxidant and liver parameters in volunteer women. **S-G. Han, M-S. Kim, Y-H. Kang and J-S. Kang.** Jeju Natl. Univ. and Hallym Univ., South Korea.
- C268 I **1026.13** RGD-peptide lunasin inhibits PI3-kinase/Akt-mediated NF- $\kappa$ B activation in human and murine macrophages through interaction with  $\alpha$ v $\beta$ 3 integrins. **A. Cam and E. Gonzalez de Mejia.** Univ. of Illinois, Urbana.
- C269 II **1026.14** Cholesterol-lowering effects of Northern wild rice in LDL receptor knockout mice. **M. Moghadasian, K. Le, Z. Zhao, T. Nicholson, C. Goh, P. Moghadasian, F. Askarian and T. Beta.** Univ. of Manitoba.
- C270 I **1026.15** Effect of soy nuts on inflammation, endothelial function, glucose, and insulin in adults with metabolic syndrome. **E.J. Reverri, C.D. LaSalle, C.T. Kappagoda and F.M. Steinberg.** Univ. of California, Davis.
- C271 II **1026.16** Flavanols exert cardiovascular health benefits in humans by altering gene transcription levels in white blood cells. **A.R. Weseler, E.J.B. Ruijters, D. Milenkovic, G.R.M.M. Haenen and A. Bast.** Maastricht Univ., Netherlands and INRA Res. Ctr. of Clermont-Ferrand-Theix, France.
- C272 I **1026.17** Lower dietary n-6 polyunsaturated fatty acids: eicosapentaenoic acid plus docosahexaenoic acid ratio decreases the expression of inflammatory factors in livers and visceral adipose tissue in LDL receptor null mice. **S. Wang, D. Wu, N.R. Matthan and A.H. Lichtenstein.** Texas Tech Univ. and Tufts Univ., Boston.
- C273 II **1026.18** Acute effects of ingestion of a novel whey-derived extract on vascular endothelial function in middle-aged men and women. **K.D. Ballard, B.R. Kupchak, B.M. Volk, E. Mah, A. Shkreta, C. Liptak, A.S. Ptolemy, M.S. Kellogg, R.S. Bruno, R.L. Seip, C.M. Maresh, W.J. Kraemer and J.S. Volek.** Univ. of Connecticut, Children's Hosp. Boston and Hartford Hosp.
- C274 I **1026.19** Effect of soy nut dietary intervention on cardiovascular disease biomarkers in adults with cardiometabolic syndrome. **C.D. LaSalle, E.J. Reverri, C.T. Kappagoda and F.M. Steinberg.** Univ. of California, Davis, Davis and Sacramento.
- C275 II **1026.20** Regulatory effects of curcumin on FOXO3a in THP-1 monocytes/macrophages. **J-M. Zingg, S.T. Hasan, D. Cowan, R. Ricciarelli, A. Azzi and M. Meydani.** USDA at Tufts Univ. and Univ. of Genoa.

## 1027. NUTRITIONAL IMMUNOLOGY AND IMMUNE MODULATING NUTRACEUTICALS AND FUNCTIONAL FOODS

### Poster

(Sponsored by: Nutrition Immunology RIS)

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C276 I **1027.1** Whey protein based microencapsulation for protection of *Lactobacillus acidophilus* in yogurt. **M. Guo, Z. Zheng, T. Zhang and Y. Jiang.** Univ. of Vermont and Jilin Univ., China.
- C277 II **1027.2** Kaempferol ameliorates airway inflammation through Tyk2-STAT1/3 signaling in human airway epithelial cells and ovalbumin-challenged mice: role of interleukin-8. **J.H. Gong and Y-H. Kang.** Hallym Univ., South Korea.
- C278 I **1027.3** Dietary spray-dried plasma attenuates inflammation caused by transport stress and increases pregnancy rate of mated female mice. **M. Song, Y. Liu, J. Lee, T.M. Che, J.A. Soares-Almeida, J.M. Campbell, J. Polo, J.D. Crenshaw, J.L. Chun, S. Seo and J.E. Pettigrew.** Univ. of Illinois, Urbana, APC Inc., Ankeny, IA and Chungnam Natl. Univ., South Korea.
- C279 II **1027.4** Effect of infection and selenium status on the selenotranscriptome. **S.D. Neidich, E.M. Golly and M.A. Beck.** Univ. of North Carolina Gillings Sch. of Global Publ. Hlth.
- C280 I **1027.5** Dietary spray-dried plasma influences intestinal morphology, growth performance, and organ weight of mated female mice under transport stress. **M. Song, J. Lee, Y. Liu, J.A. Soares-Almeida, T.M. Che, J.M. Campbell, J. Polo, J.D. Crenshaw, J.L. Chun, S. Seo and J.E. Pettigrew.** Univ. of Illinois, Urbana, APC Inc., Ankeny, IA and Chungnam Natl. Univ., South Korea.
- C281 II **1027.6** Population dynamics of leukocytes in blood during early activation of the chicken immune system by *E. coli*. **V.J. Iseri and K.C. Klasing.** Univ. of California, Davis.
- C282 I **1027.7** 9-cis-Retinoic acid induces integrin-independent immune cell adhesion. **J.T. Whelan, J. Chen, R.L. Morrow, J. Miller, K.S. Merrell, J.D. Lingo, S.R. Shaikh and L.C. Bridges.** East Carolina Univ., Univ. of South Alabama, Univ. of Central Arkansas and Univ. of Arkansas for Med. Sci.
- C283 II **1027.8** Population dynamics of leukocytes in tissues during immune activation of the chicken immune system by *E. coli*. **V.J. Iseri and K.C. Klasing.** Univ. of California, Davis.
- C284 I **1027.9** *Lessertia frutescens* (Sutherlandia), an African herb, modulates reactive oxygen species and nitric oxide generation by murine macrophages. **W. Lei, J. Browning, Jr., P. Eichen, C-H. Lu, W. Folk and K. Fritsche.** Univ. of Missouri-Columbia.
- C285 II **1027.10** Immunometabolic shifts in an organism of children and correction by foodstuff "Bapol". **L. Tell, K. Makhambetov, G. Uteubaeva, V. Tkachyev and G. Āsilbekova.** Med. Univ. of Astana, Kazakhstan.
- C286 I **1027.11** Effect of tomato and tocopherols intake on IgE level. **M.F. Godoy, N. Slobodianik, F. Carrari and M. Insani.** INTA, Buenos Aires and Sch. of Pharm. and Biochem., Buenos Aires.

C287 II **1027.12** The effect of dietary zinc level over the IgG response in a murine model of giardiasis. **G. Iñigo-Figueroa, G. Maldonado-Fonllem, L. Quihui-Cota, R.O. Mendez-Estrada, C. Velasquez-Contreras, R. Canett-Romero, L. Rascon-Duran, A. Garibay-Escobar, R. Robles-Zepeda and H. Astiazaran-Garcia.** CIAD and UNISON, Hermosillo, Mexico.

C288 I **1027.13** Ethylamine increases intracellular protein levels of CCL3L1 in THP-1 cells. **D.F. Driscoll, M.P. Nantz and S.S. Percival.** Univ. of Florida.

C289 II **1027.14** Inhibitory effects of dietary resveratrol on allergic responses in mast cells and passive cutaneous anaphylaxis in mice. **S-Y. Han and Y-H. Kang.** Hallym Univ., South Korea.

C290 I **1027.15** GLUT-1 transporter expression is upregulated on human CD4<sup>+</sup> and CD8<sup>+</sup> T lymphocytes following T cell activation. **H. Meng, W.J. Turbitt and C.J. Rogers.** Penn State.

C291 II **1027.16** The effect of adiponectin on the phenotype and function of Jaws II cells. **S. Collins, W.J. Turbitt, E.R. Finch and C.J. Rogers.** Penn State.

## 1028. THE DETERMINANTS OF FEEDING PRACTICES, DIETARY INTAKE AND NUTRITIONAL STATUS

### Poster

(Sponsored by: International Nutrition Council (INC))

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C292 I **1028.1** Culture is central: a framework for incorporating cultural influences in promoting exclusive breastfeeding. **K.R. Reinsma, N. Bolima, F. Fonteh, P. Okwen, D. Yota and S. Montgomery.** Loma Linda Univ. Sch. of Publ. Hlth., HEDECS, Bamenda, Univ. of Dschang, Bali Med. District and Kumbo West Hlth. District Ofc., Cameroon and Loma Linda Univ., San Bernardino.

C293 II **1028.2** Predictors of anemia in women of reproductive age from Colombia: results from a national survey. **K. Kordas, Z.Y. Fonseca-Centeno, P.R. Ocampo Tellez and H. Pachon.** Penn State, ICBF, Bogota and CIAT, Cali, Colombia.

C294 I **1028.3** Age of introduction of ten sentinel complementary foods as reported for 6- to 12-month old, low-income infants in metropolitan, Quetzaltenango (Western Highlands), compared to Guatemala City and Santo Domingo Xenacoj (Central Highlands). **M. Vossenaar, R. Campos, L. Hernández and N.W. Solomons.** CeSSIAM, Guatemala City.

C295 II **1028.4** Predictors of hemoglobin at age 6 weeks among infants born to HIV-infected mothers in Tanzania. **R.C. Carter, R. Kupka, K.P. Manji, S. Aboud, J. Okuma, R.R. Kisenge, W.W. Fawzi and C. Duggan.** Children's Hosp. Boston, UNICEF, Dakar, Senegal, Harvard Sch. of Publ. Hlth. and Muhimbili Univ. of Hlth. and Allied Sci., Tanzania.

C296 I **1028.5** Reported changes in feeding practices during and alter illnesses in 6- to 23-month-old children receiving continued breastfeeding in the Western Highlands of Guatemala. **M. Vossenaar, R. Garcia, C.M. Doak and N.W. Solomons.** CeSSIAM, Guatemala City and VU Univ., Amsterdam.

- C297 II **1028.6** Nutritional risk factors for hookworm infection among school age children in the Kintampo North Municipality, Ghana. **D. Humphries, B. Simms, D. Davey, J. Otchere, J. Quagraine, E. Berg, S. Newton, L. Harrison, D. Boakye, M. Wilson and M. Cappello.** Yale Sch. of Publ. Hlth., Yale Sch. of Med., Noguchi Mem. Inst. for Med. Res., Ghana and Kintampo Hlth. Res. Ctr., Ghana.
- C298 I **1028.7** The impact of sociocultural influences on the eating attitudes of Lebanese and Cypriot students: a cross-cultural study. **N. Zeeni, N. Gharibeh and I. Katsounari.** Lebanese American Univ. and Frederick Univ., Cyprus.
- C299 II **1028.8** Maternal prenatal attitudes and exclusive breastfeeding at three months in rural Bangladesh. **E.A. Yu, J.S. Thomas, A.S.G. Faruque, S.K. Das, B. Schwartz and A.D. Stein.** Emory Univ. Rollins Sch. of Publ. Hlth., CARE USA, Atlanta and Intl. Ctr. for Diarrhoeal Dis. Res., Dhaka, Bangladesh.
- C300 I **1028.9** Determinants of dietary diversity and nutrient adequacy among postpartum mothers in rural Kenya. **C. Gewa, L. Savaglio and M. Oguttu.** George Mason Univ. and Kisumu Med. & Education Trust, Kenya.
- C301 II **1028.10** Overweight in early HIV predicts slower disease progression in HIV+ adults in Botswana. **S.S. Martinez, A. Campa, J. Makhema, P. Burns, M. Farahani, H. Bussmann, P. Dusara, M. Essex, R. Marlink and M.K. Baum.** Florida Intl. Univ., Botswana Harvard AIDS Inst. Partnership, Gaborone and Harvard Sch. of Publ. Hlth.
- C302 I **1028.11** Relation of mother-infant interaction to infant weight and length in rural Southern Ethiopia. **T. Woltamo, S.D. White, L. Hubbs-Tait, B.J. Stoecker and M. Hambidge.** Oklahoma State Univ. and Univ. of Colorado Hlth. Sci. Ctr., Aurora.
- C303 II **1028.12** Differences and similarities in feeding behaviors between Guatemalan mothers and their children. **G.L.M. Gatica, M. Ramírez-Zea, P. Letona and B. Caballero.** Natl. Inst. of Publ. Hlth., Cuernavaca, INCAP, Guatemala City and Johns Hopkins Bloomberg Sch. of Publ. Hlth.
- C304 I **1028.13** Dietary intake and appetite predict early treatment outcome among low-BMI adults initiating antiretroviral therapy for HIV in Sub-Saharan Africa. **D.C. Heimburger, J.R. Koethe, C. Bosire, M. Blevins, C. Nyirenda, E.K. Kabagambe, I. Zulu and B.E. Shepherd.** Vanderbilt Univ., Ctr. for Infect. Dis. Res. in Zambia, Lusaka, Univ. of Alabama at Birmingham and Univ. Teaching Hosp., Univ. of Zambia.
- C305 II **1028.14** Agroecological zone is associated with stunting in children aged 12-59 months in Kenya. **L.E. Smith, R.J. Stoltzfus and S. Mutiga.** Cornell Univ.
- C306 I **1028.15** Mothers perceptions and responsiveness to malnutrition among HIV-positive and HIV-negative children in Ghana. **T.M-A. Dieumegarde and A.K. Anderson.** Univ. of Georgia.
- C307 II **1028.16** A global partnership to improve nutrition medicine in Vietnam. **C.M. Lenders, E. Henry and AFINS Group.** Boston Univ. Sch. of Med. and AFINS Ctr., Hanoi.
- C308 I **1028.17** A plasma  $\alpha$ -tocopherome in school aged children of Nepal. **S. Shrestha, K.P. West, Jr., R.N. Cole, K. Schulze, I. Ruczinski, P. Christian, J. Yager, L. Wu and J.D. Groopman.** Johns Hopkins Sch of Publ. Hlth. and Johns Hopkins Univ.

## 1029. ADVANCING NUTRITION POLICY AND IMPROVING THE EFFECTIVENESS OF NUTRITION PROGRAMS

### Poster

(Sponsored by: International Nutrition Council (INC))

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C309 I **1029.1** Tackling poverty through private sector microcredit programs in Ghana: does infant and young child nutrition improve? **V. Friesen, G.S. Marquis, K. Fallon and E.K. Colecraft.** Sch. of Dietetics and Human Nutr., McGill Univ. and Univ. of Ghana.
- C310 II **1029.2** Food price increases and poverty negatively impact micronutrient intakes in Guatemala. **L. Iannotti, M. Robles, C. Chiarella and H. Pachon.** Washington Univ. in St. Louis, Intl. Food Policy Res. Inst., Washington, DC and Intl. Ctr. for Trop. Agr., Cali, Colombia.
- C311 I **1029.3** How are maternal-child nutrition activities integrated at the community level? Lessons from Haiti. **R.A. Heidkamp, I. Ngnie Teta, S. Gervais, R.J. Stoltzfus, D. Pelletier, J-P. Habicht, G. Pelto, E. Philips, J. Marhone and M. Ag Ayoya.** Cornell Univ. and UNICEF and Ministry of Publ. Hlth. and Popul., Port-au-Prince, Haiti.
- C312 II **1029.4** Perspectives of Nigerian policy actors concerning NCDs. **O.A. Adeyemi and D. Pelletier.** Cornell Univ.
- C313 I **1029.5** The use of mixed methods evaluation for effective program scale up. **E.L. Phillips, D. Pelletier, S. Gervais, R.J. Stoltzfus, S. Young and L. Michaud.** Cornell Univ. and World Vision Haiti, Port au Prince.

## 1030. NUTRITIONAL STATUS, DIET AND DISEASE

### Poster

(Sponsored by: International Nutrition Council (INC))

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C314 I **1030.1** Nutritional status for less-explored micronutrients in underprivileged Guatemalan preschool children: vitamins D. **L. Hernández, N.W. Solomons, M-E. Romero-Abal, F. Gamero, L. Armas, M.J.L. Bonorden and R.M. Herreid.** CeSSIAM, Guatemala City, Osteo. Res. Ctr., Omaha and Hormel Foods Corp., MN.
- C315 II **1030.2** Etiology of anemia in preschool children: a systematic literature review. **M. Ariza-Nieto, G. Carlson, I. Aragon, K. Kordas, Z.Y. Fonseca-Centeno, P.R. Ocampo-Tellez and H. Pachon.** Cornell Univ., Penn State, CIAT, Cali and ICBF, Bogota, Colombia.
- C316 I **1030.3** Stunting rates in young children aged 6 to 23 months in infants and toddlers born in metropolitan Quetzaltenango, Guatemala. **M. Reurings, C.M. Doak, M. Vossenaar and N.W. Solomons.** CeSSIAM, Guatemala City and VU Univ., Amsterdam.

- C317 II 1030.4 Nutritional status of young children with inherited blood disorders in Western Kenya. **B. Tsang, L.J. Ruth, K.M. Sullivan, T.N. Williams and P.S. Suchdev.** Rollins Sch. of Publ. Hlth., Emory Univ., Ctrs. for Dis. Control and Prevent. and Ctr. for Geographic Med. Res.-Coast, Kilifi, Kenya.
- C318 I 1030.5 Prevalence of inadequate micronutrient intake in Brazilian adults by socio-economic status: national dietary survey, 2008-2009. **M.C. Araujo, F.S. Barbosa, R.A. Pereira and R. Sichieri.** State Univ. of Rio de Janeiro and Fed. Univ. of Rio de Janeiro.
- C319 II 1030.6 Prevalence of low B12 and folate status of Cameroonian women and children, and risk factors for deficiency. **S. Shahab-Ferdows, R. Engle-Stone, M. Nankap, A.O. Ndjebayi, K.H. Brown and L.H. Allen.** USDA, Davis, Univ. of California, Davis and Helen Keller Intl., Cameroon.
- C320 I 1030.7 Prevalence of rearing by an overweight/obese mother (early exposure to an obesogenic environment) among infants in an urban metropolitan area of the Guatemalan highlands. **C.M. Doak, M. Reurings, M. Campos, M. Vossenaar and N.W. Solomons.** VU Univ., Amsterdam and CeSSIAM, Guatemala City.
- C321 II 1030.8 Iron status and predicted VO<sub>2</sub>max in Indian adolescents. **E. Przybyszewski, S. Udipi, P. Ghugre, E. Boy and J.D. Haas.** Cornell Univ., SNDT Women's Univ., India and HarvestPlus/Intl. Food Policy Res. Inst., Washington, DC.
- C322 I 1030.9 Vitamin D in patients with tuberculosis or TB/HIV co-infection in Tanzania. **S. Mehta, F.M. Mugusi, R.J. Bosch, S. Aboud, W. Urassa, E. Villamor and W.W. Fawzi.** Cornell Univ., Muhimbili Univ. of Hlth. and Allied Sci., Tanzania, Harvard Sch. of Publ. Hlth. and Univ. of Michigan Sch. of Publ. Hlth.
- C323 II 1030.10 Assessment of actual nutrition of workers in the uranium quarrying regions. **A. Abduldjayeva and F. Bekenova.** Med. Univ. Astana, Kazakhstan.
- C327 II 1031.4 Vitamin A supplementation of young children in Burkina Faso, and risk factors for non-coverage. **S.Y. Hess, C.T. Ouédraogo, S.E. Wilson, L. Prince, N. Rouamba, J-B. Ouédraogo, S.A. Vosti, M. Dakkak and K.H. Brown.** Univ. of California, Davis, Hlth. Sci. Res. Inst., Burkina Faso and Helen Keller Intl., Dakar Senegal.
- C328 I 1031.5 Effect of sprinkles on reducing anemia in young children in Cambodia: a cluster-randomized effectiveness trial. **S. Jack, K. Ou, G. Steering Committee, S. Leon de la Barra, P. Hill, P. Herbison and R. Gibson.** Univ. of Otago, New Zealand, Ministry of Hlth., Phnom Penh, UNICEF, Natl. Pediat. Hosp. and WHO, Phnom Penh.
- C329 II 1031.6 A fortified corn/soy atole increases growth, decreases morbidity and improves nutritional status in urban Guatemalan toddlers and young children. **G.A. Reinhart and L.M. Villanueva.** Mathile Inst. for Adv. of Human Nutr., Dayton and Asuntos Soc. Municipal., Guatemala City.
- C330 I 1031.7 Weight status in HIV-positive women after termination of a drug and lipid-based nutrient supplement intervention is predicted by food availability and health. **E. Jordan-Bell, L. Adair, V. Flax, C. Chasela, D. Kayira, E. Daza, M. Tembo, P. Chitsulo, D. Jamieson, C. van der Horst and M. Bentley.** Univ. of North Carolina at Chapel Hill, UNC Project, Lilongwe, Malawi and Ctrs. for Dis. Control and Prevent.
- C331 II 1031.8 Bioavailable carotenoid and cyanogen content of biofortified cassava after food preparation. **M.R. La Frano, D. LaPorte and B. Burri.** Univ. of California, Davis and USDA, Davis.
- C332 I 1031.9 Reducing infectious morbidity and accelerating linear growth among low-birth-weight infants with hand sanitizers and nutrition and hygiene education in rural Bangladesh. **S. Shafique, H. Shikder, S.P. Jolly, C.S.B. Jalal, D.W. Sellen and S.H. Zlotkin.** Univ. of Toronto, BRAC, Dhaka, Bangladesh, Micronutrient Initiative, Ottawa and Hosp. for Sick Children, Toronto.
- C333 II 1031.10 Effect of selected dietary regimens on recovery from moderate acute malnutrition in young Malian children. **R.S. Ackatia-Armah, C. McDonald, S. Doumbia and K.H. Brown.** Boston Univ. Sch. of Med., Helen Keller Intl., Bamako, Mali, Harvard Sch. of Publ. Hlth., Univ. of Bamako, Mali and Univ. of California, Davis.
- C334 I 1031.11 Enhancing protein quality by lysine and soy protein prevents growth suppression under protein, energy and micronutrient restriction in young male rats. **C. Furuta and H. Murakami.** Ajinomoto Co., Inc., Kawasaki, Japan and Tufts Univ., Boston.
- C335 II 1031.12 Relations between iron status and cognitive measures in Indian adolescents. **S.P. Scott, M.J. Wenger, L. Murray-Kolb, S.A. Udipi, P.S. Ghugre, E. Boy and J.D. Haas.** Penn State, Univ. of Oklahoma, SNDT Women's Univ., India, HarvestPlus, Washington, DC and Cornell Univ.
- C336 I 1031.13 Formative research on hygiene behaviors and geophagy as part of interventions to improve infant growth. **F.M. Ngure, J.H. Humphrey, M.N.N. Mbuya, K. Mutasa, F. Majo, B. Chasekwa, A. Prendergast, V. Curtis and R.J. Stoltzfus.** Cornell Univ., Zvitambo Proj., Zimbabwe, Johns Hopkins Bloomberg Sch. of Publ. Hlth., Zimbabwe, Queen Mary, Univ. of London and London Sch. of Hyg. and Trop. Med.
- C337 II 1031.14 Iron status and variations in electroencephalography during five cognitive tasks in Indian adolescents. **J. Hammons, M.J. Wenger, S. Scott, L. Murray-Kolb, P. Ghugre, S. Udipi, E. Boy and J.D. Haas.** Cornell Univ., Univ. of Oklahoma, Penn State, SNDT Women's Univ. Mumbai and HarvestPlus/Intl. Food Policy Res. Inst., Washington, DC.

## 1031. INTERVENTION STUDIES AND GROWTH, MICRONUTRIENTS

### Poster

(Sponsored by: International Nutrition Council (INC))

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

- C324 I 1031.1 Complementary food choices from 6-18 months: effect on iron status and inflammation. **X-Y. Sheng, J-Q. Ma, J-R. Liu, Y-Q. Hu, S-S. Liu, J. Zhang, J. Westcott, M. Hambidge and N.F. Krebs.** Xinhua Hosp., Shanghai Jiao Tong Univ. Sch. of Med., China and Univ. of Colorado Denver, Aurora.
- C325 II 1031.2 Rethinking maternal IFA supplementation: a qualitative approach to understanding barriers and facilitators in Ayacucho, Peru. **A.G. Shaw, L. Golding and A. Webb Girard.** Rollins Sch. of Publ. Hlth., Emory Univ. and CARE Intl., Atlanta.
- C326 I 1031.3 Daily consumption of orange-fleshed sweet potato increased plasma beta-carotene concentration but did not increase total body vitamin A pool size in Bangladeshi women. **M.J. Haskell, K.M. Jamil, M. Jamil, J.M. Peerson, A.H. Keenan, J.W. Newman and K.H. Brown.** Univ. of California, Davis, Intl. Ctr. for Diarrhoeal Dis. Res., Dhaka, Bangladesh and USDA, Davis.

C338 I 1031.15 Inflammation, weight status, and iron status in Mexican children in a randomized controlled iron-biofortified bean feeding trial. **S. Luna, S. Villalpando, T. Shamah-Levy, E. Boy and J.D. Haas.** Cornell Univ., Natl. Inst. of Publ. Hlth., Cuernavaca and HarvestPlus/Intl. Food Policy Res. Inst., Washington, DC.

C339 II 1031.16 Effect of iron deficiency on worker productivity through production function intermediates. **J.Y. Rhee, M. Lovenheim, M.J. Wenger, S. Venkatraman, E. Przybyszewski and J.D. Haas.** Cornell Univ., Univ. of Oklahoma and Sch. of Dietetics and Human Nutr., McGill Univ.

C340 I 1031.17 Does improving the iron status with double fortified salt affect nutrient intakes of women tea plantation workers in West Bengal, India? **S. Venkatraman, G.S. Marquis, L. Neufeld, L. Murray-Kolb, M.J. Wenger, G.A. Reinhart and J.D. Haas.** Sch. of Dietetics and Human Nutr., McGill Univ., Micronutrient Initiative, Ottawa, Penn State, Univ. of Oklahoma, The Mathile Inst., Dayton and Cornell Univ.

### 1032. INTERVENTIONS FOR THE TREATMENT AND PREVENTION OF NUTRITION-RELATED DISEASE

#### Poster

(Sponsored by: Medical Nutrition Council (MNC))

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C341 I 1032.1 Skeletal muscle resistance to leucine induced signal transduction and regulation of autophagy in acute kidney injury. **K. McIntire, Y. Chen, S. Sood and R. Rabkin.** VA Palo Alto Hlth. Care Syst. and Stanford Univ.

C342 II 1032.2 Exercise prevents fructose-induced hypertriglyceridemia in healthy young males. **L. Egli, F. Theytaz, V. Campos, L. Hodson, P. Schneiter, B. Fielding and L. Tappy.** Univ. of Lausanne, Univ. of Oxford. and CHUV, Lausanne.

C343 I 1032.3 Effects of acute and chronic almond consumption on glycemia in adults at risk for diabetes. **S.Y. Tan and R. Mattes.** Purdue Univ.

C344 II 1032.4 A 1-year multidisciplinary lifestyle intervention improves cardiovascular disease risk profiles in at-risk adults. **C.N. Rambo, D.H. Holben, M. Knight, J.H. Shubrook, Jr. and T. Murray.** Sch. of Applied Hlth. Sci. and Wellness, Col. of Osteo. Med. and WellWorks, Ohio Univ.

C345 I 1032.5 Beneficial effects of Korean traditional diets in patients with hypertension and type 2 diabetes. **S-J. Jung, S-H. Park, E-K. Choi, M-G. Kim, Y-S. Cha, W.O. Song, T-S. Park, J-K. Ko and S-W. Chae.** Chonbuk Natl. Univ. Hosp. and Med. Sch., South Korea and Michigan State Univ.

C346 II 1032.6 Medically supervised weight loss promotes medical clearance for non-bariatric surgery in obese veterans. **J.L. Kurtz, A.M. Bremer, D.J. Parrington and D.C. Schwenke.** Phoenix VA Hlth. Care Syst. and Arizona State Univ. Col. of Nursing and Hlth. Innovation.

C347 I 1032.7 Obesity and sedentary life style are not associated with increasing risk of colorectal cancer in Jordan. **M. Waly, M. Arafa, S. Jriesat, S. Sallam and A. Al-Kafajei.** Sultan Qaboos Univ., Oman, King Saud Univ., Saudi Arabia, Ministry of Hlth., Amman, Jordan, Alexandria Univ. and Jordan Univ. for Sci. & Technol.

C348 II 1032.8 Does high blood pressure increase perceived healthiness of foods with sodium claims on the label? **C.L. Wong, J. Mendoza and M.R. L'Abbé.** Univ. of Toronto and Univ. of Guelph, Canada.

C349 I 1032.9 Evaluating the impact of the nutrition facts table and front-of-pack nutrition rating systems on consumers' product healthiness evaluations. **T.E. Emrich, J.E. Mendoza and M.R. L'Abbe.** Univ. of Toronto and Univ. of Guelph, Canada.

### 1033. NUTRITION AND INFLAMMATION

#### Poster

(Sponsored by: Medical Nutrition Council (MNC))

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-1:45 PM (I); 1:45 PM-2:45 PM (II)

C350 I 1033.1 A low zinc concentration detected in sera under zinc deficiency induces dysregulation of cytokine productions in rats. **S. Ishizuka, E. Suwendi, H. Iwaya, J-S. Lee and H. Hara.** Hokkaido Univ., Japan.

C351 II 1033.2 Effect of inflammation on biochemical markers of nutritional assessment. **L. Zago, C.G. Infantino, E. Danguise and M.E. Río.** Univ. of Buenos Aires, Hosp. Clins. and CONICET, Buenos Aires.

C352 I 1033.3 Low-dose endotoxemia as a human model of inflammation. **M.R. Flock, A.C. Skulas-Ray, K.S. Prabhu, J.A. Fleming and P.M. Kris-Etherton.** Penn State.

C353 II 1033.4 Effect of quinoa (*Chenopodium quinoa*, W) on the intestinal mucosa of growing Wistar rats. **S.M. Vidueiros, I. Fernandez, H.D. Bertero, M.E. Roux and A.N. Pallaro.** Univ. of Buenos Aires and UBA-CONICET, Buenos Aires.

C354 I 1033.5 Dietary *Arctium lappa* L. root extracts: molecular mechanisms of action as anti-allergic agents. **E-H. Sohn, Y-J. Kim, T. Kim and S. Namkoong.** Kangwon Natl. Univ., South Korea.

C355 II 1033.6 Differential effects of white button mushrooms, portabella, and shiitake on IL-18 secretion by lipopolysaccharide-treated mice: implication on risk of infection and chronic inflammation. **S. Kuvibidila.** LSU Hlth. Sci. Ctr., New Orleans and Oklahoma State Univ.

C356 I 1033.7 Differential protective effects of alginate and fucoidan from the edible algae on the ethanol-induced liver damage. **S. Namkoog, Y-J. Kim, T. Kim, J-E. Kim, J. Lee, H-L. Ro and E-W. Sohn.** Kangwon Natl. Univ., Munhyun Woman's H.S., Busan and Hansung Sci. H.S., Seoul, South Korea.

C357 II 1033.8 Assessment of iron status and biomarkers of inflammation in schoolchildren with and without infection. **M.I. Grijalva, K.F. Garcia, E. Artalejo and G. Caire.** Res. Ctr. for Food and Develop., Hermosillo, Mexico.

C358 I 1033.9 Tumor progression locus 2 deletion attenuates alcohol-induced hepatic inflammatory foci and cytokine expression in mice. **C.A. Peach, S. Hussain, C. Liu, X-D. Wang and A.S. Greenberg.** USDA at Tufts Univ.

C359 II 1033.10 Effects of selenium supplementation and chronic inflammation on bone microarchitecture and strength in mice. **A. Girma, H. Nekatebeb, S.K. Peterson, B.J. Smith and B.J. Stoecker.** Oklahoma State Univ.

- C360 **I** **1033.11** Dietary gangliosides improve intestinal integrity and function by decreasing sPLA2 independent NF- $\kappa$ B activation mechanism in a Caco-2 cell model of IBD by DSS. **Q. Li, A.B.R. Thomsom, V.C. Mazurak, C.J. Field and M.T. Clandinin.** Univ. of Alberta.
- C361 **II** **1033.12** Relationship between inflammation, oxidative stress, and oxidative damage with severity of knee osteoarthritis. **J.L. Browne, S. Hooshmand, M. Elam, R. Feresin and B.H. Arjmandi.** Florida State Univ. and San Diego State Univ.
- C362 **I** **1033.13** Effects of lipid emulsions on markers of inflammation in human umbilical vein endothelial cells. **S. Reyes, J. Williams, P. Rezamand and M.A. McGuire.** Univ. of Idaho.
- C363 **II** **1033.14** Antioxidant-rich berries exert modest bone protective effects in postmenopausal smokers. **L. Kaume, E.E. Gbur, R. DiBrezzo and L. Devareddy.** Univ. of Arkansas.
- C364 **I** **1033.15** Palmitic acid induces but docosahexaenoic acid inhibits inflammasome-mediated secretion of IL-1 $\beta$  in monocytes by modulating the activation of Toll-like receptor 2. **R.G. Snodgrass, S. Huang, I-W. Choi, J.C. Rutledge and D. Hwang.** Univ. of California, Davis, USDA, Davis and Univ. of California, Davis, Sacramento.
- C365 **II** **1033.16** Dose-response effect of hazelnut consumption on body composition and inflammatory markers in overweight and obese individuals. **A.S.L. Tey, R. Brown, A. Gray, A. Chisholm and C. Delahunty.** Univ. of Otago, New Zealand and CSIRO, New South Wales, Australia.
- C366 **I** **1033.17** Initial adipose tissue responses to high milk-fat diet. **C. Camell and W. Smith.** Baylor Col. of Med.
- C367 **II** **1033.18** NutriChip – a lab-on-a-chip platform to investigate food absorption and underlying immune regulations. **F. Schwander, K.A. Kopf-Bolanz, R. Portmann, C. Egger, P. Silacci, M. Gijs and G. Vergères.** Fed. Res. Sta. Agroscope Liebefeld-Posieux, Bern and Fed. Polytech Sch. of Lausanne.

## Pathology

### 1034. MICROBIOLOGY, IMMUNOLOGY, AND GENERAL PATHOLOGY

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 11:30 AM-1:30 PM

- B169 **1034.1** Immunopathogenesis of stem cells in autoimmune-mediated keratinizing squamous metaplasia of the ocular surface mucosa. **Y-T. Chen, F.Y.T. Chen, T. Vijmasi, S. Lazarev, M. Gallup and N.A. McNamara.** UCSF.
- B170 **1034.2** Macrophages from patients affected by lysinuric protein intolerance exhibit an impaired phagocytosis. **B.M. Rotoli, A. Barilli, R. Visigalli and V. Dall'Asta.** Univ. of Parma.
- B171 **1034.3** Polymorphisms in regulator of protease B alter disease phenotype and strain virulence of serotype M3 group A *Streptococcus*. **R.J. Olsen, D.R. Laucirica, M.E. Watkins, M.L. Feske, J.R. Garcia-Bustillos, C. Vu, C. Cantu, S.A. Shelburne, N. Fittipaldi, M. Kumaraswami, P. Shea, A.R. Flores, S.B. Beres, M. Lovgren, G.J. Tyrrell, A. Efstratiou, D.E. Low, C.A. Van Beneden and J.M. Mus.** The Methodist Hosp. Res. Inst., MD Anderson Cancer Ctr., Baylor Col. of Med., Univ. of Alberta, Hlth. Protect. Agcy., London, U.K., Univ. of Toronto and Ctrs. for Dis. Control and Prevent.
- B172 **1034.4** The *feoB* ferrous iron uptake pathway contributes to the intracellular survival of *F. tularensis* LVS. **C.A. Thomas-Charles and H. Zheng.** Stony Brook Univ.
- B173 **1034.5** Whole genome sequence analysis of a *B. cereus* strain causing a fatal anthrax-like pulmonary infection. **S.W. Long, A.M. Wright, S.B. Beres, E.N. Consamus, A.R. Flores, R. Barrios, G.S. Richter, S-Y. Oh, G. Garufi, H. Maier, A.L. Drews, K.E. Stockbauer, P. Cernoch, O. Schneewind, R.J. Olsen and J.M. Musser.** The Methodist Hosp., Houston and Argonne Natl. Lab.
- B174 **1034.6** Dental pulp stem cells, proliferation/differentiation switch reveals new insights in Oct4A dynamics. **R. Spelat, F. Ferro, F. D'Aurizio, E. Puppato, M. Pandolfi, A.P. Beltrami, D. Cesselli, G. Falini, C.A. Beltrami, F.S. Ambesi-Impiombato and F. Curcio.** Univ. of Udine and Univ. of Bologna, Italy.
- B175 **1034.7** Effect of Schlafen 2 on natural killer and T cell development from common T cell/natural killer progenitors. **S. Ahmadi and L.L. Veinotte.** Kurdistan Univ. of Med. Sci., Iran and Dalhousie Univ., Canada.
- B176 **1034.8** Suppression of skeletal muscle inflammation by muscle stem cells. **J. Proto, A. Lu, K. Imbrogno, Y. Tang, P. Robbins, B. Wang and J. Huard.** Univ. of Pittsburgh Sch. of Med.
- B177 **1034.9** Modulatory role of peroxisome proliferator-activated receptor  $\gamma$  on citrate carrier activity and expression. **D. Bonofiglio, A. Santoro, D. Vizza, D. Rovito, E. Martello, A.R. Cappello, I. Barone, C. Giordano, S. Catalano, V. Dolce and S. Andò.** Univ. of Calabria, Italy.
- B178 **1034.10** Epigenetic regulation of high glucose-induced pro-inflammatory cytokine production in monocytes by fisetin. **J-M. Yun and H.J. Kim.** Kwangju Women's Univ., South Korea and Seoul Natl. Univ.
- B179 **1034.11** Glucagon synthesizing alpha-cells secrete islet homeostasis protein for regulation of hormone synthesis and proliferation of insulin-producing beta-cells. **S-H. Oh and B.E. Petersen.** Wake Forest Univ. Sch. of Med.
- B180 **1034.12** A novel single nucleotide polymorphism within the NOD2 gene is associated with pulmonary tuberculosis in Chinese. **M. Zhao, F. Jiang, J. Liu, Y. Xue, W. Zhang, X. Deng, F. Wu, L. Zhang, X. Zhang, Y. Zhang, F. Li, L. Wei, D. Fan, X. Sun, F. Jang and J. Li.** Zhejiang Univ. Sch. of Med., Dongzhimen Hosp. Affiliated with Beijing Univ. of Chinese Med., Shihezi Univ. Sch. of Med., The Fifth Hosp. of Hangzhou and The Sixth Hosp. of Shaoxing, China.
- B181 **1034.13** A novel real-time PCR assay to detect Factor V Leiden and heterozygote Factor V Leiden using HyBeacons probe chemistry. **T. Parrish, M. Duggan and P. Williams.** Evogen Inc., Lenexa, KS.

- B182 **1034.14** Spondylosis in pre-Columbian domestic dogs (*Canis familiaris*) from Weyanoke Old Town Virginia. **C. Kelderhouse, S. Warner, L. Smith, E.R. Mixon, J.P. Blick and E.W. Uhl.** Univ. of Georgia and Georgia Col. & State Univ.
- B183 **1034.15** RNA quality analysis of tumor bank specimens and downstream applicability. **J.M. Newell, S. Patrick and G. Clawson.** Penn State Hershey Med. Ctr.
- B184 **1034.16** Porcine milk fat globule membrane proteins that bind to F4ac fimbria of *Escherichia coli*. **P. Novakovic, Y. Huang, C. Charavaryamath, B. Lockerbie, J. Kelly, M.E. Loewen and E. Simko.** Western Col. of Vet. Med., Canada and Natl. Res. Council Canada, Ottawa.
- B185 **1034.17** Epigenetic regulation of microRNA-192 by TGF-beta through Akt/p300 pathway in the diabetic kidney. **M. Kato, M. Wang, J.T. Park, S. Putta, L. Lanting and R. Natarajan.** City of Hope.
- B186 **1034.18** Unique microRNA expression patterns associated with macrophage infiltration following skeletal muscle injury. **D.W. Melton, J. Gelfond, Y. Chen, L. McManus and P. Shireman.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio and South Texas Veterans Hlth. Care Syst.
- B187 **1034.19** Spermatogonium compartment in experimental administration of semicarbazide. **E.L. Costa, P. Marques, R.F. Marques and S. Cabrita.** Fac. of Pharm. and Fac. of Med., Univ. of Coimbra, Portugal.
- B187A **48.1** VEGF immunoexpression in the pituitaries of pregnant women. **A. Rotondo, F. Rotondo, B.W. Scheithauer, L.V. Syro, M. Cusimano and K. Kovacs.** St. Michael's Hosp., Toronto, Mayo Clin. and Hosp. Pablo Tobon Uribe, Medellin, Colombia.
- 1035. NEUROLOGICAL INJURY**
- Poster**
- TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D
- Presentation time: 11:00 AM-12:00 PM*
- B188 **1035.1** Paraquat exposure induces dorsiflexor muscle dysfunction and dopaminergic modification resembling Parkinson's disease. **M.A. Fahim, A. Nemmar, S. Shehab, A. Adem and M.Y. Hasan.** Fac. of Med. and Hlth. Sci. and United Arab Emirates Univ.
- B189 **1035.2** Acute alcohol exposure impairs macrophage function on clearance of apoptotic cells via inhibition of MFG-E8 gene expression through a H<sub>2</sub>O<sub>2</sub> dependent mechanism. **X. Wang, H-F. Bu, A. Asai and X-D. Tan.** Northwestern Univ., Chicago.
- B190 **1035.3** Neuron-targeted Cav-1 as a novel therapy for traumatic brain injury. **S.E. Kellerhals, I.R. Niesman, A.M. Kleschevnikov, H.H. Patel, P.M. Patel and B.P. Head.** VA San Diego Healthcare Syst. and UCSD Sch. of Med.
- B191 **1035.4** Reversible tetracycline-controlled transactivator-inducible expression of neuron-targeted Cav-1 and recovery after neuronal injury. **A.M.H. Grove, S.E. Kellerhals, C.M. Stary, H.H. Patel, P.M. Patel and B.P. Head.** VA San Diego Healthcare Syst. and UCSD.
- B192 **1035.5** Spatial variation in susceptibility to chronic wasting disease in white-tailed deer. **M.B. Manjerovic, M.L. Green, A.C. Kelly, N.E. Mateus-Pinilla, P. Shelton and J. Novakofski.** Univ. of Illinois, Champaign and Urbana, NIDDK/NIH and Illinois Dept. of Nat. Resources, Springfield.
- B193 **1035.6** Determining source populations of newly identified cases of chronic wasting disease in white-tailed deer. **M.L. Green, M.B. Manjerovic, N.E. Mateus-Pinilla, A.C. Kelly, P. Shelton and J. Novakofski.** Univ. of Illinois, Urbana and Champaign, NIDDK/NIH and Illinois Dept. of Nat. Resources, Springfield.
- B194 **1035.7** New functional measure of for movement disorder detection, progression and efficacy of intervention. **F.E. Nelson, J.D. Ortega and K.E. Conley.** Univ. of Washington and Humboldt State Univ., CA.
- B195 **1035.8** The Wisconsin Respiratory Symptom Survey-21 to assess health-related quality of life in college students during upper respiratory infections. **T.J. Smith, D. Rigassio-Radler, R. Touger-Decker and R. Denmark.** UMDNJ, Newark.
- B196 **1035.9** Status of muscle signaling pathways in the early pathogenesis of dystroglycanopathy-type muscular dystrophy. **A.M. Beedle, G. Melick, C. Ball and M. Fortunato.** Univ. of Georgia.
- B197 **1035.10** Impact of adenosine signaling on mutant LRRK2 induced neuronal injury. **E. Steer and C. Chu.** Univ. of Pittsburgh Sch. of Med.
- B198 **1035.11** Bryostatin-1 versus TPPB: a direct comparison of APP processing and PKC activation in neuronal cells. **P. Yi, T.P. Castor, L.M. Schrott and J.S. Alexander.** LSU Hlth., Shreveport and Aphios Corp., Woburn, MA.
- B199 **1035.12** Sun1 and Sun2 are required for nuclear positioning and nuclear migration of neuronal cells in postnatal brain development. **Y-H. Chi, J-Y. Wang, C-C. Huang and W-P. Wang.** Natl. Hlth. Res. Insts., Miaoli Cty., Taiwan.
- B200 **1035.13** Impaired mTOR/S6 signaling pathway contributes to neurodegeneration in early postnatal Nbs1-deficient mouse cerebral cortex. **B. Liu and W-M. Tong.** Chinese Acad. of Med. Sci. and Peking Union Med. Col., China.
- B201 **1035.14** Investigation of the Dravet syndrome using a mouse model. **M-S. Tsai, F-J. Lee, Y-T. Chen, I-S. Yu, H-H. Liou and S-W. Lin.** Natl. Taiwan Univ. Col. of Med.
- B202 **1035.15** D295N mutant cathepsin D exerts a dominant negative effect in vitro by promoting  $\alpha$ -synuclein accumulation. **D.M. Crabtree, X. Ouyang and J. Zhang.** Univ. of Alabama at Birmingham.
- B203 **1035.16** Differential ROS production in non-neuronal brain cell subsets in response to methamphetamine. **S.S. Ali, H. Fox, B. Conti and M.C.G. Marcondes.** UCSD, Univ. of Nebraska Med. Ctr. and The Scripps Res. Inst.
- B204 **1035.17** Iron and copper in the pathogenesis of Friedreich's ataxia. **J.E. Mazurkiewicz, A.H. Koeppen, D. Yu, L. Ramirez, J. Qian, P.J. Parsons, K. Yang, Z. Chen and P.J. Feustel.** Albany Med. Col., VA Med. Ctr. and Wadsworth Ctr., Albany and X-Ray Optical Sys., East Greenbush, NY.
- B205 **1035.18** Deletions in mitochondrial DNA from laser microdissected blood vessels of Alzheimer brains. **B.V. Trikamji and B.B. Miller.** Texas Tech Univ. Hlth. Sci. Ctr.
- B206 **1035.19** Adaptive single neuron hypertensive gene expression programs in the nucleus tractus solitarius. **A.Y.B. Brureau, R. Vadigepalli, J. Paton and J. Schwaber.** Thomas Jefferson Univ. and Univ. of Bristol.
- B207 **1035.20** Decreased basal ganglia activation in chronic fatigue syndrome subjects is associated with increased fatigue. **E.R. Unger, A.H. Miller, J.F. Jones, D.F. Drake, H. Tian and G. Pagnoni.** Ctrs. for Dis. Control and Prevent., Emory Univ. Sch. of Med. and Univ. of Modena and Reggio Emilia, Italy.



**1036. MECHANISMS OF CARDIAC PATHOBIOLOGY****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

**Cardiac Pathobiology**

*Presentation time:* 11:30 AM-1:30 PM

- B208 **1036.1** Calpain-mediated dystrophin disruption may be a potential structural culprit behind chronic doxorubicin-induced cardiomyopathy. **M.A. Rossi, E.C. Campos, M.R.N. Celes, L.M. Malvestio, C.M. Prado, A.C.S. Freitas and M.M.D. Romano.** Fac. of Med. of Ribeirão Preto, Univ. of São Paulo.
- B209 **1036.2** Proinflammatory cytokines affect dystrophin expression in cultured newborn cardiomyocytes under different stimuli. **L.M. Malvestio, C.M. Prado, E.C. Campos, M.R.N. Celes, P. Ferezin, J.S. Silva and M.A. Rossi.** Univ. of São Paulo, Ribeirão Preto.
- B210 **1036.3** Altered neddylation in the heart of a mouse model for cardiomyopathy. **O. Suzuki, M. Koura, Y. Noguchi, K. Uchio-Yamada and J. Matsuda.** Natl. Inst. of Biomed. Innovation, Ibaraki, Japan.
- B211 **1036.4** Histological markers of cardiovascular diseases in a mouse model of social stress simulating aspects of PTSD. **U.F. Urow, M. Melige, B. Sowe, N. Chakraborty, E. Carroll, J. Meheroff, R. Hammamieh and M. Jett.** U.S. Army Ctr. for Environ. Hlth. Res., Fort Detrick, MD.
- B212 **1036.5** Flexible sensors to measure intravascular shear stress coupled with rapid and irregular atrial pacing. **N. Jen, F. Yu, J. Lee and T. Hsiai.** Univ. of Southern California.
- B213 **1036.6** Signaling pathways involved in skeletal muscle response to oxidative stress in rats with heart failure. **P. Martinez, D. Guizoni, S. Oliveira Junior, C. Bonomo, R. Damatto, A. Lima, M. Cezar, L. Zornoff, K. Okoshi, A. Campana and M. Okoshi.** Botucatu Med. Sch., UNESP and Fed. Univ. of Mato Grosso do Sul, Brazil.
- B214 **1036.7** Early rather than late aldosterone blockade improves myocardial function in spontaneously hypertensive rats without heart failure. **M. Cezar, S. Junior, P. Martinez, R. Damatto, A. Lima, C. Bonomo, D. Guizoni, D. Campos, F. Moretto, D. Blotta, C. Rosa, A. Campana, M. Okoshi and K. Okoshi.** Botucatu Med. Sch.-UNESP, Brazil.
- B215 **1036.8** Protein expression of myostatin and follistatin in the myocardium of spontaneously hypertensive rats with heart failure. **R.L. Damatto, P. Martinez, D. Guizoni, A. Lima, M. Cezar, C. Bonomo, B. Nakatani, A. Campana, K. Okoshi and M. Okoshi.** São Paulo State Univ., Botucatu Med. Sch.
- B216 **1036.9** Loss of cardiac muscle ring finger-1 augments right ventricular hypertrophy following chronic hypoxia-induced pulmonary hypertension. **M. Paffett, S. Lucas, T. Anderson, M. Nysus, J. Norenberg, M. Willis and M. Campen.** Univ. of New Mexico Col. of Pharm. and Univ. of North Carolina at Chapel Hill.
- B217 **1036.10** Doxorubicin induces early left ventricular dysfunction and metalloproteinase activation in rats. **B. Polegato, P. Azevedo, M. Minicucci, F. Chiuso-Minicucci, E. Castan, R.F. Carvalho, B.B. Matsubara and L.S. Matsubara.** Botucatu Med. Sch. and Inst. of Biosci., Botucatu, Brazil.
- B218 **1036.11** Beta3-adrenergic receptor regulation of nNOS signaling in cardiomyocytes. **V.L. Watts, F. Sepulveda, X. Niu, K.L. Miller and L.A. Barouch.** Johns Hopkins Univ.
- B219 **1036.12** Echocardiographic approach to dissect the effect of dyssynchrony on left ventricular function in heart failure. **Y. Shizukuda, S. Ahmad, M. Attari, A. Costea and J. Muth.** Univ. of Cincinnati and Cincinnati VA Med. Ctr.
- B220 **1036.13** CLKs is critical mediator of isoproterenol/ $\beta$ -AR induced cardiomyocyte hypertrophy in vitro and in vivo. **D.R. Murray, A.J. Valente, U. Siebenlist and B. Chandrasekar.** William S. Middleton Mem. Veterans Hosp., Madison, WI, Univ. of Texas Hlth. Sci. Ctr. at San Antonio, NIAID/NIH and Southeast Louisiana Veterans Hlth. Care Syst.
- B221 **1036.14** Phthalate exposure increases fatty acid oxidation in cardiac muscle cells. **N. Posnack, R. Idrees, L. Swift, N. Lee and N. Sarvazyan.** George Washington Univ.
- B222 **1036.15** Mountain-top mining particulate matter exposure increases markers of mitochondrially-driven apoptosis in rat cardiac tissue. **C.E. Nichols, W.A. Baseler, D. Thapa, G. LaFata, T.L. Croston, D.L. Shepherd, S.E. Lewis, T.L. Knuckles, M. McCawley, M. Hendryx, T.R. Nurkiewicz and J.M. Hollander.** West Virginia Univ.
- B223 **1036.16** Role of HMGB1 in doxorubicin-induced myocardial apoptosis and its regulation pathway. **Y. Yao, G. Zhang, Y. Zhang and T. Rui.** Affiliated People's Hosp. of Jiangsu Univ. and Zhenjiang Inst. of Cardiovasc. Dis., China.

## POSTER PRESENTERS: UPLOAD YOUR POSTER

Where: E-Poster Counter, Hall D Lobby  
Deadline: Wed., April 25, 3:30 PM

Uploaded posters will be available online to all registered attendees following the meeting at [www.experimentalbiology.org](http://www.experimentalbiology.org)

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## Pharmacology and Experimental Therapeutics

### 1037. CANCER CHEMOTHERAPY AND MECHANISMS OF TOXICITY I

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:45 PM

- B1 **1037.1** Ethanol extracts of fruiting bodies of *Antrodia cinnamomea* suppresses CL1-5 human lung adenocarcinoma cells' migration by inhibiting matrix metalloproteinase-2/9 through ERK, JNK, p38 and PI3K/Akt signaling pathways. **Y-Y. Chen, C-H. Wu and M-J. Sheu.** China Med. Univ., Taiwan.
- B2 **1037.2** Investigation of anti-oral cancer molecular mechanism of pioxolan in oral squamous cell carcinoma cell line. **P-C. Li, P-Y. Chou, C-H. Wu and M-J. Sheu.** China Med. Univ., Taiwan.
- B3 **1037.3** LBSO potentiate the effects of Hg in breast cancer cells. **K.R. Sanchez, A. Ishaque and E. Egiebor.** Univ. of Maryland Eastern Shore.
- B4 **1037.4** A novel mellitin-derived peptide nanoparticle delivery system for STAT3 siRNA mediated killing of B16 melanoma cells. **K. Hou and S. Wickline.** Washington Univ. in St. Louis.
- B5 **1037.5** Anti-proliferative effects of carvacrol on human prostate cancer cell line, LNCaP. **B. Patel, V.R. Shah and S.A. Bavadekar.** Long Island Univ.
- B6 **1037.6** *Saussurea involucreta* extract induces cell cycle arrest and apoptosis in HepG2 human hepatocarcinoma cells. **M. Byambaragchaa, Y-C. Yoo, A. Khajidsuren and S-G. Hwang.** Hankyong Natl. Univ. and Konyang Univ., South Korea and Mongolian State Univ. of Agr.
- B7 **1037.7** MCC-555 induces apoptosis through the combination of PPAR $\gamma$ -dependent and -independent pathways in pancreatic cancer cells. **K-W. Min and S.J. Baek.** Univ. of Tennessee, Knoxville.

### 1038. CANCER CHEMOTHERAPY AND MECHANISMS OF TOXICITY II

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:45 PM

- B8 **1038.1** Synergistic interaction between scriptaid and proteasome inhibitors enhances the sensitivity of human colorectal cancer cells to chemotherapeutic drugs. **M.S. Abaza, A-M. Bahman and R. Al-Attayah.** Kuwait Univ.
- B9 **1038.2** Adenosine A<sub>2B</sub> receptor blockade slows growth of bladder and breast tumors. **C. Cekic, D. Sag and J. Linden.** La Jolla Inst. for Allergy and Immunol.
- B10 **1038.3** Metformin attenuates doxorubicin-induced cardiotoxicity in rats. **A.A. AlHaider and H.M. Korashy.** Col. of Med. and Col. of Pharm., King Saud Univ., Saudi Arabia.
- B11 **1038.4** Computational characterization of 2-amino-1-methyl-6-phenylimidazo[4,5b]pyridine at androgen receptor: mechanistic support for its role in prostate cancer. **M. Glass-Holmes, B.J. Aguilar, E. Oriaku and C.B. Goodman.** Florida A&M Univ.

- B12 **1038.5** Disease stage-specific G protein-coupled receptor expression in clinical disorders: chronic lymphocytic leukemia as a model. **T. Katakia, F. Murray, L. Zhang, C. Gray and P.A. Insel.** UCSD.
- B13 **1038.6** Modulation of *mdr-1* expression and activity by verapamil and resveratrol potentiates the cytotoxicity of docetaxel and doxorubicin in solid tumor cell lines. **M.A.M. El-Moselhy, G.A. El-Sherbiny, H.A-T. Abd Abdel-Latif, A.M. Al-Abd, S.M. Nofal and W.I. El-Eraky.** Fac. of Pharm., El-Minia Univ., Beni-Suif Univ. and Cairo Univ., Egypt and Natl. Res. Ctr., Cairo.
- B14 **1038.7** A 3D co-culture system for high-throughput screening of anti-angiogenic and anti-tumorigenic combination therapies. **Y.D. Connor, M.S. Oh, S. Tekleab, D. Bharat, N.K. Gill and S. Sengupta.** Harvard-MIT Hlth. Sci. and Technol. and Brigham and Women's Hosp.
- B15 **1038.8** Akt kinase inhibition facilitates p53 protein-dependent mitochondrial damage responses after DNA damage. **T. Franke, G. Shostak and P. Grabham.** NYU Sch. of Med. and Columbia Univ.
- B16 **1038.9** The role of GPR30 in breast cancer cell migration. **H. Doran and R.A. Ross.** Sch. of Med. Sci., Univ. of Aberdeen, U.K.
- B17 **1038.10** Antitumor effect of metformin is mediated by AMPK and FOXO3a. **E.A.I. Fonseca, M.A. Oliveira, R. Eichler, E.H. Akamine, M.H.C. Carvalho, R.C. Tostes, A.M. Barbosa, R.F.H. Dekker, N. Khaper and Z.B. Fortes.** Univ. of São Paulo, Univ. of São Paulo, Ribeirão Preto and Northern Ontario Sch. of Med., Lakehead Univ.
- B18 **1038.11** CaMKK2 regulates cellular proliferation and androgen receptor activity during prostate cancer progression. **L.G. Karacosta, B.A. Foster, G. Azabdaftari, D.M. Feliciano and A.M. Edelman.** Univ. at Buffalo, SUNY, Roswell Park Cancer Inst. and Yale Univ. Sch. of Med.
- B19 **1038.12** The organosulfides diallyl sulfide, diallyl disulfide, and diallyl trisulfide accelerate benzo(a)pyrene metabolism in MCF-10A cells. **C.C. Moyler, Y. Nkrumah-Elie, W. Dennis, A. Hudson, R. Hammamieh and S. Darling-Reed.** U.S. Army Ctr. for Environ. Hlth. Res., Fort Detrick, MD and Florida A&M Univ.
- B20 **1038.13** Targeting the glycolytic pathway in cancer cells: glycolytic and regulatory functions of GAPDH. **E. Krynetskiy.** Temple Univ. Sch. of Pharm.
- B21 **1038.14** Selective cytotoxicity and combinatorial effects of camptothecin or paclitaxel with sodium-R-alpha lipoic acid on A549 human non-small cell lung cancer cells. **P.J. Sinko, S. Ibrahim and D. Gao.** Sch. of Pharm., Rutgers-The State Univ. of New Jersey.
- B22 **1038.15** Effects of selected adrenergic receptor agonists on human breast cancer progression, in vitro. **C. Philipose, K.K. Patel and S.A. Bavadekar.** Long Island Univ.
- B23 **1038.16** siRNA-mediated downregulation of vascular endothelial growth factor in MCF-7 cells. **K.R. Patel, V.D. Bhatt, R. Boggeti and W.N. Ratna.** Long Island Univ. Arnold & Marie Schwartz Col. of Pharm.
- B24 **1038.17** Effects of selected adrenergic receptor agonists on human prostate cancer progression, in vitro. **K.K. Patel, C. Philipose and S.A. Bavadekar.** Long Island Univ.
- B25 **1038.18** Pentoxifylline initiates GSK-3 $\beta$ -induced proteasomal degradation of cyclin D1 and arrests renal cancer cells in the G1 phase. **N. Mastrandrea, W. Cai, K. Tham, T. Monks and S. Lau.** Univ. of Arizona.

## 1039. CORTICOTROPIN-RELEASING FACTOR

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B26 **1039.1** Differential responses to social stress are associated with qualitatively different responses of dorsal raphe nucleus-serotonin neurons to corticotropin-releasing factor. **S.K. Wood, X-Y. Zhang, B. Reyes, E.J. Van Bockstaele and R.J. Valentino.** Children's Hosp. of Philadelphia and Thomas Jefferson Univ.
- B27 **1039.2** A corticotropin-releasing factor receptor antagonist prevents bladder pathology associated with either social stress or partial bladder outlet obstruction. **S.K. Wood, K.V. McFadden, S.A. Zderic, S. Bhatnagar and R.J. Valentino.** Children's Hosp. of Philadelphia.
- B28 **1039.3** Dopamine and isoproterenol depolarize corticotrophin releasing factor neurons in the bed nucleus of the stria terminalis: a potential neurocircuit involved in relapse. **Y. Silberman, R.T. Matthews and D.G. Winder.** Vanderbilt Univ. Sch. of Med.
- B29 **1039.4** Modulation of central fatigue-associated neural factors by cancer chemotherapy agent 5-fluorouracil. **S.H. Jung, E.A. Murphy, R. Fayad, M. Pena, B. Gordon, M. Carmichael and J.M. Davis.** Arnold Sch. of Publ. Hlth. and Sch. of Med., Univ. of South Carolina.
- B30 **1039.5** Investigation of the role of corticotropin-releasing factor receptors within the central amygdala and basolateral amygdala during nicotine withdrawal in rats. **Y. Ji, J.C. Alexander and A. Bruijnzeel.** Univ. of Florida.

## 1040. DRUGS OF ABUSE—AMPHETAMINES AND OTHER STIMULANTS

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B31 **1040.1** Effects of amphetamine in rats trained to discriminate between 22- and 2-hour food deprivation. **D.C. Jewett, A.R. Johnson, J.E. Dobbe, B.A. Kron, J.P. Vargo, E.J. Hoida, R.M. Van Asten and C.L.M. Nelson.** Univ. of Wisconsin-Eau Claire.
- B32 **1040.2** Effects of methamphetamine self-administration and withdrawal on sleep in rhesus monkeys. **M. Perez Diaz, M. Andersen, K.S. Murnane and L.L. Howell.** Emory Univ.
- B33 **1040.3** Acute effects of d-methamphetamine, 3,4-methylenedioxypyrovalerone, 3,4-methylenedioxymethamphetamine, and 4-methylmethcathinone on wheel activity in rats. **P-K. Huang, S.M. Aarde, T.J. Dickerson and M.A. Taffe.** The Scripps Res. Inst.
- B34 **1040.4** Antagonism of 5-HT<sub>2A</sub> receptors attenuates the effects of amphetamine and 3,4-methylenedioxymethamphetamine on wakefulness and dopamine overflow. **K.S. Murnane and L.L. Howell.** Emory Univ.

- B35 **1040.5** Methylenedioxypyrovalerone: self-administration and acute drug challenges in rats. **S.M. Aarde, P-K. Huang, K.M. Creehan, B.D. Vaillancourt, S.A. Vandewater, M.J. Wright, Jr., M.L. Miller and M.A. Taffe.** The Scripps Res. Inst.
- B36 **1040.6** Methamphetamine-induced locomotor sensitization in C57BL/6 mice requires the MT1 melatonin receptor. **A.J. Hutchinson, J. Ma, R.L. Hudson and M.L. Dubocovich.** Univ. at Buffalo SUNY.
- B37 **1040.7** Effects of 3,4-methylenedioxymethamphetamine and its metabolites on cardiovascular function in rats. **C. Schindler, M.H. Baumann, E.B. Thorndike, B.E. Blough and S.R. Goldberg.** NIDA/NIH, Baltimore and RTI Intl., Research Triangle Park.
- B38 **1040.8** Effects of combinations of metyrapone and oxazepam on methamphetamine cue reactivity and the HPA axis in rats. **A.J. Miller, E. Cornett, G. Guerin and N. Goeders.** DePaul Univ. and LSU Hlth. Sci. Ctr.-Shreveport.
- B39 **1040.9** Active immunopharmacotherapy for methamphetamine reduces self-administration in rats. **M.L. Miller, A.Y. Moreno, B.D. Vaillancourt, J. Wright, S.M. Aarde, K.M. Creehan, S.A. Vandewater, K.D. Janda and M.A. Taffe.** The Scripps Res. Inst.
- B40 **1040.10** Determining the importance of changes in dopamine when modafinil is used as a treatment for cocaine dependence. **A.J. Brewer III and R. De La Garza II.** Baylor Col. of Med. and Michael E. DeBakey VA Med. Ctr.
- B41 **1040.11** Enhancement and perceptual masking of a nicotine discriminative stimulus in rhesus monkeys. **C.S. Cunningham and L.R. McMahon.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- B42 **1040.12** Nicotinic acetylcholine and dopamine receptors contribute to the discriminative stimulus effects of nicotine in nonhuman primates. **B.L. Blaylock and M.A. Nader.** Wake Forest Univ. Sch. of Med.
- B43 **1040.13** The nicotinic subunit  $\beta_4$  plays a modulatory role on the anti-addictive action of varenicline. **J. Dang, H.R. Arias and G. Jackson.** Midwestern Univ., AZ.

## 1041. DRUGS OF ABUSE—OPIATES

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B44 **1041.1** Differential development of tolerance to  $\mu$ -opioid receptor agonists in the mouse colon. **H.T. Maguma, W.L. Dewey and H.I. Akbarali.** Virginia Commonwealth Univ.
- B45 **1041.2** Role of mu opioid receptor endocytosis in the beneficial and side-effects of prolonged opioid use. **J.L. Whistler, A.C. Berger, A. Madhavan, J. Enquist, L. He, M. Ferwerda and J. Kim.** UCSF, Emeryville.
- B46 **1041.3** The effect of chronic morphine treatment on the abundance of cell signaling proteins in the guinea pig longitudinal muscle-myenteric plexus. **B.G. Thompson, P. Li, K. Thayne, J. Masterson and D.A. Taylor.** Brody Sch. of Med. at East Carolina Univ. and Intrepid Investments LLC, St. Thomas.
- B47 **1041.4** Naloxone reverses thrombin-induced increase in Tx<sub>B2</sub> in patients treated with subtherapeutic dose of ketamine during wisdom teeth extraction. **M.S. Gujjar, R. Gunturi, D.M. Grogan and A.C. Sharma.** PCOM Sch. of Pharm., Suwanee, GA and Texas A&M Hlth. Sci. Ctr. Baylor Col. of Dent.

- B48 **1041.5** Opioid/sphingosine-1-phosphate1 interactions in antinociception. **S.P. Welch, D.E. Selley, K.R. Lynch and L.J. Sim-Selley.** Virginia Commonwealth Univ. and Univ. of Virginia Sch. of Med.
- B49 **1041.6** Effects of non-contingent and contingent quipazine on heroin self-administration in rhesus monkeys. **D.R. Maguire and C.P. France.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- B50 **1041.7** Sensitization of morphine-induced motor stimulation: age-related differences in mice. **W. Koek.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- B51 **1041.8** Acute noxious stimulus differentially alters morphine-induced operant behavior in male and female mice. **H. Neelakantan and E.A. Walker.** Temple Univ.

## 1042. DRUG-BEHAVIORAL INTERACTIONS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B52 **1042.1** Effects of in utero cocaine exposure on cocaine-food delay discounting procedures in adult rhesus monkeys. **R.E. Brucher and M.A. Nader.** Wake Forest Univ.
- B53 **1042.2** Assessing neurobehavioral function with the rat psychomotor vigilance task. **C.M. Davis and R.D. Hienz.** Johns Hopkins Univ. Sch. of Med. and Insts. for Behavior Resources, Baltimore.
- B54 **1042.3** A comparison of methylphenidate enantiomers on delay discounting in rats. **J. Slezak and J.L. Katz.** NIDA/NIH, Baltimore.
- B55 **1042.4** Effects of early neurotoxicity from chemotherapeutic agents on learning, novelty, and drug reward. **E.B. Bisen-Hersh, A.M. Myers and E.A. Walker.** Temple Univ.
- B56 **1042.5** Effects of the melatonin receptor antagonist (MT2)/inverse agonist (MT1) luzindole on re-entrainment of wheel running activity and spontaneous homecage behaviors in C3H/HeN mice. **E.B. Adamah-Biassi, I. Stepien, R.L. Hudson and M.L. Dubocovich.** Sch. of Med. and Biomed. Sci., Univ. at Buffalo, SUNY.
- B57 **1042.6** N-palmitoylethanolamide treatment exhibits antidepressant effects in a mouse model of anxiety/depressive-like behavior. **R. Crupi, E. Mazzon, D. Impellizzeri, E. Esposito and S. Cuzzocrea.** Univ. of Messina and IRCCS Neurol. Ctr. Bonino-Pulejo, Messina.
- B58 **1042.7** Development of a mouse autoshaping model to test for short-term memory impairment. **J.S. John and E.A. Walker.** Temple Univ.
- B59 **1042.8** Repeated forced swim stress induces learned helplessness in rats. **K. Saha, D. Eikenburg, M. Taneja, S. Salim and K. Bicol.** Univ. of Houston.
- B60 **1042.9** SERT and BDNF heterozygous knockout mice display alterations in grooming activity and syntax. **E. Kyzar, S. Gaikwad, J. Green, A. Roth, M. Pham, A. Stewart and A. Kalueff.** Tulane Univ. Med. Sch.
- B61 **1042.10** The Zebrafish Neurophenome Database: a dynamic open-access resource for zebrafish neuroscience research. **E. Kyzar, I. Zapolsky, S. Gaikwad, J. Green, A. Roth, A. Stewart, C. Collins, L. Monnig, A. Davis, M. El-Ounsi, A. Freeman, N. Capezio and A. Kalueff.** Tulane Univ. Med. Sch.

- B62 **1042.11** Estradiol replacement in ovariectomized female rats enhances mephedrone-induced disruptions of nonspatial learning. **P.F. Weed, A. Sankaranarayanan and P.J. Winsauer.** LSU Hlth. Sci. Ctr., New Orleans and Univ. of New Orleans.
- B63 **1042.12** Donepezil and tacrine differentially interact with estradiol in female rats responding under a multiple schedule of repeated acquisition and performance. **S. Leonard, P.F. Weed and P.J. Winsauer.** William Carey Univ. Col. of Osteo. Med., MS and LSU Hlth. Sci. Ctr., New Orleans.
- B64 **1042.13** Some histories of response-contingent histamine attenuate the punishing effect of histamine. **Y.N.T. Truong and J.H. Woods.** Univ. of Michigan.
- B65 **1042.14** Use of RFID tags to capture dynamic behavior of individual and groups of small fish. **J. Pritchard and J.B. Zurn.** Col. of Psychol. and Liberal Arts, Florida Inst. of Technol., Florida Res. Instruments Inc., Cocoa Beach and Virginia Commonwealth Univ. Sch. of Engin.

## 1043. PHYSIOLOGY/BEHAVIOR

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B66 **1043.1** Alpha1 and alpha2 adrenoceptors in the medial amygdaloid nucleus have different role on cardiovascular responses to acute restraint stress in rats. **E.T. Fortaleza, A.A. Scopinho and F.M.A. Corrêa.** Sch. of Med. of Ribeirão Preto, Brazil.
- B67 **1043.2** Sigma receptor ligands attenuate methamphetamine-induced hyperthermia but do not modulate IL-1B mRNA expression in select brain regions. **M.J. Seminerio, M.J. Robson, C. Mesangeau, S. Narayanan, C.R. McCurdy and R.R. Matsumoto.** West Virginia Univ. and Univ. of Mississippi.
- B68 **1043.3** Effects of the hallucinogenic drugs mescaline, phencyclidine and psilocybin on zebrafish behavior and physiology. **E. Kyzar, C. Collins, J. Green, S. Gaikwad, A. Roth, L. Monnig, M. El-Ounsi, N. Capezio, A. Freeman, A. Davis and A. Kalueff.** Tulane Univ. Med. Sch.
- B69 **1043.4** The behavioral and cardiovascular effects of nicotinic ligands designed from the epibatidine template. **E.M. Jutkiewicz, F.I. Carroll and J.H. Woods.** Univ. of Michigan and RTI Intl., Research Triangle Park.
- B70 **1043.5** Characterization of imidazoline I2 receptor agonists-induced hypothermia in rats. **D.A. Thorn, X-F. An, Y. Zhang, M. Pignini and J-X. Li.** Univ. at Buffalo, Res. Triangle Inst. and Univ. of Camerino, Italy.

**1044. CNS PHARMACOLOGY—NEUROTRANSMITTER RECEPTORS****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B71 **1044.1** Chronic  $\alpha_{1A}$ AR stimulation may increase adult neurogenesis and parvalbumin interneurons. **A.R.D. Nielsen, K.M. Collette, D. Perez and V.A. Doze.** Univ. of North Dakota Sch. of Med. and Hlth. Sci. and Cleveland Clin. Fndn.
- B72 **1044.2** Dopamine transporter interacts with sigma-1R. **A.M. North and H. Khoshbouei.** Meharry Med. Col. and Univ. of Florida.
- B73 **1044.3** Neuronal nicotinic acetylcholine receptors are involved in nicotine-mediated reversal of ataxia in an animal model. **C.S. Lambert, R.M. Philpot, M.E. Engberg and L. Wecker.** Univ. of South Florida.
- B74 **1044.4** Immortalized hippocampal cell line H19-7 express endothelin system genes. **B. Kanyicska and H. Liu.** Univ. of Mississippi Med. Ctr.
- B75 **1044.5** Interactions between the orphan receptor GPR37L1 and the dopamine D1 receptor. **R. Meyer and R.A. Hall.** Emory Univ.
- B76 **1044.6** Chronic LSD administration produces changes in mPFC gene and protein expression relevant to schizophrenia, as determined by RNA-Seq and DIGE. **D.A. Martin, D.E. Nichols and C.D. Nichols.** LSU Hlth. Sci. Ctr., New Orleans and Purdue Univ.

**1045. NEUROPSYCHIATRIC DISORDERS****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B77 **1045.1** The 6-hydroxydopamine unilaterally-lesioned rat as an in vivo model for novel dopaminergic compounds and antipsychotic drugs. **K.N. Boyd, V. Murthy and R.B. Mailman.** Penn State Col. of Med., Hershey Med. Ctr.
- B78 **1045.2** Protective effect of grape powder on anxiety-like behavior, blood pressure and learning and memory. **S. Salim, F. Allam, G.C. Chugh, M. Asghar, A.T. Dao, M. Taneja and K. Saha.** Univ. of Houston.
- B79 **1045.3** Morphological changes in raphe nuclei serotonergic fibers of the MPTP-treated mouse model of Parkinson's disease. **T. Nayyar, M.C. Ferguson and T.A. Anshah.** Meharry Med. Col.
- B80 **1045.4** Anxiolytic action of pterostilbene: involvement of hippocampal ERK phosphorylation. **A.T. El-Alfy, M. AlRahim, K. Silistreli and A.M. Rimando.** Chicago State Univ., Johns Hopkins Univ., Turkey Ministry of Hlth., Ankara and USDA, University, MS.
- B81 **1045.5** Role of GluN2C-containing receptors in rodent schizophrenia-like phenotypes. **B.G. Hillman, D. Stairs and S. Dravid.** Creighton Univ.
- B82 **1045.6** RGS4 as a regulator of the antidepressant effects of SSRIs. **M.E. Amos, A.E. Binkey, P.N. Taylor, B.R. Rorabaugh, R.R. Neubig, J.R. Traynor and J.N. Talbot.** Ohio Northern Univ. and Univ. of Michigan.

- B83 **1045.7** Contribution of  $\beta_2$  subunit containing nicotinic acetylcholine receptors to anxiety-like behaviors in male mice using a novel model of anxiety. **A. De Jesus, S.M. Anderson and D.H. Brunzell.** Virginia Commonwealth Univ. Sch. of Med.
- B84 **1045.8** Cytisine and diarylpropionitrile reduce depressive-like behavior in female ovx rats. **M. Walker, P. Kandi and R. Hayslett.** Mercer Univ. Col. of Pharm. and Hlth. Sci.
- B85 **1045.9** Antidepressant-like effect of AMPA and ketamine combination in male Wistar-Kyoto rats. **L. Akinfiresoye, D.M. Lovinger and Y. Yizabi.** Howard Univ.
- B86 **1045.10** The role of brain-derived neurotrophic factor in depression in a mouse model. **A. Overacre and K. Sakata.** Univ. of Oklahoma and Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- B87 **1045.11** Tricyclic psychiatric medications as alpha2A adrenergic receptor ligands modulating receptor function. **C. Cottingham, Y. Chen, S. Percival, K. Jiao and Q. Wang.** Univ. of Alabama at Birmingham.
- B88 **1045.12** Developing zebrafish models of depression: effects of reserpine on zebrafish behavior and physiology. **E. Kyzar, A. Roth, J. Green, S. Gaikwad, L. Monnig and A. Kalueff.** Tulane Univ. Med. Sch.

**1046. NEUROTOXICOLOGY—GENERAL****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B89 **1046.1** Acetaminophen induces oligodendrocyte precursor cell death and reactive astroglia in a primary mixed glial cell culture. **M.J. Perez, S. Tallis, A. Novak, A. Delfante, M.C. Rubio and C.I. Ghanem.** CONICET, Buenos Aires and Fac. of Pharm. and Biochem., Univ. of Buenos Aires.
- B90 **1046.2** A fluorescence microplate screen assay for the detection of neurite outgrowth and neurotoxicity using antibodies against  $\beta$ III-tubulin. **D. Popova and S.O.P. Jacobsson.** Umea Univ., Sweden.
- B91 **1046.3** Magnesium oxide nanoparticles induce cytotoxic and proinflammatory effects in Schwann cells and DRG neurons. **V. Idikuda, A. Jaiswal, Y.Y.W. Wong, S. Leung, C. Daniels and J. Lai.** Idaho State Univ.
- B92 **1046.4** Mass-spectrometric analysis of changes in brain lipid expression and distribution after brain injury. **B. Cox, J. Post, G. Bull, S. Gouty and A. Woods.** Uniformed Svcs. Univ., NIH/USU Ctr. for Neurosci. and Regen. Med. and NIDA/NIH, Baltimore.

**1047. TRANSPORTERS****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B93 **1047.1** Overexpression of mitochondrial GSH transporters in renal proximal tubular cells from control and diabetic rats. **L.H. Lash, B. Benipal and D.A. Putt.** Wayne State Univ. Sch. of Med.

- B94 **1047.2** Prolactin induces BCRP/ABCG2 expression in T-47D breast cancer cells via activation of multiple signalling cascades. **A. Wu, P. Dalvi, M. Yang, X. Lu, P.A. Harper and S. Ito.** The Hosp. for Sick Children and Univ. of Toronto.
- B95 **1047.3** Using cocaine self-administration to determine whether dopamine receptor antagonists are potential substrates for p-glycoprotein-like efflux transporters in the rat blood-brain barrier. **A.B. Norman, M.R. Tabet, M.K. Norman and V.L. Tsibulsky.** Univ. of Cincinnati.
- B96 **1047.4** Renal drug transporter expression in pregnant mice with type 1 diabetes. **L. Yacovino and L.M. Aleksunes.** Rutgers Univ., Piscataway.
- B97 **1047.5** MRP2 transporter reduces renal cisplatin accumulation and protects against nephrotoxicity. **L.M. Aleksunes and X. Wen.** Rutgers Univ., Piscataway.
- B98 **1047.6** PFOA-mediated regulation of Bcrp transporter expression and function. **L.M. Eldasher, L. Yacovino, X. Wen and L.M. Aleksunes.** Rutgers Univ., Piscataway.
- B99 **1047.7** Transporter-mediated mechanism of nucleoside penetration of the blood-testis barrier. **D.M. Klein, K.K. Evans, R.N. Hardwick, W.H. Dantzer, S.H. Wright and N.J. Cherrington.** Univ. of Arizona.
- B100 **1047.8** Deregulated hepatic metabolism exacerbates impaired testosterone production in Mrp4-deficient mice. **J.A. Morgan, S.B. Cheepala, Y. Wang, G. Neale, M. Adachi, D. Nachagari, M. Leggas, K. Boyd and J.D. Schuetz.** St. Jude Children's Res. Hosp. and Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- B101 **1047.9** Establish a cell viability assay to identify novel cytotoxic organic anion transporting polypeptide 1B3 substrates. **A. Obaidat-Hays, K. Kindscher, B. Timmermann and B. Hagenbuch.** Univ. of Kansas Med. Ctr. and Univ. of Kansas.
- B102 **1047.10** Molecular cloning and functional characterization of a rainbow trout liver Oatp. **K. Steiner, D. Dietrich and B. Hagenbuch.** Univ. of Konstanz, Germany and Univ. of Kansas Med. Ctr.
- B103 **1047.11** In vitro culture alters the expression of xenobiotic transporters by mammary epithelial cells. **R. Gehring, P. Malreddy, K. Silver, F. Wang and B. Schultz.** Kansas State Univ. and USDA, Manhattan, KS.
- B107 **1048.4** C terminal block of the pannexin 1 channel pore and its relief by proteolytic cleavage. **J.K. Sandilos, Y-H. Chiu, F.B. Chekeni, A.J. Armstrong, S.F. Walk, K.S. Ravichandran and D.A. Bayliss.** Univ. of Virginia.
- B108 **1048.5** Antagonism of the hypothermic effects of nicotinic receptor ligands in mice. **J. Rodriguez, C. Cunningham, F.I. Carroll and L.R. McMahon.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio and Research Triangle Inst.
- B109 **1048.6** A pharmacodynamic comparison of piperidine and pyridine alkaloid actions at fetal muscle-type nicotinic acetylcholine receptors. **B.T. Green, S.T. Lee and K.E. Panter.** USDA, Logan, UT.
- B110 **1048.7** Sodium channel activator-stimulated neuronal development involves BDNF-TrkB signaling. **S.V. Jabba and T.F. Murray.** Creighton Univ.
- B111 **1048.8** G protein estrogen receptor regulates Kv11.1 ion channel activity in ERneg breast cancer cells. **S. Gentile.** Loyola Univ., IL.
- B112 **1048.9** 2me-SATP activates P2X4R and induces a secondary increase of Na<sup>+</sup> pump and Na<sup>+</sup>/Ca<sup>2+</sup> currents in cardiac myocytes of P2X4R overexpression transgenic mice. **J.B. Shen, A.J. Pappano and B.T. Liang.** Univ. of Connecticut Hlth. Ctr.
- B113 **1048.10** Acute modulation of voltage-gated Ca<sup>2+</sup> channels in retinal ganglion cells by gabapentin. **S.R. Farrell, L. Perez de Sevilla Mueller, A. Sargoy, N. Brecha and S. Barnes.** Dalhousie Univ., Canada, UCLA and VA Greater Los Angeles Healthcare Syst.
- B114 **1048.11** Subunit dependent modulation of ASIC currents by intracellular pH. **M. Li, S.L. Ingram, R.P. Simon and Z. Xiong.** Oregon Hlth. & Sci. Univ. and Morehouse Sch. of Med.
- B115 **1048.12** NO donors subunit and state-dependently increase desensitization of acid sensitive ion channels. **K. Bolshakov, N. Dorofeeva, S. Swain, M. Nikolaev, N. Potapjeva and A.K. Bera.** IEPHB, Russian Acad. of Sci., St. Petersburg and Indian Inst. of Technol., Chennai.
- B116 **1048.13** Hydrogen sulfide as an allosteric modulator of ATP sensitive potassium channels in experimental colitis. **A.R. Gade, M. Kang and H.I. Akbarali.** Virginia Commonwealth Univ.
- B117 **1048.14** Enhanced relaxant effect of sodium hydrogen sulfide in experimental colitis and its action on K<sub>ATP</sub> channels via S-sulphydration. **M. Kang, A.R. Gade and H.I. Akbarali.** Virginia Commonwealth Univ.
- B118 **1048.15** Characterization of chronic desensitization of vanilloid receptor (TRPV1) in the rat. **Á. Czikora, I. Rutkai, E.T. Pasztor, R. Porszasz, I. Edes, Z. Papp and A. Toth.** Inst. of Cardiol. and Inst. of Pharmacol., Debrecen, Hungary.
- B119 **1048.16** Differential effects of PI3K isoforms on TRPC channels in vascular smooth muscle: novel actions of PI(3)P-containing molecules. **A.P. Albert, J. Shi, M. Ju and W. Large.** St. George's Univ. of London.
- B120 **1048.17** Depolarization potentials in mouse lateral septal nucleus neurons mediated by TRPC4-like channels. **J. Tian, Y. Zhu, Y. Lu and M.X. Zhu.** Univ. of Texas Hlth. Sci. Ctr. at Houston.
- B121 **1048.18** Pharmacological characterization of the rhesus monkey TRPA1 channel. **B.R. Bianchi, X-F. Zhang, R.M. Reilly, P.R. Kym, B.B. Yao and J. Chen.** Abbott.

## 1048. SIGNAL TRANSDUCTION/ION CHANNELS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:30 PM-2:45 PM

- B104 **1048.1** Benzodiazepine actions: teasing apart drug binding from drug efficacy. **E.V. Morlock, S. Hanson and C. Czajkowski.** Univ. of Wisconsin-Madison.
- B105 **1048.2** Modulation of AMPA and kainate receptors by galectins. **S. Bhangoo, B. Copits, Y. Nakamura, S. Frausto, J. Robbins, M.B. Gill, C. Smith, T. Ogawa, K. Muramoto, R. Sakai and G.T. Swanson.** Northwestern Univ., Chicago, Hokkaido Univ. Grad. Sch. of Fisheries Sci. and Tohoku Univ., Japan.
- B106 **1048.3** Ovarian cycle-related effects of neurosteroids on GABA-A receptor-mediated phasic and tonic currents in the hippocampus. **C. Carver, X. Wu, D. Murchison, W. Griffith and D.S. Reddy.** Texas A&M Hlth. Sci. Ctr. Col. of Med., Bryan.

## 1049. SMOOTH MUSCLE PHARMACOLOGY

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:45 PM

- B122 **1049.1** Hypertension related alterations in  $\alpha_1$ -adrenergic responsiveness of the rat seminal vesicle and vas deferens. **M. Yono, T. Tanaka, S. Tsuji, S. Irie, Y. Sakata, M. Otani and J. Latifpour.** Nishi-Kumamoto Hosp., Med. Co. LTA, Japan and Yale Univ. Sch. of Med.
- B123 **1049.2** Effects of metformin on bethanechol-induced bladder contractions. **J.D. Peuler, J.K. Curtis and L.E. Phelps.** Midwestern Univ., IL.
- B124 **1049.3** Contraction of rat vena cava by endothelin-1 is dependent on phospholipase-C $\beta$ , but independent of IP $_3$  receptor activation. **N.R. Tykocki, B.X. Wu, W.F. Jackson and S.W. Watts.** Michigan State Univ.
- B125 **1049.4** Pharmacological actions of L-cysteine on isolated bovine irides. **D.D. Stroud, M. Kulkarni, Y.F. Njie-Mbye, C.A. Opere and S.E. Ohia.** Texas Southern Univ. and Creighton Univ.
- B126 **1049.5** Effect of arsenic and arsenic metabolites on LTCC and BK $_{Ca}$  expression and activities in vascular smooth muscle. **K. McPherson, C. Pace, R. Khalili and J.E. Angermann.** Sch. of Community Hlth. Sci., Univ. of Nevada, Reno.
- B127 **1049.6** Contractions of rat vas deferens are mediated by  $\alpha_1A$ - and  $\alpha_1D$ -adrenoceptors. **J.R. Docherty.** Royal Col. of Surgeons in Ireland.
- B128 **1049.7** Knockdown of natriuretic peptide receptor-A enhances receptor-C expression and signaling in vascular smooth muscle cells. **Y. Li, P. Madiraju and M.B. Anand-Srivastava.** Univ. of Montreal.

## 1050. MECHANISMS OF TOXICITY

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:45 PM

- B129 **1050.1** Mrp1 protects against doxorubicin induced cardiotoxicity. **D.J. Coy, P. Jungsuwadee, T. Noel, L. Chaiswing, T. Oberley, D. St. Clair and M. Vore.** Univ. of Kentucky and Univ. of Wisconsin-Madison.
- B130 **1050.2** Poly(ADP-ribose) polymerase-2 depletion reduces doxorubicin-induced damage through SIRT1 induction. **I. Rutkai, M. Szántó, C. Heged s, Á. Czikora, M. Rózsahgyi, B. Kiss, L. Virág, P. Gergely, A. Tóth and P. Bai.** Univ. of Debrecen Med. and Hlth. Sci. Ctr., Hungary.
- B131 **1050.3** Desferrioxamine attenuates doxorubicin-induced acute cardiotoxicity through TGF- $\beta$ /Smad P53 pathway. **O.A. Al-Shabanah.** Col. of Pharm., King Saud Univ., Saudi Arabia.
- B132 **1050.4** Antioxidant, anti-glycation and ROS scavenging activities of *Plantago asiatica*. **M-H. Nam, C-O. Hong, D-H. Son, J-G. Oh and K-W. Lee.** Korea Univ.
- B133 **1050.5** Potential role of FasL in the development of AZT-mediated hepatotoxicity. **H. Donde, S. Ghare, W-Y. Chen, S. Joshi-Barve, C. McClain and S. Barve.** Univ. of Louisville.

- B134 **1050.6** Evaluation of aminoglycosides-induced cardiotoxicity in zebrafish obtained in a low cost facility. **R.A. Vargas.** UDCA, Colombia.
- B135 **1050.7** Relationship of neuronal NOS to HIF-1 $\alpha$  induction in acetaminophen toxicity in mice. **S. Chaudhuri, S.S. McCullough, A.T. Brown, J.A. Hinson and L.P. James.** Arkansas Childrens Hosp. and Univ. of Arkansas for Med. Sci.
- B136 **1050.8** Increased phosphodiesterase 4B and decreased cellular cAMP regulate LPS-inducible TNF- $\alpha$  in glucose-primed monocytes. **E. Chambers, L. Gobejishvili, S. Ghare, C. McClain and S. Barve.** Univ. of Louisville.
- B137 **1050.9** Roles of mitochondrial and lysosomal alterations in potentiation by tumor necrosis factor- $\alpha$  of amiodarone-induced cytotoxicity in vitro. **J. Lu, R.A. Roth and P.E. Ganey.** Michigan State Univ.
- B138 **1050.10** Oxoguanine glycosylase 1 protects cells from DNA double-strand break damage following methylmercury exposure. **S.L. Ondovcik, L. Tamblyn, J.P. McPherson and P.G. Wells.** Univ. of Toronto.
- B139 **1050.11** Aliphatic alcohols propagate oxidative stress-responsive cell death signals in the mouse liver and kidneys by perturbing expression of pro- and antiapoptotic genes. **V. Lawana, A. Patel and S.D. Ray.** AMS Col. of Pharm. & Hlth. Sci., Long Island Univ. and Manchester Col. Sch. of Pharm., IN.
- B140 **1050.12** 4-Hydroxy-2-nonenal-modified proteins in bone marrow of phenol/hydroquinone-treated rats: implications for benzene-mediated hematotoxicity. **C.L. Kuhlman, D.R. Petersen, G. Tsapralis, T.J. Monks and S.S. Lau.** Univ. of Arizona and Univ. of Colorado Denver.
- B141 **1050.13** Post-exposure therapy administered 30 minutes after an LD50 dose of soman in guinea pigs without carbamate pretreatment. **S.J. DeBus, D. Spriggs, R. Krempel and F-C.T. Chang.** U.S. Army Med. Res. Inst. of Chem. Def., Aberdeen Proving Ground, MD.
- B142 **1050.14** Overexpression and nuclear translocation of glyceraldehyde-3-phosphate dehydrogenase in acetaminophen acutely intoxicated rats. **A. Delfante, M.L. Ruiz, M.B. DiCarlo, J.C. Perazzo, A.D. Mottino and C.I. Ghanem.** Fac. of Pharm. and Biochem., Univ. of Buenos Aires and CONICET-Natl. Univ. of Rosario and Univ. of Buenos Aires.
- B143 **1050.15** Mechanisms of action of cytotoxicity of transition metal oxide nanoparticles in human lung cells. **Y-W. Huang, C.C. Chusuei and R.S. Aronstam.** Missouri Univ. of Sci. and Technol. and Middle Tennessee State Univ.
- B144 **1050.16** Vascular signaling pathways for bisphenol A. **J.I. Omorebokhae, S. Munyu, A.O. Oyekan and M.A. Yakubu.** Texas Southern Univ.
- B145 **1050.17** Evaluating in situ (E)-2,4-diene-valproic acid in the toxicity of valproic acid and (E)-2-ene-valproic acid in sandwich-cultured rat hepatocytes. **J. Surendraddoss, T.K.H. Chang and F.S. Abbott.** Univ. of British Columbia.
- B146 **1050.18** Characterization of PPAR $\gamma$  ligand MCC-555 in AOM-induced colorectal tumorigenesis. **T. Imchen, K-W. Min and S.J. Baek.** Univ. of Tennessee, Knoxville.

## 1051. RENAL PHARMACOLOGY/TOXICOLOGY

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:45 PM

- B147 **1051.1** Effect of ACE inhibition in renin-angiotensin and  $\alpha_1$ -adrenergic renal vascular renal systems. **P. Castro-Moreno, J.J. López-Guerrero, M. Ibarra, J.P. Pardo, R. Hernández-Muñoz and R. Villalobos-Molina.** FESI-UNAM, Tlalnepantla and UNAM, Mexico City.
- B148 **1051.2** Protective role of the angiotensin AT2 receptor in obesity-induced renal inflammation. **I.S. Dhande, Q. Ali, S. Nag, M.A. Khan and T. Hussain.** Auburn Univ.
- B149 **1051.3** Endothelium targeted anti-complement therapy protects renal allografts by modulating T cell response. **C. Maldonado, S. Pushpakumar, C.V. Soni and G. Perez-Abadia.** Univ. of Louisville.
- B150 **1051.4** Rutin supplementation on cholesterol metabolism in female albino Wistar rats using high-cholesterol-diet model: possible renal protection. **S.S. Al-Rejaie, H.M. Abuhashish, A.S. Alroujaye, A.M. Aleisa and O. Alkamees.** King Saud Univ., King Khalid Univ. Hosp. and Al-Imam Univ., Saudi Arabia.
- B151 **1051.5** Decreased renal and urinary neprilysin protein expression in db/db mice. **H. Chodavarapu, M. Bradshaw, E. Salem and K. Elased.** Wright State Univ.
- B152 **1051.6** Nitric oxide synthase, but not heme oxygenase, mediates the adenosine  $A_{2B}$  receptor-sensitive renal vasodilations in female rats. **M.M. El-Mas, H.M. El-Gowell, L.K. Elsalakawy and S.M. El-gowilly.** Fac. of Pharm., Alexandria Univ.
- B153 **1051.7** Influence of chronic nicotine on acetylcholine-evoked renal vasodilations in female rats: dose dependency and ovarian hormonal modulation. **M.M. El-Mas, S.M. El-gowilly, E.Y. Gohar and H.M. El-Gowell.** Fac. of Pharm., Alexandria Univ.
- B154 **1051.8** Prolyl hydroxylase domain/hypoxia. **A. Ebiogwu and A. Oyekan.** Texas Southern Univ.
- B155 **1051.9** Effect of gum arabic on oxidative stress and inflammation in adenine-induced chronic renal failure in rats. **B.H. Ali, I. Al-Husseni, S. Beegam, A.A. Al Shukali, A. Nemmar and N. Schupp.** Col. of Med., Oman, United Arab Emirates Univ. and Univ. of Würzburg.
- B156 **1051.10** 4-Amino-2-chlorophenol nephrotoxicity in vitro: alteration of cytotoxicity by antioxidants. **G.O. Rankin, T. Ferguson, S. Baksi, D. Anestis and C. Racine.** Marshall Univ.
- B157 **1051.11** Lipopolysaccharide impairs gap junction function and reduces rat kidney NRK-52E cell proliferation. **Y. Wang, J. Wei, Z. Xia, Z. Hei and C. Luo.** The Third Affiliated Hosp. of Sun Yat-sen Univ., China and Univ. of Hong Kong.
- B158 **1051.12** KS-370G ameliorates renal fibrosis, oxidative stress and inflammation induced by unilateral ureteral obstruction. **S-T. Chuang and M-J. Su.** Col. of Med., Natl. Taiwan Univ.

- B159 **1051.13** Enhanced nitric oxide synthase-nitric oxide signaling underlies sildenafil amelioration of cyclosporine-induced nephrotoxicity in rats. **M.A.M. El-Moselhy, M.A. Morsy, R.G. Abdel-latif and M.M. Khalifa.** Fac. of Pharm. and Fac. of Med., El-Minia Univ., Egypt.
- B160 **1051.14** Resveratrol reduces cisplatin-mediated oxidative modifications of proteins and oxidative stress enzyme activity in renal rat tissue. **M.A. Valentovic, A. Mills, A.B. Lamyathong, J.G. Ball, M.S. Wright and S. Van Meter.** Marshall Univ Sch. of Med., Murray State Univ., KY and Wheeling Jesuit Univ., WV.
- B161 **1051.15** Sirtuin 1 enzyme activity and autophagy proteins are increased in the kidney during murine sepsis. **J.H. Holthoff, E. Pathak, Z. Wang, A.G. Basnakian and P.R. Mayeux.** Univ. of Arkansas for Med. Sci.
- B162 **1051.16** Pathogenesis of renal fibrosis: role of proteinase-activated receptor-2. **H. Chung, D. Muruve and M.D. Hollenberg.** Univ. of Calgary, Canada.
- B163 **1051.17** Decreased calcineurin activity suppresses protein synthesis and activates AMP-dependent kinase. **H.A. Franch, C. Ding, S. Zoromsky and J.L. Gooch.** Emory Univ. and Atlanta VA Med. Ctr.
- B164 **1051.18** Novel insights into renal angiotensin metabolism using mass spectrometric imaging. **N. Grobe, N.M. Weir, K.M. Elased, D.R. Cool, Z. Yan and M. Morris.** Wright State Univ.

## 1052. DRUG METABOLISM DIVISION SESSION

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM-2:45 PM

- B165 **1052.1** Ubiquitination of neuronal nitric oxide synthase in the P450 oxygenase and calmodulin-binding domain. **K.M. Clapp, H-M. Peng, G.J. Jenkins, M. Ford, Y. Morishima, M. Lau and Y. Osawa.** Univ. of Michigan and MS Bioworks, Ann Arbor.
- B166 **1052.2** P450 3A5 is primarily responsible for the formation of the most abundant oxidative metabolite of maraviroc. **Y. Lu, C.W. Hendrix and N.N. Bumpus.** Johns Hopkins Univ. Sch. of Med.
- B167 **1052.3** Characterization of a *Cyp2a(4/5)bgs*-null mouse model: role of CYP2A and CYP2B in nicotine metabolism. **L. Li, Y. Wei, X. Zhou, L.B. Hough and X. Ding.** New York State Dept. of Hlth., SUNY at Albany and Albany Med. Col.
- B168 **1052.4** Hepatic PXR represses *UGT1A1* gene expression during neonatal development. **S. Chen and R.H. Tukey.** UCSD.



# Physiology

## 1053. CARDIAC ELECTROPHYSIOLOGY

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D1 I **1053.1** Local control model illustrates how action potential morphology affects Ca<sup>2+</sup> release. **L.D. Gauthier, J.L. Greenstein and R.L. Winslow.** Johns Hopkins Univ.
- D2 II **1053.2** Electrophysiological properties of cardiac myocytes in regenerating zebrafish hearts. **T. Yamada, J. Denton, V.P. Yin and K. Strange.** Mount Desert Island Biol. Lab., ME and Vanderbilt Univ. Sch. of Med.
- D3 I **1053.3** Dronedrone effects on atrial and ventricular electrophysiology in conscious dogs. **L.A.A. Neves, J. Buening, J. Huang, P.B. Senese and M.R. Gralinski.** CorDynamics Inc., Chicago.
- D4 II **1053.4** Inhibition of small-conductance Ca<sup>2+</sup>-activated K<sup>+</sup> channels protects against ventricular fibrillation in rats with acute myocardial infarction. **L. Gui, X. Qin, M. Pan, Z. Cheng, J. Zhu and Q-H. Chen.** Michigan Technol. Univ., Affiliated Hosp. of Nantong Univ., China and Univ. of Central Florida.
- D5 I **1053.5** Differences in ionic currents between myocardial and Purkinje cells of canine heart. **M. Vassalle and L. Bocchi.** SUNY Downstate Med. Ctr.
- D6 II **1053.6** Ventricular epicardial repolarization pattern in diabetic rabbits. **J.E. Azarov, A.O. Ovechkin, M.A. Vaykshnorayte, K.A. Sedova and D.N. Shmakov.** Inst. of Physiol., Komi Sci. Ctr., Ural Branch of Russian Acad. of Sci.
- D7 I **1053.7** Novel stretchable electronics platform for simultaneous high-density electrical and optical recordings from ex vivo hearts. **S.R. Gutbrod, J.I. Laughner, M.S. Sulkin, L. Xu, A.P. Bonifas, M. Ying, A. Yu, J.A. Rogers and I.R. Efimov.** Washington Univ. in St Louis and Univ. of Illinois at Urbana-Champaign.
- D8 II **1053.8** Cardiomyocyte geometry and stretch effects on longitudinal conduction velocity. **E. Pfeiffer, J. Stowe, J. Tan and A.D. McCulloch.** UCSD.
- D9 I **1053.9** AKAP150-dependent changes in K<sub>v</sub> channel expression in ventricular myocytes following myocardial infarction. **M. Nieves, D.K. Hirenallur-S, S.A. Hinke, J.D. Scott and L.F. Santana.** Univ. of Washington.

## 1054. CARDIAC FUNCTION AND DYNAMICS II

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D10 I **1054.1** Three-month omega-3 fatty acid supplementation does not improve cardiac diastolic function in healthy older adults. **Z. Gao, R.P. Feehan, L.I. Sinoway and K.D. Monahan.** Penn State Hershey Heart and Vasc. Inst.

- D11 II **1054.2** Left ventricular longitudinal strain and strain rate are preload dependent. **Z. Gao, R.C. Drew, A. Momen, I. Ndukwu, M.D. Muller, J. Mast, C. Blaha, U.A. Leuenberger and L.I. Sinoway.** Penn State Hershey Heart and Vasc. Inst.
- D12 I **1054.3** Impact of age-induced hyperglycemia on structural remodeling in the left ventricle of the type 2 Goto-Kakizaki rat. **J. Singh, C.J. Moore, K.R. Bidasee and A. D'Souza.** Univ. of Central Lancashire Sch. of Invest. and Forensic Sci., U.K. and Univ. of Nebraska Med. Ctr.
- D13 II **1054.4** Effects of long-term exercise on cardiac hemodynamic and contractility measures in aging rats. **T. Akins, M.L. Bates, S. McKiernan, J. Aiken and G. Diffie.** Univ. of Wisconsin-Madison and Univ. of Alberta.
- D14 I **1054.5** Aging aggravates cardiac dysfunction in severe, but not in mild, pressure-overload. **M. de Boer, E.D. van Deel, J.H.J. Hoeijmakers and D.J. Duncker.** Erasmus Med. Ctr., Rotterdam.
- D15 II **1054.6** Short-term ACE inhibition produces long-term protection against NOS inhibitor-induced cardiac dysfunction. **L.A. Biwer, H. Xu, C. Carroll, T. Broderick and T.M. Hale.** Univ. of Arizona Col. of Med., Phoenix, Univ. of Rochester and Midwestern Univ., AZ.
- D16 I **1054.7** Small left heart syndrome and post-coronary artery ligation outcomes in mice. **S. Haskell, V. Peotta, G. Hermann, B. Reinking and R. Roghair.** Univ. of Iowa.
- D17 II **1054.8** Estrogen induces cardiomyocyte contractility via an MLCK/MRLC-dependent mechanism. **G. Kararigas, V. Bito, K.R. Sipido and V. Regitz-Zagrosek.** Charité Univ. Hosp., Berlin and Univ. of Leuven, Belgium.
- D18 I **1054.9** High fructose intake induces cardiac diastolic dysfunction in rats. **I.C. Araujo, C. Mostarda, P.S. Lima, L.N. Yamane, M.S. Souza, M.C. Fonteles, P. Fiorino and V. Farah.** Fed. Univ. of São Paulo, Heart Inst., and Mackenzie Univ., Brazil.
- D19 II **1054.10** Cardiovascular function time course in a rodent model of burn injury. **K.K. Henderson, D. Barefield, S. Sadayappan, L-K. He, A. Szilagy, R. Shankar, R.L. Gamelli and R. Kennedy.** Midwestern Univ., IL and Loyola Univ., Maywood.
- D20 I **1054.11** Longitudinal assessment of type I diabetes mellitus using conventional echocardiography and speckle-tracking based strain imaging. **D.L. Shepherd, T.L. Croston, S.L. McLaughlin, W.A. Baseler, C.E. Nichols, D. Thapa, S.E. Lewis and J.M. Hollander.** West Virginia Univ.
- D21 II **1054.12** Protein quality control disruption by PKCβII in heart failure. **J.C.B. Ferreira, D. Mochly-Rosen and P.C. Brum.** Univ. of São Paulo and Stanford Univ.
- D22 I **1054.13** The role of adrenergic receptor beta 1 in cardiac adrenergic responsiveness during thyrotoxicosis. **B.M.L. Bocco, C.L. Lancelloti, M.A. Christoffolete, P.C. Brum and M.O. Ribeiro.** Mackenzie Presbyterian Univ., Fed. Univ. of São Paulo, Santa Casa of São Paulo, Fed. Univ. of ABC and Univ. of São Paulo.
- D23 II **1054.14** Effect of body position and hypoxia on the recruitment of the patent foramen ovale. **K. Moses, M.L. Bates, A. Beshish, D.F. Pegelow and M.W. Eldridge.** Univ. of Wisconsin-Madison.

- D24 **I** **1054.15** Speckle tracking imaging in evaluation of left ventricular mechanics in a swine model of atrioventricular block during cardiac pacing: a comparison study with conventional right ventricular apical pacing therapy. **W. Zhou, P. Benharash, K. Yamakawa and A. Mahajan.** UCLA Sch. of Med.
- D25 **II** **1054.16** Development of a fluorescent molecular rotor-based approach for concurrent measurement of blood viscosity and hemodynamics. **M.P. Craig, M. Haidekker and J. Hove.** Univ. of Cincinnati and Univ. of Georgia.
- D26 **I** **1054.17** Increased angiogenesis as a mechanism for the preserved cardiac function in rats with chronic pressure overload. **S. Gao, M. Park, Y. Tian, L. Yan, L. Lin, X. Zhao, R. Gelpi, D.E. Vatner and S.F. Vatner.** UMDNJ, Newark.
- D27 **II** **1054.18** Changes in myofilament lattice spacing accounts for differences in systolic strains in vinculin-deficient mouse hearts. **J.R. Tangney, M.S. Janssen, P. Liao, A. Zemljic-Harperf, J. Chuang, M. Hoshijima, A.D. McCulloch, R.S. Ross and J.H. Omens.** UCSD.

## 1055. CORONARY CIRCULATION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D28 **I** **1055.1** Inflammation, but not oxidative stress or apoptosis, predominates in atherosclerosis-associated endothelial dysfunction in juvenile Ossabaw pigs with metabolic syndrome. **J. Cui, H. Zhang, J. Li, J. Chen, J.W. Perfield II, S. Rector, M.A. Hill and C. Zhang.** Univ. of Missouri-Columbia and Harry S Truman VA Mem. Hosp.
- D29 **II** **1055.2** Endothelin-1 signaling in coronary arteriolar constriction. **G. Lu, T.W. Hein, X. Xu and L. Kuo.** Texas A&M Hlth. Sci. Ctr., Temple.
- D30 **I** **1055.3** Cardiac pressure overload elicits coronary circulatory dysfunction in mice. **G. Lu, T.W. Hein, X. Xu and L. Kuo.** Texas A&M Hlth. Sci. Ctr., Temple.
- D31 **II** **1055.4** miR-mediated regulation of coronary collateral growth in the metabolic syndrome. **R.L. Hutcheson, E. Smith, A. Musiyenko and P. Rocic.** Univ. of South Alabama.
- D32 **I** **1055.5** Uridine adenosine tetraphosphate (Up4A) as a novel coronary vasodilator in health and disease: role of purinergic P1 and P2 receptors. **Z. Zhou, D.J. Duncker and D. Merkus.** Erasmus MC, Rotterdam.
- D33 **II** **1055.6** Effect of mental stress on coronary blood flow in humans. **C.L. Sauder, A.E. Thompson, T. Myers and C.A. Ray.** Penn State Col. of Med.
- D34 **I** **1055.7** Modifying a high fat diet with mono- and poly-unsaturated fats improves coronary dysfunction. **C.L. Oltman, B.L. Dake, W.I. Sivitz, M.A. Yorek and K.G. Lamping.** Iowa City VA Med. Ctr. and Univ. of Iowa.
- D35 **II** **1055.8** Differential stiffness between resistance microvessels and conduit arteries in the coronary circulation of Ossabaw swine with metabolic syndrome. **A.J. Trask, P.S. Katz, A.P. Kelly, M.J. Cismowski, M.L. Galantowicz, Z.P. Neeb, M. Alloosh, M. Sturek and P.A. Lucchesi.** Nationwide Children's Hosp., The Ohio State Univ. Col. of Med. and Indiana Univ. Sch. of Med.

- D36 **I** **1055.9** Arteriolar remodeling limits maximal perfusion after percutaneous revascularization of a chronic stenosis in pigs with hibernating myocardium. **B.R. Weil, B.J. Page, M.D. Banas, G. Suzuki and J.M. Canty, Jr.** Univ. at Buffalo and VA Western New York Healthcare Syst.
- D37 **II** **1055.10** Functional assessment of stenosis severity by contrast-induced submaximal hyperemia. **F. Nolte, T.P. van de Hoef, W. de Klerk, J.A.E. Spaan, J.J. Piek and M. Siebes.** Acad. Med. Ctr. and Univ. of Amsterdam.
- D38 **I** **1055.11** Maternal nutrient restriction during pregnancy impairs an EDHF-like pathway in fetal coronary arteries without affecting large conductance, calcium-activated K channel (BK<sub>Ca</sub>) activity in smooth muscle cells. **P. Shukla, A. Modgil, L. Reynolds, J. Caton, C. Sun and S. O'Rourke.** North Dakota State Univ.
- D39 **II** **1055.12** Contribution of voltage-dependent potassium and calcium channels to coronary pressure-flow autoregulation. **Z.C. Berwick, S.P. Moberly, M.C. Kohr, E.B. Morrical, M.M. Kurian, A.G. Goodwill and J.D. Tune.** Indiana Univ. Sch. of Med.
- D40 **I** **1055.13** Control of the steelhead trout (*Oncorhynchus mykiss*) coronary microcirculation: temperature effects and role of the endothelium. **I.A.S.F. Costa, T.W. Hein, C.J. Secombes and A.K. Gamperl.** Mem. Univ. of Newfoundland, Col. of Med., Texas A&M Hlth. Sci. Ctr. and Univ. of Aberdeen Sch. of Biol. Sci.
- D41 **II** **1055.14** Characterization of innate collateral connections in the canine heart. **J.A.E. Spaan, P. van Horsen, J.P.H.M. van den Wijngaard and M. Siebes.** AMC, Univ. of Amsterdam.
- D42 **I** **1055.15** CaM kinase II and Ca<sup>2+</sup> sensitization mediate enhanced KCl constriction in collateral-dependent coronary arteries of both sedentary and exercise-trained pigs. **J.C. Robles and C. Heaps.** Texas A&M Univ.
- D43 **II** **1055.16** Effect of aortic stenosis on coronary perfusion studied with wave intensity analysis. **M. Siebes, M.C. Rolandi, Z-Y. Yong, J.A.E. Spaan and J. Baan.** Acad. Med. Ctr., Univ. of Amsterdam.

## 1056. TRANSIENT RECEPTOR POTENTIAL CHANNELS AND ENDOTHELIAL CALCIUM REGULATION IN NATIVE CELLS AND WHOLE VESSELS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D44 **I** **1056.1** CaR-mediated vasodilatation: role of endothelium TRPC channels. **A.P. Albert, J. Shi, J. McLough, H. Greenberg, C. Preet, I. Greenwood and V. Ho.** St. George's Univ. of London.
- D45 **II** **1056.2** Targeted disruption of T-type calcium channels attenuates NO-dependent recovery after depolarization. **P.B.L. Hansen, H-S. Shin, O. Skott and B.L. Jensen.** Univ. of Southern Denmark and Korea Inst. of Sci. and Technol., Seoul.
- D46 **I** **1056.3** Arachidonic acid-induced dilation in human coronary arterioles: role of endothelial TRPV4-mediated and membrane potential-sensitive Ca<sup>2+</sup> entry. **X. Zheng, Y. Nishijima, D.D. Gutterman and D.X. Zhang.** Med. Col. of Wisconsin.

- D47 **II** **1056.4** TRPV1 channels in the heart: a novel redox sensor? **J.G. Kmetz II, V. Ohanyan, M. Enrick, P.T. Kang, C-L. Chen, Y-R. Chen and I.N. Bratz.** Northeast Ohio Med Univ.
- D48 **I** **1056.5** TRPC1 and TRPV4 are expressed in sensory endings found in regions of venoatrial endocardium where atrial volume receptors are located. **F. Shenton, R.W. Banks and S. Pyner.** Sch. of Biol. & Biomed. Sci., Durham Univ., U.K.
- D49 **II** **1056.6** Lung endothelial  $\text{Ca}^{2+}$  and permeability response to PAF is mediated by TRPC6. **R. Samapati, Y. Yang, J. Yin, C. Stoerger, C. Arenz, A. Dietrich, D. Adam, S. Wu, M. Freichel, V. Flockerzi, S. Uhlig and W. Kuebler.** Charite-Univ. Med. Berlin, RWTH Aachen Univ., German Heart Inst., Berlin, St. Michael's Hosp., Toronto, Univ. of Saarland, Humboldt Univ. of Berlin, Ludwig Maximilians Univ. Munich, Christian Albrechts Univ. Kiel, Germany and Univ. of South Alabama.
- D50 **I** **1056.7** Unitary TRPA1-mediated  $\text{Ca}^{2+}$  influx events in primary cerebral artery endothelial cells. **M.N. Sullivan, M. Francis, M.S. Taylor and S. Earley.** Colorado State Univ. and Univ. of South Alabama Col. of Med.
- D51 **II** **1056.8** The causal role of PKC in reduced endothelial  $\text{Ca}^{2+}$  signaling and impaired EDHF-mediated uterine vasodilation in diabetic pregnancy. **N.I. Gokina and E. Linder.** Univ. of Vermont.
- D52 **I** **1056.9** Blood pressure profile and response to NG -nitro-L-arginine methyl ester challenge in conscious TRPV4-deficient mice. **Y. Nishijima, H. Lund, X. Zheng, D. Mattson and D. Zhang.** Med. Col. of Wisconsin.
- D53 **II** **1056.10** TRPV4 channels regulate tumor angiogenesis through the modulation of Rho-dependent tumor endothelial cell mechanosensitivity. **C.K. Thodeti, R.K. Adapala, K. Ghosh, R. Thoppil, A.C. Dudley, M. Klagsbrun, W. Chilian and D. Ingber.** Northeast Ohio Med. Univ., Harvard Med. Sch., Children's Hosp. Boston and 3Wyss Inst. for Biol. Inspired Engin., Boston.
- D54 **I** **1056.11** Propofol regulation of vascular reactivity is mediated via TRP channels. **S. Sinha, J.G. Kmetz II, D.S. Damron and I.N. Bratz.** Kent State Univ. and Northeast Ohio Med. Univ.
- D55 **II** **1056.12** Calcitonin gene related peptide is not required for the pressor response to water. **T. Mai, J. McHugh, M. Appalsami, S. Supowit, D. Dipette, P. Gangula, A.M. Diedrich and D. Robertson.** Vanderbilt Univ., Univ. of South Carolina Sch. of Med. and Meharry Med. Col.
- D56 **I** **1056.13** PAR-1 induced AMPK-p38 MAPK signaling axis mediates STIM1 phosphorylation to prevent calcium entry through TRPC channels in endothelial cells. **P. Sundivakkam, V. Natarajan, A.B. Malik and C. Tirupathi.** Univ. of Illinois at Chicago.
- D57 **II** **1056.14** Role of TRPC3 channels in BDNF-induced plasticity, hippocampal neuronal excitability and memory. **A.K. Tryba, J.A. Chong, D. Del Camino, V. Lacey, J. Abramowitz, L. Birnbaumer, D.R. Harder, N. Gerges and C.C. Kaczorowski.** Med. Col. of Wisconsin, Hydra Biosci., Cambridge, MA and NIEHS/NIH, Research Triangle Park.
- D58 **I** **1056.15** Dopamine D2 receptors regulate the expression of leptin in adipocytes. **S. Cuevas, Y. Yang, I. Armando and P.A. Jose.** Children's Natl. Med. Ctr., George Washington Univ.
- D59 **II** **1056.16** (-)-Epicatechin induces calcium and translocation independent eNOS activation in endothelial cells via AKT/HSP90. **I. Ramirez-Sanchez, G. Ceballos and F. Villarreal.** Grad. Sch. of Med.-IPN, Mexico City and UCSD.
- 1057. DIABETIC CARDIOVASCULAR DYSFUNCTION: ROS-DEPENDENT AND -INDEPENDENT CAUSES AND COMPLICATIONS (POSTERS)**
- Poster**
- TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D
- Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)*
- D60 **I** **1057.1** Dysfunctional mitochondrial topoisomerases mediate diabetic-induced myocardial mitochondrial DNA damage. **J.G. Edwards, S. Hicks, B. Piteo, D. Laurent, J. Mathew and N. Labinskyy.** New York Med. Col.
- D61 **II** **1057.2** Carbonylation induces ryanodine receptor dysregulation during diabetes. **K.R. Bidasee, C-H. Shao, C. Tian, C.J. Moore, J. Singh and G. Rozanski.** Univ. of Nebraska Med. Ctr. and Univ. of Central Lancashire, U.K.
- D62 **I** **1057.3** Chromium downregulates a potent proatherogenic protein, thrombospondin-1, in vascular smooth muscle cells via reduced O-glycosylation and oxidative stress. **P. Raman, R. Ganguly, R.M. Haney and R.J. Chavez.** Northeast Ohio Med. Univ.
- D63 **II** **1057.4** Role of BMP4 in eNOS uncoupling in type 2 diabetes. **J.Y. Youn and H.L. Cai.** UCLA.
- D64 **I** **1057.5** The role of enhanced cardiac fibroblast glycosylation products on collagen synthesis. **I. Ramirez-Sanchez, H. Aguilar, L. Maya-Ramos and F. Villarreal.** Higher Sch. of Med.-IPN, Mexico City and UCSD.
- D65 **II** **1057.6** Differential expression of mitoK<sub>ATP</sub> subunits in cardiac mitochondrial subpopulations and the influence of type I diabetes. **I.S. Fancher, W.A. Baseler, T.L. Croston, D. Thapa, D. Shepherd, C. Nichols, S. Lewis, R. Jagannathan, S. Asano, G.M. Dick and J.M. Hollander.** West Virginia Univ.
- D66 **I** **1057.7** Smooth muscle glutathione depletion contributes to increased myogenic tone in resistance arteries of type-2 diabetic mice. **G.V. Velmurugan and C. White.** Rosalind Franklin Univ. of Med. and Sci.
- D67 **II** **1057.8** Increased TGF $\beta$  signaling in hearts of type I diabetic mice may result in diabetic cardiac autonomic dysfunction. **S.P. Georgescu, J. Naggar, M. Aronovitz, C.M. Welzig, K. Picard, C. Vaikus, Y. Zhang, H-J. Park, R. Karas and J.B. Galper.** Tufts Med. Ctr. and Med. Univ. of South Carolina.
- D68 **I** **1057.9** Type 2 diabetes-induced vascular dysfunction is associated with caveolin-1 and NADPH oxidase. **M.A. Carrillo-Sepulveda, S. Goulopoulou, T. Matsumoto, J.L. Hannan, A. Ergul and R.C. Webb.** Georgia Hlth. Sci. Univ., Inst. of Med. Chem., Tokyo and Johns Hopkins Univ.
- D69 **II** **1057.10** Association between depression and smoking in African-Americans with type 2 diabetes. **A.K. Cheema, G.G. Zarini, J.C. Exebio, S. Ajabshir and F.G. Huffman.** Florida Intl. Univ.
- D70 **I** **1057.11** Cardiac responses to intravenous glucagon-like peptide 1 are impaired in metabolic syndrome. **S.P. Moberly, Z.C. Berwick, M. Kohr, K. Mather and J.D. Tune.** Indiana Univ. Sch. of Med.
- D71 **II** **1057.12** Growth hormone and IGF-1 deficiency exacerbate high fat diet-induced endothelial impairment in obese Lewis dwarf rats: implications for vascular aging. **L.C. Bailey-Downs, D. Sosnowska, P. Toth, M. Mitschelen, T. Gautam, J. Henthorn, P. Ballabh, A. Koller, J. Farley, W.E. Sonntag, A. Csiszar and Z. Ungvari.** Oklahoma Univ. Hlth. Sci. Ctr.

- D72 **I** **1057.13** Novel role of the ATP7A copper-transporting ATPase and extracellular SOD in endothelial dysfunction in type I diabetes mellitus. **S. Varadarajan, N. Urao, J. Oshikawa, R.M. Llanos, R.D. McKinney, M. Ushio-Fukai and T. Fukai.** Univ. of Illinois at Chicago and Deakin Univ., Australia.
- D73 **II** **1057.14** Testosterone attenuates metabolic syndrome and coronary artery disease in obese Ossabaw miniature swine. **M. Alloosh, K.M. Buzzitta and M. Sturek.** Indiana Univ., Indianapolis.
- D74 **I** **1057.15** Moderate exercise improves the metabolic response to a fat/sugar overload but exacerbates cardiac damage. **R.L. Pohlman, M.S. Alghamri, A.C. Bechara, L. Hartzler, L.D. Mirkin, V. Farah and M. Morris.** Wright State Univ., Children's Med. Ctr., Dayton and Mackenzie Presbyterian Univ., Brazil.
- D75 **II** **1057.16** Nuclear factor kappa B inhibition improves vascular function in type 2 diabetic mice. **S-K. Choi, M. Kassan, K. Umezawa, M. Trebak and K. Matrougui.** Tulane Univ., Keio Univ., Japan and Albany Med. Col.
- D76 **I** **1057.17** Ceramide mediates vascular dysfunction in diet-induced obesity by PP2A-mediated dephosphorylation of the eNOS-Akt complex. **T. Ruan, A. Ravindran, Q-J. Zhang, E.D. Abel and J.D. Symons.** Univ. of Utah.
- D77 **II** **1057.18** Disruption of endothelial cell/pericyte adhesion by PAI-1 in ischemic limb of diabetic mouse. **J. Wu, T.L. Strawn and F.P. William.** Univ. of Missouri-Columbia and Luzhou Med. Col., China.
- D78 **I** **1057.19** AT1 blockade decreases NADPH oxidase 2 content and increases insulin signaling in a model of insulin resistance. **I. Popovich, R. Rodriguez, J.A. Viscarra, J-P. Vasquez-Medina and A. Nishiyama.** Univ. of California Merced and Kagawa Univ. Med. Sch., Japan.
- D79 **II** **1057.20** Perioperative administration of statins has cardioprotective effects in streptozotocin-induced diabetic rats. **M.J. Crespo, N. Cruz, J. Quidgley, O. Creagh, H. Torres, K. Rivera and C. Hernandez.** Univ. of Puerto Rico Sch. of Med.
- D80 **I** **1057.21** Atorvastatin improves cardiovascular status, but does not prevent the development of dilated cardiomyopathy in streptozotocin-induced diabetic rats. **J. Quidgley, N. Cruz, J.C. Lopez, M.A. Ramirez and M.J. Crespo.** Univ. of Puerto Rico Sch. of Med. and Univ. of Puerto Rico Rio Piedras Campus.
- D81 **II** **1057.22** miR-133 as an epigenetic regulator of diabetic heart failure. **V. Chavali, N. Tyagi, S.C. Tyagi and P.K. Mishra.** Univ. of Louisville.
- D82 **I** **1057.23** Diabetes abolishes the cardioprotective effect of estrogen on systolic cardiac function. **N. Santiago, M.B. Melo, M. Chappell, J. Varagic, R.A.S. Santos and M.J. Campagnole-Santos.** Fed. Univ. of Minas Gerais, Brazil and Wake Forest Univ. Sch. of Med.
- D83 **II** **1057.24** Reduction of adenylyl cyclase type 5 protects obesity induced cardiomyopathy. **D.W-K. Ho, X. Zhao, S. Gao, Y. Tian, L. Yan, D.E. Vatner and S.F. Vatner.** UMDNJ-New Jersey Med. Sch.
- D84 **I** **1057.25** GWAS nominated gene SH2B3 increases cardiac remodeling and inflammation associated with type 1 diabetes. **M.J. Flister, S. Jia, S-W. Tsaih, A. Sarkis, S. Zheng, A. Geurts, C. Moreno-Quinn, J. Lazar, M.J. Hessner and H. Jacob.** Med. Col. of Wisconsin.
- D85 **II** **1057.26** Estrogen protects female Akita mice against type I diabetes and parasympathetic dysfunction. **Y. Zhang, S.P. Georgescu, C.M. Welzig, J. Naggar, M. Aronovitz, H-J. Park and J.B. Galper.** Tufts Med. Ctr. and Med. Col. of South Carolina.
- D86 **I** **1057.27** Heart rate variability in patients with type 2 diabetes mellitus. **R.K. Goit, R. Khadka, S.K. Sharma, N. Limbu and B.H. Paudel.** Nepalgunj Med. Col., Nepal and B.P. Koirala Inst. of Hlth. Sci., Dharan, Nepal.
- D87 **II** **1057.28** Hemoglobin expression at the myoendothelial junction regulates nitric oxide scavenging and vasomotor tone. **A.C. Straub, A.W. Lohman, M. Billaud, S.R. Johnstone, S. Dwyer, M. Lee, P. Schoppee-Bortz, A.K. Best, B. Gaston and B.E. Isakson.** Univ. of Virginia.
- D88 **I** **1057.29** Brain-derived neurotrophic factor intensifies the early inflammatory response after myocardial infarction. **G.V. Halade, T.A. Ramirez, J. Zhang, J.G. Hensler, Y-F. Jin and M.L. Lindsey.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio and Univ. of Texas at San Antonio.
- D89 **II** **1057.30** Endoplasmic reticulum stress-associated oxidative stress and autophagy in the RVLM in neurogenic hypertension. **J.Y.H. Chan and Y-M. Chao.** Kaohsiung Chang Gung Mem. Hosp. and Natl. Cheng Kung Univ., Taiwan.

## 1058. EMERGING PARADIGMS IN MICROVASCULAR SIGNALING (POSTERS)

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D90 **I** **1058.1** ATP-mediated vasodilation occurs via vascular hyperpolarization in humans. **A.R. Crecelius, B.S. Kirby, G.J. Luckasen, D.G. Larson and F.A. Dinunno.** Colorado State Univ. and Poudre Valley Hlth. Syst., Loveland, CO.
- D91 **II** **1058.2** Exclusive interaction between  $\alpha$ 1d-adrenergic receptor and pannexin 1 can mediate vasoconstriction. **M. Billaud, A.W. Lohman, Y-H. Chiu, J.K. Sandilos, D.A. Bayliss and B.E. Isakson.** Univ. of Virginia.
- D92 **I** **1058.3** Hypertension-induced endothelial cell angiopoietin-2 release is inhibited by angiopoietin-1. **T. Korff, E. Ernst, R. Nobiling, A. Feldner, Y. Reiss, K.H. Plate, U. Fiedler, H.G. Augustin and M. Hecker.** Heidelberg Univ., Univ. of Frankfurt and ProQinase GmbH, Freiberg.
- D93 **II** **1058.4** Myoendothelial contacts within the skeletal muscle arterial network: a potential mediator for divergent control of vascular tone. **B.S. Kirby, A. Bruhl and S. Earley.** Colorado State Univ.
- D94 **I** **1058.5** eNOS inhibition is protective against oxygen glucose deprivation in brain microvascular endothelial cells by preempting eNOS uncoupling. **P.S. Katz, E.A. Wappler, P.V. Katakam and D.W. Busija.** Tulane Univ. Sch. of Med.
- D95 **II** **1058.6** Interference of peroxisome proliferator-activated receptor-gamma in vascular muscle enhances myogenic tone in small resistance arteries via protein kinase C-induced inhibition of large conductance  $Ca^{2+}$ -activated  $K^{+}$  channel (BKCa) act **P. Ketsawatsomkron, R.A. Lorca, S.K. England, F.M. Faraci and C.D. Sigmund.** Univ. of Iowa and Washington Univ.

- D96 I 1058.7 Attenuation of conducted vasodilatation in the skeletal muscle during hyperhomocysteinemia. **S. Givvimani, N. Narayanan, N. Tyagi and S.C. Tyagi.** Univ. of Louisville.
- D97 II 1058.8 Manipulating IP<sub>3</sub>R-mediated calcium release in permeabilized endothelial cell tubes of resistance arteries. **M.J. Socha, T.L. Domeier and S.S. Segal.** Univ. of Missouri-Columbia.
- D98 I 1058.9 Mitochondria-dependent cerebral artery vasodilation is mediated by the activation of neuronal nitric oxide synthase following mitochondrial depolarization of perivascular nerves. **P.V.G. Katakam, E.A. Wappler, S. Dutta and D.W. Busija.** Tulane Univ. Sch. of Med.
- D99 II 1058.10 Increased tortuosity promotes platelet activation and thrombus formation in microvessels. **J. Chesnutt and H-C. Han.** Univ. of Texas at San Antonio.
- D100 I 1058.11 Aging exacerbates microvascular endothelial damage induced by inflammatory factors present in the circulation during sepsis. **Z. Tucsek, T. Gautam, W.E. Sonntag, P. Toth, A. Csiszar, H. Saito, C. Szabo and Z. Ungvari.** Univ. of Oklahoma Hlth. Sci. Ctr., Univ. of Kentucky Col. of Med. and Univ. of Texas Med. Branch.
- D101 II 1058.12 Tuning electrical conduction along endothelial cell tubes via Ca<sup>2+</sup>-activated K<sup>+</sup> channels. **E. Behringer and S. Segal.** Univ. of Missouri-Columbia.
- D102 I 1058.13 mAChR dependent contraction of pulmonary arteries with functional endothelium from chronically hypoxic fetal and adult sheep. **J. Kim, Q. Blood, L.D. Longo and S.M. Wilson.** Loma Linda Univ.
- D103 II 1058.14 Hsp90 inhibition suppresses LPS-mediated NFκB target gene expression without affecting NFκB nuclear translocation in human lung microvascular endothelial cells. **G. Thangjam, A.D. Joshi, C. Snead, C.L. Wallace and J.D. Catravas.** Georgia Hlth. Sci. Univ.

### 1059. NOVEL REGULATORS OF CARDIAC FIBROBLAST FUNCTION AND FATE (POSTERS)

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D104 I 1059.1 Mechanosensitive TRPV4 channels mediate cardiac fibroblast differentiation to myofibroblasts. **C.K. Thodeti, R.K. Adapala, D.J. Luther, R. Thoppil, W.M. Chilian and J.G. Meszaros.** Northeast Ohio Med. Univ.
- D105 II 1059.2 Scleraxis works synergistically with Smads to regulate collagen gene expression. **R. Bagchi and M. Czubryt.** Univ. of Manitoba.
- D106 I 1059.3 MMP-9-generated collagen I C-propeptides alter cardiac fibroblast function. **L.E. de Castro Bras, Q. Dai, R. Zamilpa, G.B. Fields, S.T. Weintraub and M.L. Lindsey.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- D107 II 1059.4 Identifying novel mechanisms of cardiac myofibroblast phenotype modulation. **I.M.C. Dixon, R.H. Cunnington, J.M. Douville, K.L. Bathe, S.G. Rattan, D.H. Freed and J.T. Wigle.** Univ. of Manitoba.
- D108 I 1059.5 Reversal of cardiac fibroblast-to-myofibroblast transformation by cyclic AMP. **N. Aroonsakool, U. Yokoyama, D. Lu, F. Murray and P.A. Insel.** UCSD.
- D109 II 1059.6 Resveratrol prevents accumulation and secretion of the pro-hypertrophic high molecular weight FGF-2 by rat and human cardiac myofibroblasts. **J-J. Santiago, L.J. McNaughton, R.F. Fandrich, R.C. Arora and E. Kardami.** St. Boniface Gen. Hosp. Res. Ctr., Winnipeg, Canada.
- D110 I 1059.7 Mechanical stress activates NFATc4 in cardiac fibroblasts via syndecan-4. **K.L.M. Herum, I.G. Lunde, D. Behmen, G. Florholmen, C.R. Carlson and G. Christensen.** Oslo Univ. Hosp. Ullevål and Univ. of Oslo.
- D111 II 1059.8 Cigarette smoke attenuates collagen production and migration of cardiac fibroblasts through inhibition of the HIF-1α pathway. **J.M. Bradley, T.M. Doggett, M. El Hajj, K. Pyakurel, J.W. Breslin and J.D. Gardner.** LSU Hlth. Sci. Ctr., New Orleans.
- D112 I 1059.9 β1 Integrin and associated focal adhesion proteins in cardiac fibroblast function. **C.G. Au, A.M. Manso, E.K. Asfaw, P.L. Liao and R.S. Ross.** UCSD and Veterans Med. Res. Fndn.
- D113 II 1059.10 G protein-coupled receptor regulation of cardiac fibrosis. **A.N. Snead, S. He and P.A. Insel.** UCSD.
- D114 I 1059.11 The inflammatory-fibrotic phenotype of right ventricular cardiac fibroblasts in hypoxia-induced pulmonary hypertension. **R.D. Brown, M. Li, C.T. Stewart, B.A. McKeon, L.A. Walker, P.M. Buttrick and K.R. Stenmark.** Univ. of Colorado Denver, Aurora.
- D115 II 1059.12 ATP release and activation of P2Y2 receptors in the regulation of cardiac fibroblasts. **D. Lu, S. Soleymani, R. Madakshire and P.A. Insel.** UCSD.
- D116 I 1059.13 Insulin ameliorates collagen remodeling after myocardial infarction. **N. Tian, Y. Zhang, F. Fu, W. Yan and F. Gao.** Fourth Military Med. Univ., China.
- D117 II 1059.14 Cyclic AMP induces necroptotic cell death in cardiac fibroblasts. **H. Yun, A.S. Wilderman, D. Lu, N. Aroonsakool and P.A. Insel.** UCSD.
- D118 I 1059.15 AMP-activated protein kinase activation is associated with an inhibition of fibrotic properties of cardiac fibroblasts. **S. Horman, G-T. Noppe, P. Buchlin, N. Marquet, N. Baeyens, N. Morel, J-L. Vanoverschelde, L. Bertrand and C. Beauloye.** Catholic Univ. of Louvain, Belgium.
- D119 II 1059.16 Estrogen receptor dependence of lysyl oxidase expression and activity in cardiac fibroblasts. **T.G. Voloshenyuk, K. Larkin, A. Fournett and J.D. Gardner.** LSU Hlth. Sci. Ctr., New Orleans.

### 1060. COMMUNICATION BETWEEN CARDIAC CELLS AND THE EXTRACELLULAR MATRIX (POSTERS)

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D120 I 1060.1 Matrix metalloproteinase-28 deletion attenuates short-term left ventricular dysfunction but exacerbates cardiac rupture post-myocardial infarction in mice. **Y. Ma, J. Zhang, T.A. Ramirez, A.M. Manicone and M.L. Lindsey.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio and Univ. of Washington.

- D121 II **1060.2** Communication between cardiomyocytes and cardiac fibroblasts: mechanistic role of ROCK1 in fibrotic cardiac remodeling. **X. Yang, Q. Li, X. Lin, X. Yue and J. Chang.** Texas A&M Hlth. Sci. Ctr., Houston.
- D122 I **1060.3** Cardiac-myocyte ablation of Talin1 results in a blunted hypertrophic response to chronic pressure overload. **A.M. Manso, R. Li, N.M. Cruz, Y. Gu, S.M. Chang, B.J. Rasmussen, K.L. Peterson, D. Abel, S.J. Monkley, D.R. Critchley and R.S. Ross.** UCSD Sch. of Med. and VA Healthcare San Diego, Univ. of Utah Sch. of Med. and Univ. of Leicester, U.K.
- D123 II **1060.4** S1P induces CCN1 expression through RhoA/MRTF-a activation and protects cardiomyocytes against cell death. **E. Ding, S. Miyamoto, X. Zhao, S.Y. Xiang, R.R. Neubig and J. Heller Brown.** UCSD and Univ. of Michigan.
- D124 I **1060.5** Age-dependent alterations to the cardiac extracellular matrix in heart failure: differences between ventricular and atrial remodeling. **M.A. Horn, H. Graham, E. Bode, K. Dibb and A. Trafford.** Univ. of Manchester.
- D125 II **1060.6** The matricellular proteins thrombospondin-2, osteonectin and osteoglycin modulate cardiac inflammation, injury and function during viral myocarditis. **S. Heymans, M. Rienks, D. Vanhoutte, M. Swinnen, D. Westermann, T. VandenDriessche, R. Lijnen, B. Schroen, A. Papageorgiou and P. Carmeliet.** Maastricht Univ., Netherlands, Univ. of Leuven, Belgium and Charité, Univ. Med. Berlin.
- D126 I **1060.7** Lectinic binding of *Candida glabrata* to oligosaccharides on the coronary luminal membrane alters flow-induced cardiac responses. **D. Torres-Tirado, C. Ramirez-Zavaleta, A. De Las Peñas, I. Castaño and R. Rubio.** Autonomous Univ. of San Luis Potosi and Inst. of Sci. Res. and Technol., Mexico.
- D127 II **1060.8** In vivo application of dynamic hyaluronic acid material for myocardial infarction therapy. **J.L. Young, J. Schaefer, J. Tuler, P. Schup-Magoffin, R. Braden, K.L. Christman and A.J. Engler.** UCSD.
- D128 I **1060.9** Flow sensitivity of coronary endothelial luminal membrane G-protein coupled receptors results from their lectinic nature. **S. Perez-Aguilar, G. Martell-Gallegos, J. Velarde-Salcedo and A.P. Barba-de la Rosa.** Autonomous Univ. of San Luis Potosi and San Luis Potosi Inst. of Sci. and Technol., Mexico.
- D129 II **1060.10** Role of MMP9 in cardiac stem cell differentiation and autophagy. **P.K. Mishra, N. Metreveli, V. Chavali, N. Tyagi, N. Qipshidze, U. Sen, I.G. Joshua and S.C. Tyagi.** Univ. of Louisville.
- D130 I **1060.11** Increased MMP8 and 12 activation correlates with elevated endostatin and angiotensin and impaired coronary collateral growth in the metabolic syndrome. **T.Y. Dodd, L. Wiggins, A.M. Musiyenko, E. Smith and P. Rocic.** Univ. of South Alabama.
- D131 II **1060.12** Effect of desmin knockout on skeletal muscle extracellular matrix organization. **A. Gillies and R.L. Lieber.** UCSD.
- D132 I **1060.13** Knockout of type VI collagen improves cardiac function and remodeling following myocardial infarction. **D.J. Luther, C.K. Thodeti, D. Weihrauch, H.H. Patel, I.R. Niesman, P. Bonaldo, W.M. Chilian and J.G. Meszaros.** Northeast Ohio Med. Univ., Med. Col. of Wisconsin, UCSD and Univ. of Padua.
- D133 II **1060.14** Enhanced proliferation and cardiogenic differentiation of cardiac progenitor cells treated with a naturally derived cardiac extracellular matrix. **K.M. French, J.A. DeQuach, K.L. Christman and M.E. Davis.** Emory Univ. and UCSD.
- D134 I **1060.15** Transfat-mediated apoptosis is regulated by autophagy in primary cardiac myofibroblasts. **S.G. Rattan, S. Ghavami, R.H. Cunningham, J.L. Davies, K.L. Bathe, B. Yeganeh, R. Arora, M.J. Los, D.H. Freed, A.J. Halayko, T. Klonisch, G.N. Pierce and I.M.C. Dixon.** Univ. of Manitoba and Linkoping Univ., Sweden.
- D135 II **1060.16** Simulation of physiologic strain to aligned cells anchored in 3D affects proliferation, differentiation, and organization of the actin cytoskeleton. **G. Doroudian, A. Gang, M. Curtis and B. Russell.** Univ. of Illinois at Chicago.
- D136 I **1060.17** Alterations in left ventricular preload dynamically regulate cardiac fibroblast signaling. **M.L. Galantowicz, A. Guggilam, M.J. Cismowski, X. Zhang, T.A. West and P.A. Lucchesi.** Nationwide Children's Hosp. and The Ohio State Univ.
- D137 II **1060.18** Distinct atrial and ventricular microRNA changes in experimental heart failure. **Y. Chen, R. Wakili, X. Luo, P. Naud, S. Kaab, D. Dobrev and S. Nattel.** Montreal Heart Inst., McGill Univ., Univ. of Munich, Univ. of Montreal and Univ. of Heidelberg.
- D138 I **1060.19** Dual role of STAT3 in hypertension-induced cardiac remodeling. **F.A. Zouein, C. Zgheib, S.M. Hamza, J.E. Hall, A. Ruiz, L.A. Juncos and G.W. Booz.** Univ. of Mississippi Med. Ctr.

## 1061. LUNG PHYSIOLOGY: AIRWAY RESPONSIVENESS AND SMOOTH MUSCLE CELL BIOLOGY

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D139 I **1061.1** Developmental changes in airway smooth muscle relaxation mediated by NO and PGE2. **M. Jakupaj, G. Temaj, A. Cenaj and R.B. Sopi.** Fac. of Med., Univ. of Prishtina, Kosovo.
- D140 II **1061.2** Allergen-induced airway constriction in guinea pig lung slices is attenuated by arginase inhibition via increased nitric oxide production. **R.B. Sopi, M. Simoons, M.J. Sanderson, H. Meurs and H. Maarsingh.** Univ. of Groningen, Netherlands, Univ. of Prishtina, Kosovo and Univ. of Massachusetts Med. Sch.
- D141 I **1061.3** Pharmacological activators of Kv7 potassium channels attenuate methacholine-induced constriction of rat airways. **L.I. Brueggemann, S. Tate and K.L. Byron.** Loyola Univ. Stritch Sch. of Med.
- D142 II **1061.4** Effects of latrunculin-B in smooth muscle contraction, Ca<sup>2+</sup> oscillations and Ca<sup>2+</sup> sensitization in small intrapulmonary airways. **J. Trice and J.F. Perez-Zoghbi.** Texas Tech Univ. Hlth. Sci. Ctr.
- D143 I **1061.5** Respiratory syncytial virus infections augment airway reactivity in mice exposed to chlorine. **W. Song, Z. Yu, N. Ambalavanan, S. Garantziotis and S. Matalon.** Univ. of Alabama at Birmingham and NIEHS/NIH, Research Triangle park.

## 1062. LUNG PHYSIOLOGY: DEVELOPMENT AND PLASTICITY

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D144 **I** **1062.1** Perinatal inflammation and decreases in miR29b-1 expression are associated with structural and functional pulmonary deficits in adult mice. **M. Velten, R.D. Britt, K.M. Heyob, S.E. Welty, T.E. Tipple and L.K. Rogers.** Rheinische Friedrich Wilhelms-Univ., Bonn, Nationwide Children's Hosp. and Baylor Col. of Med.
- D145 **II** **1062.2** Divergent regulation of sense and antisense erythropoietin receptor transcripts in obesity-associated diabetes mellitus. **C.C.W. Hsia, V. Esser, P. Ravikumar, R.H. Unger and O.W. Moe.** Univ. of Texas Southwestern Med. Ctr.
- D146 **I** **1062.3** Myoendothelial junction formation is restricted in pulmonary arteries of fetal sheep. **B. Lombard, E. Waskel, R. Paez, Q. Blood, M. Rubalcava, J.H. Kim, L.D. Longo and S.M. Wilson.** Loma Linda Univ.
- D147 **II** **1062.4** The hyperoxia-mediated decrease in tenascin-C in fetal lung fibroblasts inhibits cell migration. **A. DeCoux, J. Chaplin, G. Wilson, J. Benjamin and S. Gebb.** Univ. of South Alabama.
- D148 **I** **1062.5** Epigenetics of transgenerational transmission of in utero nicotine-induced asthma. **V. Rehan, J. Liu, R. Sakurai and J.S. Torday.** LA BioMed. Res. Inst. at Harbor UCLA Med. Ctr.

## 1063. CELL-CELL AND CELL-MATRIX ADHESIONS IN CONTROL OF LUNG FLUID BALANCE AND INNATE IMMUNITY: TALKING IS CRITICAL! (POSTERS)

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D149 **I** **1063.1** Rap1 and afadin promote interactions between adherens junctions and tight junctions and regulate endothelial permeability. **A.A. Birukova, N. Zebda, T. Wu, O. Dubrovskiy, N. Sarich and K.G. Birukov.** Univ. of Chicago.
- D150 **II** **1063.2** Src family kinases collaborate with distinct TNF-alpha-induced signaling pathways to regulate actin dynamics at cell-cell junctions and barrier function in endothelial cells. **A.P. Adam, A. Lowery and P. Vincent.** Albany Med. Ctr.
- D151 **I** **1063.3** Cadherin ectodomains and cadherin-actin linkages regulate the endothelial barrier. **S.K. Quadri, L. Sun and J. Bhattacharya.** Columbia Univ.
- D152 **II** **1063.4** Hsp90 inhibition attenuates the LPS-mediated phosphorylation of CREB and STAT3 in human lung microvascular endothelial cells. **A.D. Joshi, G. Thangjam, C. Snead, S. Feldman and J.D. Catravas.** Georgia Hlth. Sci. Univ.

- D153 **I** **1063.5** Localized activation of Rac1 promotes IQGAP1-dependent VE-cadherin *trans* interaction: role in junction stabilization. **N. Daneshjou, S.M. Vogel, Y. Komarova and A.B. Malik.** Univ. of Illinois Col. of Med., Chicago.
- D154 **II** **1063.6** Cigarette smoke increases susceptibility to lung edema: implication of RhoA and FAK-mediated disassembly of endothelial cytoskeleton and cell contacts. **Q. Lu, P. Sakhatskyy, J. Newton and S. Rounds.** Brown Univ. and Providence VA Med. Ctr.
- D155 **I** **1063.7** AMP-activated protein kinase enhances endothelial-mediated vascular repair in endotoxin-induced pulmonary edema. **M-Y. Jian, Z. Lemley, K. Lewis and J. Creighton.** Univ. of Alabama at Birmingham.
- D156 **II** **1063.8** Endothelial focal adhesion kinase maintains lung fluid balance and prevents cytokine storm. **T. Thennes, M. Tauseef, M. Bonini, J. Gothert, T-L. Shen, J-L. Guan, R. Sadikot and D. Mehta.** Univ. of Illinois at Chicago, Univ. Hosp. of Essen, Natl. Taiwan Univ. and Univ. of Michigan.
- D157 **I** **1063.9** Segment-specific tissue factor expression in mouse lung vasculature. **S. Bhattacharya and M. Emin.** Columbia Univ.
- D158 **II** **1063.10** Real-time observation of cytoskeletal stresses and subsequent focal adhesion remodeling in live cells. **S. Hua, N. Ye, D. Verma, F. Meng and F. Sachs.** Univ. at Buffalo SUNY.
- D159 **I** **1063.11** Hyperoxia increases elastic modulus of alveolar epithelial cells through Fho kinase. **K.R. Wilhelm, E. Roan and C.M. Waters.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis and Univ. of Memphis.
- D160 **II** **1063.12** Increased claudin-5 increases lung epithelial permeability and is associated with disruption of tight junction assembly. **C. Overgaard, L.A. Mitchell, C. Ward, D.M. Guidot and M. Koval.** Emory Univ. Sch. of Med.
- D161 **I** **1063.13** Alveolar type II cell-specific deletion of p120-catenin in mice demonstrates the crucial role of type II cell-localized p120-catenin in regulating alveolar epithelial barrier function. **Y. Liu, A.B. Reynolds and A.B. Malik.** Univ. of Illinois at Chicago and Vanderbilt Univ. Med. Ctr.
- D162 **II** **1063.14** Cell-specific expression of alveolar TNFR1. **G.A. Gusarova, M.N. Islam, S. Das and J. Bhattacharya.** Columbia Univ. Med. Ctr.
- D163 **I** **1063.15** First determination of ATP in alveolar epithelium in situ, effect of mesenchymal stem cells. **M.N. Islam, L. Sun, S.R. Das and J. Bhattacharya.** Columbia Univ. Med. Ctr.
- D164 **II** **1063.16** First detection of Ca<sup>2+</sup> responses in alveolar macrophages in situ. **K. Westphalen, M.N. Islam, G. Gusarova and J. Bhattacharya.** Columbia Univ. Med. Ctr.

## 1064. CELLULAR SIGNALING

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D165 **I** **1064.1** Development of complex model systems for analysis of cell-cell and cell-microenvironment interactions in breast cancer. **A.P. Andersen, L. Ronnov-Jessen, A. Hulikova, P. Swietach and S.F. Pedersen.** Univ. of Copenhagen and Univ. of Oxford.

- D166 II **1064.2** Specific targeting of pancreatic  $\beta$ -cells for imaging and therapy using multivalent targeting of receptor combinations. **N. Hart, J. Vagner, W.J. Chung, C. Weber, S. Limesand, C. Silva and R. Lynch.** Univ. of Arizona.
- D167 I **1064.3** Hyposmotic stress-induced cytoplasmic calcium increase involves TRPV4 and Src family kinase activation. **A. Mandal, M. Shahidullah and N.A. Delamere.** Univ. of Arizona.
- D168 II **1064.4** TRPV4 in porcine lens epithelium regulates hyposmotic stress-induced ATP release and Na,K-ATPase activity. **M. Shahidullah, A. Mandal and N.A. Delamere.** Univ. of Arizona.
- D169 I **1064.5** Snail regulates type I collagen expression in cardiac fibroblast and myofibroblast. **L.C. Katwa, M.M. Salameh and P.D. Ferrell.** East Carolina Univ. Brody Sch. of Med.
- D170 II **1064.6** Cardiac myocyte exosome stability and function: role of HSP60. **T. Kuo, Z. Malik, K.S. Kott, L. Chen and A.A. Knowlton.** Univ. of California, Davis.
- D171 I **1064.7** The  $\beta$ AR-PI3K signaling pathway crosstalk: differential effects on phosphorylation of p70s6K and FoxO in newborn and adult hearts. **Y-T. Tseng, W. Zhang, N. Yano, Q. Mao, M. Deng and J.F. Padbury.** Women & Infant's Hosp., Alpert Med. Sch., Brown Univ. and The 2nd Xiangya Hosp., Central South Univ., China.
- D172 II **1064.8** Modified cell signaling with multivalent ligands targeting independent GPCR's. **C. Weber, N. Brabez, J. Vagner, V.J. Hruby, R.J. Gillies and R. Lynch.** Univ. of Arizona and Moffitt Cancer Ctr., Tampa.
- D173 I **1064.9** DNA-dependent protein kinase is critical for VCAM-1 expression upon TNF treatment through phosphorylation of p50 NF- $\kappa$ B: a critical involvement in vascular and lung inflammation. **J. Ju, A. Naura, Y. Errami, H. Kim, J. Kim, A.A. Beg, C. Giardina and H. Boulares.** LSU Hlth. Sci. Ctr.-New Orleans, Chonbuk Natl. Univ., South Korea, Moffitt Cancer Cancer, Tampa and Univ. of Connecticut.
- D174 II **1064.10** RAGE signaling influences tobacco smoke-induced inflammation by pulmonary macrophages. **A.B. Robinson, K.D. Johnson, B.G. Bennion and P.R. Reynolds.** Brigham Young Univ.
- D175 I **1064.11** Signaling from the natriuretic peptide system to ENaC: implications in primary cilium of renal epithelial cells. **A.A. Alli, L-J. Guo, D.C. Eaton and H-F. Bao.** Emory Univ.
- D176 II **1064.12** ERK1/2-dependent bestrophin-3 expression prevents ER-stress-induced cell death of renal epithelial cells by reducing CHOP. **W-K. Lee, P.K. Chakraborty, E. Roussa, N.A. Wolff and F. Thévenod.** Univ. of Witten/Herdecke and Univ. of Freiburg, Germany.
- D177 I **1064.13** Fibronectin stabilization and fibronectin-integrin signaling via MAPK are required in L-glutamine-mediated protection against gut injury. **S. Niederlechner, J. Klawitter, C. Baird, A. Kallweit, U. Christians and P. Wischmeyer.** Univ. of Colorado Denver, Aurora.
- D178 II **1064.14** Mobile phone radiation effects into ERK1, RFK2 and PKC $\alpha$  signaling pathway of Wistar rats pituitary. **L.C. Caires Júnior, E.S.G. Guimarães, C.M. Musso, R. Vasconcellos, D. Assis, J.P.R.F. Mendonça and R.M.G. Garcia.** Fed. Univ. of Juiz de Fora and Fed. Univ. of São João del Rei, Brazil.
- D179 I **1064.15** Expression of gene isoforms encoding phospholipase C X-domain containing proteins in fish and humans. **S. Gellatly, S. Kalujnaia and G. Cramb.** Sch. of Med., Univ. of St. Andrews, U.K.

- D180 II **1064.16** Effect of ketanserin and methiothepin implicate a 5-HT-like receptors in serotonin-stimulated alkali and acid secretion in isolated, perfused midgut preparations of larval yellow-fever mosquito *Aedes aegypti*. **A.K. Cobbina and D.F. Moffett.** Washington State Univ. Sch. of Biol. Sci.

## 1065. APOPTOSIS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D181 I **1065.1** Recruitment of OCRL and Inpp5B to phagosomes by Rab5 and APPL1 depletes phosphoinositides and attenuates Akt signaling. **M. Bohdanowicz, D.M. Balkin, P. De Camilli and S. Grinstein.** Hosp. for Sick Children, Toronto and Yale Univ.
- D182 II **1065.2** Cytosolic phospholipase A<sub>2</sub> mediates mechanical stretch-induced apoptosis via caspase-3 in human renal proximal tubular epithelial (HK-2) cells. **L.D. Alexander.** Midwestern Univ., AZ.
- D183 I **1065.3** Mechanisms protecting chronic pressure overload by apoptosis inhibition. **M. Park, S. Gao, G.J.A. Lee, S. Yoon, S.F. Vatner and D.E. Vatner.** UMDNJ-New Jersey Med. Sch.
- D184 II **1065.4** Obscurins: giant proteins with tumor suppressing activities in breast cancer. **N.A. Perry, M. Shriver, M. Mameza, B. Grabias, E. Balzer and A. Kontrogianni-Konstantopoulos.** Univ. of Maryland Baltimore and Johns Hopkins Univ.
- D185 I **1065.5** Anticancer effects of  $\alpha$ ,  $\beta$  Momorcharin and its mechanism of action on different cancer cell lines. **J. Singh and G. Manoharan.** Univ. of Central Lancashire, U.K.
- D186 II **1065.6** Tauroursodeoxycholic acid improves function in cold storage hearts. **K. Porter, T. Mingo, G.A. Garry and M.G. Garry.** Univ. of Minnesota, Minneapolis.
- D187 I **1065.7** Spatio-temporal patterns of apoptosis and mitosis during organismal regeneration in a basal chordate. **J.P. Gilman and R.J. Lauzon.** Union Col., NY.

## 1066. MEMBRANE DOMAINS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D188 I **1066.1** NaPillb in rat enterocytes interacts with EBP50 and Shank2. **J. Rachelson, D. Cranston, E. Dobrinskikh, M. Levi and R.B. Doctor.** Univ. of Colorado Denver.
- D189 II **1066.2** Shank2 regulates NaPilla abundance and endocytosis in OK cells. **E. Dobrinskikh, D. Cranston, J. Rachelson, R. Moldovan, T. Lei and R.B. Doctor.** Univ. of Colorado Denver, Aurora.
- D190 I **1066.3** The NHE3 interacting PDZ protein NHERF2 determines the lipid raft association of the apical Na<sup>+</sup>/H<sup>+</sup> exchanger NHE3 in murine small intestine. **A. Sultan, B. Riederer, W. Xia, M. Chen, G. Lamprecht, S. Lissner, C. Yun, H. deJonge, M. Donowitz, J. Gessner and U. Seidler.** Hannover Med. Sch. and Univ. of Tübingen, Germany, Emory Univ., Erasmus MC, Rotterdam and John Hopkins Med. Sch.



- D191 II **1066.4** Blue native PAGE resolution of renal sodium transporters. **D.H. Lee and A.A. McDonough.** Keck Sch. of Med. of Univ. of Southern California.
- D192 I **1066.5** Caveolin isoform switch in differentiating C2C12 cells is not prevented by palmitate. **I.M. Pinz, M. Vittorioso and C.J. Knowles.** Maine Med. Ctr., Scarborough and Univ. of Southern Maine.
- D193 II **1066.6** Phase change in membranes observed by variations in electrical capacitance. **A. Doermann, L. Goggins, D. Larsen and D.J. Woodbury.** Brigham Young Univ.

### 1067. UBIQUITYLATION AND DEUBIQUITYLATION OF ION CHANNELS AND TRANSPORTERS (POSTERS)

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D194 I **1067.1** Ubiquitylation of the plasma membrane KCa3.1 is not required for channel endocytosis but for its lysosomal targeting. **C.M. Balut and D.C. Devor.** Univ. of Pittsburgh.
- D195 II **1067.2** Loss of renal Nedd4-2 in adult mice leads to PHAII compensated by ENaC downregulation and ROMK upregulation. **O. Staub, C. Ronzaud, D. Loffing, A. Debonneville, B. Yang, J. Stokes, R. Koesters, E. Hummler and J. Loffing.** Univ. of Lausanne, Univ. of Zurich, Univ. of Iowa and INSERM/Univ. Pierre et Marie Curie, Paris.
- D196 I **1067.3** Long QT syndrome type 3 caused by a PY-motif mutation leading to altered ubiquitylation and increased expression of Nav1.5 in knockin mice. **J. Rougier, M. Albesa, C.A. Remme, J. Ogrodnik, S. Petitprez, J. Bankston, R.S. Kass, C.R. Bezzina, W. Chung and H. Abriel.** Univ. of Bern, Univ. of Amsterdam and Columbia Univ.
- D197 II **1067.4** Prolactin-stimulated ubiquitination of the zinc transporter ZnT2 regulates zinc secretion. **Y.A. Seo and S.L. Kelleher.** Penn State and Penn State Col. of Med.
- D198 I **1067.5** Forskolin stimulation promotes urea transporter UT-A1 ubiquitination, endocytosis and degradation in MDCK cells. **G. Chen, H. Su, C.B. Carter, O. Fröhlich and J.M. Sands.** Emory Univ.
- D199 II **1067.6** Ubiquitination of vesicular acetylcholine transporter. **Y. Li, J.L. Freeling and A. Sample.** Univ. of South Dakota.
- D200 I **1067.7** cGMP induces the degradation of internalized NKCC2 in thick ascending limbs: role of the proteasome. **G. Ares and P. Ortiz.** Henry Ford Hlth. Syst.
- D201 II **1067.8** The influence of FAs complexity and architectures of cytoskeleton on morphology during cell initial spreading. **W-Y. Lin, T-J. Chen, C-C. Wu and F-C. Su.** Natl. Cheng Kung Univ., Taiwan.

### 1068. REGULATION OF EPITHELIAL TRANSPORT PROTEINS, ION AND WATER CHANNELS, AND MODULATORY FACTORS II

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D202 I **1068.1** Dietary Na<sup>+</sup> restriction promotes release of an inhibitory tract from the  $\gamma$  ENaC subunit. **M.D. Carattino, G.M. Mueller, L.G. Palmer, G. Frindt, R.P. Hughey and T.R. Kleyman.** Univ. of Pittsburgh and Weill Med. Col. of Cornell Univ.
- D203 II **1068.2** Structural basis of Zn<sup>2+</sup> activation of the epithelial Na<sup>+</sup> channel. **J. Chen, K.L. Winarski, M.M. Myerburg, B.R. Pitt and S. Sheng.** Univ. of Pittsburgh.
- D204 I **1068.3** Regulation of ENaC by cholesterol: role of microvilli and PIP<sub>2</sub>. **H-P. Ma.** Emory Univ. Sch. of Med.
- D205 II **1068.4** ROS production as a common mechanism of ENaC regulation by EGF, insulin and IGF-1. **D.V. Ilatovskaya, T.S. Pavlov, V. Levchenko and A. Staruschenko.** Med. Col. of Wisconsin and Inst. of Cytol., RAS, St. Petersburg.
- D206 I **1068.5** Crosstalk between insulin and IGF-1 receptors in principal cells: implication for ENaC-mediated sodium reabsorption. **D.V. Ilatovskaya, V. Levchenko, T.S. Pavlov and A. Staruschenko.** Med. Col. of Wisconsin.
- D207 II **1068.6** Inhibition of  $\alpha$ ENaC expression and ENaC activity following blockade of the circadian clock-regulatory kinases CKI $\delta/\epsilon$ . **J. Richards, M. Mitzelfelt, L. Jeffers, K-Y. Cheng, D.C. Eaton and M.L. Gumz.** Univ. of Florida and Emory Univ.
- D208 I **1068.7** Identification of ENaC intersubunit interfacing residues provides insight into conformational changes associated with channel gating. **D.M. Collier and P.M. Snyder.** Univ. of Iowa Carver Col. of Med.
- D209 II **1068.8** Epithelial sodium channel plasma membrane turnover is modified in channels containing  $\delta$  subunits. **D. Alvarez de la Rosa, D.L. Wesch, P. Miranda and T. Giraldez.** Univ. of La Laguna and Hosp. N.S. Candelaria, Santa Cruz de Tenerife, +Spain.
- D210 I **1068.9** Effect of epithelial sodium channel blockade in hypertensive Nigerians. **S.O. Elias, S. Sofola and S. Jaja.** Lagos State Univ. Col. of Med. and Col. of Med., Univ. of Lagos.
- D211 II **1068.10** Estradiol increases the density and open probability of epithelial sodium channels in alveolar cells. **M.M. Greenlee, B.J. Duke and D.C. Eaton.** Emory Univ.
- D212 I **1068.11** Downregulation of the (pro)renin receptor by insulin is potentiated by high glucose in mouse renal collecting duct cells. **A.A. Gonzalez, M. Rajo, M. Kassar, K. Matrougui and M.C. Prieto.** Tulane Univ.
- D213 II **1068.12** Mice disrupted for the ammonia channel RhCG compensate a physiological acid load of high protein diet. **L. Bounoure, S. Bourgeois, S. Druart, G. Kuhn, R. Müller, O. Devuyst and C. Wagner.** Univ. of Zurich, UCL, Brussels and ETH, Zurich.
- D214 I **1068.13** Vacuolar H<sup>+</sup>-ATPase regulation by AMPK in the kidney proximal tubule. **M. Al-bataineh and N. Pastor-Soler.** Univ. of Pittsburgh.
- D215 II **1068.14** Secondary hyperparathyroidism and impaired renal phosphate excretion in mice lacking adenylyl cyclase 6. **T. Rieg, T. Tang, M. Sharik, H.K. Hammond and V. Vallon.** UCSD and VA San Diego Healthcare Syst.

- D216 I **1068.15** Tracking of single microvilli to study regulation of the intestinal phosphate transporters. **L. Lanzano, Y. Caldas, H. Giral, M. Digan, M. Levi and E. Gratton.** Univ. of California, Irvine and Univ. of Colorado Denver, Aurora.
- D217 II **1068.16** Impaired regulation of renal K elimination in mice lacking SGLT1. **M. Gerasimova, M. Rose, R. Cunard, H. Koepsell, T. Rieg and V. Vallon.** UCSD and VA San Diego Healthcare Syst. and Univ. of Würzburg, Germany.
- D218 I **1068.17** Insulin regulates hSGLT2 expression via PKA and PKC activation. **C. Ghezzi and E.M. Wright.** David Geffen Sch. of Med., UCLA.
- D219 II **1068.18** Modulation of renal glucose transport by sweet taste sensing at the proximal tubule brush border membrane. **H. Chichger, J. Marks, K. Srail, E.S. Debnam and R.J. Unwin.** Brown Univ. and University Col. London.
- D220 I **1068.19** Broad range neutral amino acid transporter (B<sup>0</sup>AT1) requires association with TMEM27 for surface expression in renal cells. **M. Torrente, L. Arps, A. Guetg, S.M.R. Camargo and F. Verrey.** Univ. of Zurich.
- D221 II **1068.20** Mechanism of tumor necrosis factor alpha inhibition of B<sup>0</sup>AT1 mediated glutamine transport in rat intestinal epithelial cell (IEC-6). **J. Talukder, N. Bayakly and T. Dawney.** LeMoyne-Owen Col., TN.
- D222 I **1068.21** Trafficking of renal betaine/GABA transporter (BGT1) is disrupted by mutation at T40. **C.R. Day, S.S. Gordon, R. Williams, R.N. Day and S.A. Kempson.** Indiana Univ Sch. of Med.
- D223 II **1068.22** Acute activation of the renal betaine/GABA transporter by low extracellular calcium. **N.R. Parikh, C.L. Vaughn and S.A. Kempson.** Indiana Univ. Sch. of Med.
- D224 I **1068.23** Multidrug resistant proteins mediate extracellular ATP release in Caco2 cell monolayers. **S. Rudenky, T. Nakano, Y. Akiba and J.D. Kaunitz.** UCLA, West Los Angeles VA Med. Ctr. and Saitama Med. Univ., Japan.
- D225 II **1068.24** Angiotensin II inhibits P-glycoprotein in human intestinal epithelial cells. **S. Saksena, A. Kumar, V. Soni, W.A. Alrefai, P.K. Dudeja and R. Gill.** Univ. of Illinois at Chicago and Jesse Brown VA Med. Ctr.
- D226 I **1068.25** Role of cysteine residues for the function of the human sodium-dependent multivitamin transporter. **A. Ghosal and H.M. Said.** Univ. of California, Irvine and VA Med. Ctr., Long Beach.
- D230 II **1069.4** Appetite regulation in desert-adapted Spinifex hopping mice during water deprivation. **J.A. Donald, N.K. Abdul Hamid, P. Horvath and J. McLeod.** Deakin Univ., Australia.
- D231 I **1069.5** Renal hemodynamics in the anesthetized giraffe. **P. Bie, C. Grøndahl, M.F. Bertelsen, A. Hørlyck, J.M. Hasenkam, T. Wang, E.T. Brøndum, G. Candy and B.A. Kristensen.** Univ. of Southern Denmark, Copenhagen Zoo, Skejby Hosp., Aarhus, Aarhus Univ., Denmark and Univ. of Witwatersrand, South Africa.
- D232 II **1069.6** Role of sodium pump  $\beta$ 1 subunit in adult mouse lung alveolar fluid homeostasis. **P. Flodby, Z. Borok, D. Gao, Y.H. Kim, K-J. Kim and E.D. Crandall.** Univ. of Southern California.
- D233 I **1069.7** Evaluation of salt appetite in brain-specific 11 $\beta$  hydroxysteroid dehydrogenase type 2 knockout mice. **L.C. Evans, M. Holmes, J.J. Mullins and M.A. Bailey.** Ctr. for Cardiovasc. Sci., Edinburgh, U.K.
- D234 II **1069.8** A novel physiological role of miR-192 in renal handling of fluid balance. **D. Mladinov, Y. Liu and M. Liang.** Med. Col. of Wisconsin.
- D235 I **1069.9** Natriuretic response to renal medullary endothelin B receptor activation is impaired in Dahl-salt sensitive rats on a high-caloric diet. **W. Kittikulsuth, Y. Zhang, I. Sunjic and D.M. Pollock.** Georgia Hlth. Sci. Univ.
- D236 II **1069.10** Acute changes in dietary sodium lead to sodium retention in the collecting duct NOS1 knockout mouse. **K.A. Hyndman, M. Brands, D.M. Pollock and J.S. Pollock.** Georgia Hlth. Sci. Univ.
- D237 I **1069.11** Renal medullary circadian clock genes are altered in endothelin B deficient rats. **J.S. Speed, M.A. Saleh and D.M. Pollock.** Georgia Hlth. Sci. Univ. and Mansoura Univ., Egypt.

## 1070. COMPARATIVE OSMOTIC, IONIC, AND ACID-BASE REGULATION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

## 1069. SODIUM AND WATER HOMEOSTASIS: GENETIC AND COMPARATIVE MODELS (POSTERS)

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D227 I **1069.1** Osmotic pressure of the cutaneous surface fluid of *Rana esculenta*. **E.H. Larsen and H. Ramløv.** Univ. of Copenhagen and Roskilde Univ., Denmark.
- D228 II **1069.2** Osmotic water absorption across toad skin: C.B. Jorgensen revisited. **S.D. Hillyard and E.H. Larsen.** Sch. of Dent. Med., Univ. of Nevada, Las Vegas and Univ. of Copenhagen.
- D229 I **1069.3** Abundance of sea kraits correlates with precipitation. **H.B. Lillywhite and M-C. Tu.** Univ. of Florida and Natl. Taiwan Normal Univ.
- D238 I **1070.1** Convergence of acid-base regulation in embryonic cephalopod and fish. **Y-C. Tseng, M.Y. Hu, L-Y. Lin, S-T. Liu, F. Melzner and P-P. Hwang.** Natl. Taiwan Normal Univ., Univ. of Goteborg, Sweden, Leibniz-Inst. of Marine Sci., Kiel, Germany and Inst. of Cell. and Organismic Biol., Acad. Sinica, Taipei.
- D239 II **1070.2** Pacific oyster mantle, gill and hemocytes express the bicarbonate-sensing enzyme soluble adenylyl cyclase. **M.E. Barron, J.N. Bartlett Roa and M. Tresguerres.** UCSD.
- D240 I **1070.3** Kidney function and sulphate transport in pacific hagfish (*Eptatretus stoutii*). **G.G. Goss, A. Schultz, B.L. Goss and A.M. Clifford.** Univ. of Alberta.
- D241 II **1070.4** Bicarbonate-sensing soluble adenylyl cyclase in elasmobranch and teleost fishes. **J.N. B. Roa, M.E. Barron and M. Tresguerres.** UCSD.
- D242 I **1070.5** Response of a marine population of three-spine sticklebacks (*Gasterosteus aculeatus*) to salinity stress. **J. Li and D. Kültz.** Univ. of California, Davis.

- D243 II 1070.6 Reverse effect of mammalian hypocortisemic cortisol in fish: cortisol stimulates  $\text{Ca}^{2+}$  uptake via glucocorticoid receptor-mediated vitamin D3 metabolism. **C-H. Lin, I-L. Tsai, C-H. Su and P-P. Hwang.** Inst. of Cell. and Organismic Biol., Acad. Sinica and Natl. Def. Med. Ctr., Taipei and Natl. Pingtung Univ. of Sci. and Technol., Taiwan.
- D244 I 1070.7 Rhcg1 and NHE3b are involved in ammonium-dependent sodium uptake by zebrafish larvae acclimated to low-sodium water. **T-H. Shih, J-L. Horng, S-T. Liu, P-P. Hwang and L-Y. Lin.** Natl. Taiwan Normal Univ., Taipei Med. Univ. and Acad. Sinia, Taipei.
- D245 II 1070.8 The role of polyamines in osmotic stress tolerance in Gulf killifish *Fundulus grandis*. **Y. Guan.** LSU.
- D246 I 1070.9 Functions of ion transporting proteins NKA, NKCC and CFTR on the intestinal epithelia of fundulus grandis during osmotic challenge. **Y. Meng and C. Bodinier.** LSU.
- D247 II 1070.10 Isolation of the TRPV4 osmoreceptor from the avian lower gastrointestinal tract. **P.C. Warner and E.J. Braun.** Univ. of Arizona.

### 1071. COMPARATIVE CARDIOVASCULAR AND RESPIRATORY PHYSIOLOGY

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D248 I 1071.1 Study of octopamine in bivalves. **R. Hoque, C. Welsh, I. Ikotun, A.J. Louis, E.J. Catapane and M.A. Carroll.** Medgar Evers Col., NY.
- D249 II 1071.2 Hypoxia-induced compression of the tracheal system in the caterpillar, *Manduca sexta*. **K.J. Greenlee, J.J. Socha, H.B. Eubanks, W-K. Lee and S.D. Kirkton.** North Dakota State Univ., Virginia Tech, Jackson State Univ., Argonne Natl. Lab. and Union Col., NY.
- D250 I 1071.3 Patterns and mechanisms of air flow during abdominal pumping in the grasshopper, *Schistocerca americana*. **J.F. Harrison, A.J. Cease and A. House.** Arizona State Univ.
- D251 II 1071.4 Fluctuations in oxygen influences facultative endothermy in bumblebees. **E.M. Dzialowski, G. Tattersall, S. Nicol and P. Frappell.** Univ. of North Texas, Brock Univ., Canada and Univ. of Tasmania, Australia.
- D252 I 1071.5 Altered expression of  $\text{K}_{\text{ATP}}$  channel genes after acclimation to hypoxia in goldfish (*Carassius auratus*). **J.P. DeWitt, T.T. Ngo, T. Yajnik, S. Chan, E. Chung, E. Kang and J.S. Cameron.** Wellesley Col.
- D253 II 1071.6 The effect of temperature on the compliance of the rainbow trout heart. **H.A. Shiels, H. Rizvi, A. Fenna and D. Samuel.** Univ. of Manchester.
- D254 I 1071.7  $\beta$ -Adrenoreceptors in the ventricle of the rainbow trout. **H.A. Shiels, A. Fenna, S. Pellowe, R. Robinson and R. Taylor.** Univ. of Manchester.
- D255 II 1071.8 The effects of temperature on cardiac E-C coupling and intracellular  $\text{Ca}^{2+}$  buffering in trout cardiomyocytes. **D.E. Warren and H.A. Shiels.** Saint Louis Univ. and Univ. of Manchester.
- D256 I 1071.9 Modulation of the onset of air-breathing of the siamese fighting fish and the blue gourami. **J. Mendez Sanchez and W. Burggren.** Univ. of North Texas.

- D257 II 1071.10 Lung ventilation is an effector of the baroreflex in the cane toad (*Rhinella marina*). **M.S. Hedrick, S.S. Hillman, R.C. Drewes and P.C. Withers.** Univ. of North Texas, Portland State Univ., California Acad. of Sci., San Francisco and Univ. of Western Australia.
- D258 I 1071.11 Chronic developmental hypoxia alters the cardiovascular baroreflex phenotype of embryonic common snapping turtles. **D.A. Crossley II, K.B. Tate, M. Elfving and J. Erme.** Univ. of North Texas and Linköping Univ., Sweden.
- D259 II 1071.12 Blood oxygen depletion in California sea lions. **B.I. McDonald and P.J. Ponganis.** Scripps Instn. of Oceanography.
- D260 I 1071.13 Estimating water loss during hibernation in the American black bear (*Ursus americanus*). **S.A. Howard, K. Rothstein, T.G. Laske, D.L. Garshelis and P.A. Iazzo.** Univ. of Minnesota, Minneapolis, Medtronic, Mounds View and Minnesota DNR, Grand Rapids.
- D261 II 1071.14 The structure of giraffe resistance arteries from muscular beds correlates with the height above ground. **C. Aalkjaer, T. Broegger, N. Tilenius and E.T. Broendum.** Aarhus Univ., Denmark.
- D262 I 1071.15 Sabertooth cat (*Smilodon*) attack involved inflicting pneumothorax. **T. Wilson and L.P. Golbach.** Winona State Univ., MN.
- D263 II 1071.16 Post-exercise hyperpnea and cardiac asystole. **P. Haouzi, A. Van De Louw and H.J. Bell.** Penn State Col. of Med.

### 1072. COMPARATIVE METABOLIC PHYSIOLOGY, MUSCLE PHYSIOLOGY, AND OTHER COMPARATIVE PHYSIOLOGY

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D264 I 1072.1 Cyanide influence on glycolytic oscillations. **P.G. Sørensen and B.O. Hald.** Univ. of Copenhagen.
- D265 II 1072.2 Variation in cuticular hydrocarbons with age, feeding, and insemination status of *Anopheles gambiae*. **M. Artis, D. Huestis and T. Lehmann.** Univ. of Maryland Eastern Shore and NIAID/NIH, Rockville.
- D266 I 1072.3 Effects of age and lifetime behavioral patterns on locomotion in *Drosophila*. **S. Roberts, S. Lane, G. Mancinelli, E. Martinez, L. Sandoe, D. Kopke and M. Elekonich.** Central Michigan Univ. and Sch. of Life Sci., Univ. of Nevada Las Vegas.
- D267 II 1072.4 Effects of a pharmacological inhibitor on p-38 MAPK in *Drosophila melanogaster* during rapid cold hardening. **D.D. Gardner and J. Kelty.** Central Michigan Univ.
- D268 I 1072.5 Embryonic temperature produces persistent effects on the capacity for thermal acclimation in adult zebrafish. **G.R. Scott, M.E. Schnurr, Y. Yin and I.A. Johnston.** McMaster Univ., Canada and Sch. of Biol., Univ. of St. Andrews, U.K.
- D269 II 1072.6 Can edge triggering response offer precious information of the visual motor response? **D-Y. Kim, H-K. Choi and C-S. Jung.** Col. of Med., The Catholic Univ. of Korea.

D270 I 1072.7 Adaptation of isolated spiny dogfish shark choroid plexus to manipulation of extracellular Zn and exposure to Cd. **A.R. Villalobos, C.E. Meyers, S.D. Francis Stuart, S.M. Zarate, E.A. Ellis, D. Perry, R.J. Taylor and R.K. Young.** Texas A&M Univ.

D271 II 1072.8 Variable oxygen affinity among terrestrial and diving vertebrates. **T.J. Wright and R.W. Davis.** Texas A&M Univ. at Galveston and College Station.

D272 I 1072.9 Immune responses to parasitic infections in mourning doves (*Zenaidura macroura*). **T.K. Juan, C.L. Jarrett and K.L. Sweazea.** Arizona State Univ.

D273 II 1072.10 Search for RAGE in avian vasculature. **F.J. Eythrib and E.J. Braun.** Univ. of Arizona.

D274 I 1072.11 The effects of dietary fatty acid composition on energy and dry matter digestibility in Siberian hamsters (*P. sungorus*). **I. Vatnick, E. Blatteau and V. Batter.** Widener Univ., PA.

D275 II 1072.12 Prolonged fasting increases purine recycling in postweaned northern elephant seals. **J.G. Sonanez Organig, J.P. Vazquez Medina, T. Zenteno Savin, A. Aguilar, D.E. Crocker and R. Ortiz.** Univ. of California Merced, Northwest Biol. Res. Ctr., La Paz, Mexico and Sonoma State Univ.

### 1073. LABORATORY SELECTION AND THE EVOLUTION OF PHYSIOLOGICAL TRAITS

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D276 I 1073.1 The quantitative genetics of a complex trait under continuous directional selection. **V. Careau, M. Wolak, P.A. Carter and T. Garland, Jr.** Univ. of California, Riverside and Washington State Univ. Sch. of Biol. Sci.

D277 II 1073.2 Using a selective breeding strategy to create 7th generation rats that voluntarily run low and high nightly distances. **M.D. Roberts, L. Gilpin, J. Knouse, A. Haynes, R. Toedebusch, L. Ebone, C. Moore, S. Naples and F.W. Booth.** Univ. of Missouri-Columbia and Sch. of Med.

D278 I 1073.3 Weight loss and the lean phenotype: energy expenditure and physical activity during calorie restriction. **S. Mukherjee, D. Lapp, E. Cosentino, S.L. Britton, L.G. Koch and C.M. Novak.** Kent State Univ. and Univ. of Michigan.

D279 II 1073.4 Mitochondrial DNA haplotype association in mice selectively bred for high voluntary wheel running. **B. Wone, H. Schutz, T.H. Meek and T. Garland.** Univ. of Arizona, California Poly State Univ., San Luis Obispo, Univ. of Washington and Univ. of California, Riverside.

D280 I 1073.5 Artificial selection for high aerobic capacity is protective against weight gain via thermogenesis? **S.M. Torvinen, M. Silvennoinen, M. Mikkonen, L.G. Koch, S.L. Britton and H. Kainulainen.** Univ. of Jyväskylä, Finland and Univ. of Michigan.

### 1074. PHYSIOLOGICAL ADAPTATIONS TO INACTIVITY

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D281 I 1074.1 DXA and MRI measures of tissue composition: implications for muscle quality in older women varying in physical activity. **R.D. Larson, C.L. Johnson, D.D. Guest, B.M. Das, C.L. Ward, D.D. Chen, J.G. Georgiadis and E.M. Evans.** Univ. of Georgia and Univ. of Illinois at Urbana-Champaign.

D282 II 1074.2 Electroacupuncture attenuated muscle atrophy induced by hindlimb suspension in rats. **S. Lee, J. Hong, K. Kim and Q. Ni.** Texas A&M Intl. Univ.

D283 I 1074.3 Preventive effects of premodulated interferential and pulsed currents on muscle atrophy in deep layer of rat hindlimb muscle. **M. Tanaka, N. Fujita and H. Fujino.** Kobe Univ., Japan.

### 1075. SIGNALING IN MUSCLE

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D284 I 1075.1 Phosphatidic acid and mechanical stimuli activate mTOR signaling via an ERK-independent mechanism. **T.A. Hornberger and J-S. You.** Univ. of Wisconsin-Madison.

D285 II 1075.2 Blocking of myostatin and activins increase muscle protein synthesis and mTORC1 signaling but decreases capillary density. **J.J. Hulmi, B.M. Oliveira, M. Silvennoinen, H. Ma, P. Pierre, W.M.H. Hoogaars, A. Pasternack, H. Kainulainen and O. Ritvos.** Univ. of Jyväskylä, Finland, Immunol. Ctr., Marseille-Luminy, Leiden Univ. Med. Ctr., Netherlands and Univ. of Helsinki.

D286 I 1075.3 Rapamycin administration does not impair basal protein metabolism in human skeletal muscle. **J.M. Dickinson, M.J. Drummond, C.S. Fry, D.M. Gundersmann, D.K. Walker, E. Volpi and B.B. Rasmussen.** Univ. of Texas Med. Branch.

D287 II 1075.4 Chronic rapamycin administration maintains mitochondrial protein synthesis in heart and skeletal muscle. **J. Drake, F.F. Peelor, L.M. Biela, R.A. Miller, K.L. Hamilton and B.F. Miller.** Colorado State Univ. and Univ. of Michigan.

D288 I 1075.5 Manipulating cytosolic ATPases alters both energetics and p38 MAPK activation in contracting fast-twitch muscles from the mouse. **R.W. Wiseman, N. Pizzimenti and J. Brault.** Michigan State Univ. and East Carolina Univ.

D289 II 1075.6 Proteins controlling catabolic and stress pathways are upregulated during total knee arthroplasty. **A.N. Bailey, A.D. Hocker, H.A. Senesac, S.M. Ratchford, S.N. Shah, B.A. Jewett and H.C. Dreyer.** Univ. of Oregon and Slocum Ctr. for Orthoped. and Sports Med., Eugene.

D290 I 1075.7 Inhibition of calpain or caspase-3 protects against immobilization-induced muscle atrophy. **E.E. Talbert, A.J. Smuder, K. Min, O-S. Kwon and S.K. Powers.** Univ. of Florida.

- D291 II **1075.8** Reduction of fatigue in skeletal muscle by diazoxide: possible participation of  $\text{mitoK}_{\text{ATP}}$ . **E. Sánchez-Duarte, R. Montoya-Pérez, X. Trujillo-Trujillo, D. Vázquez-Rivera, C. Cortés-Rojo, V. Meza-Carmen and A. Saavedra-Molina.** Univ. of Colima and Univ. Michoacana de San Nicolás de Hidalgo, Mexico.
- D292 I **1075.9** The generation of reactive oxygen and nitrogen species is not different during injurious lengthening contractions and non-damaging isometric contractions. **D. Sloboda and S.V. Brooks.** Univ. of Michigan.
- D293 II **1075.10** Deficiency of p47phox subunit of NADPH oxidase protects skeletal muscle from depression of force stimulated by sphingomyelinase. **E.R. Bost and L. Ferreira.** Univ. of Florida, Jacksonville and Gainesville.
- D294 I **1075.11** Increased mitochondrial ROS production is required for ventilator-induced myonuclear apoptosis in the diaphragm. **W.B. Nelson, A.J. Smuder, K.J. Sollanek, K. Min, H.H. Szeto and S.K. Powers.** Univ. of Florida and Weill Cornell Med. Col.
- D295 II **1075.12** Skeletal muscle force is preserved in NOX4 deficient mice. **G. Frye, B. Ahn, R.P. Brandes, K. Schröder and L.F. Ferreira.** Univ. of Florida and Goethe Univ., Frankfurt am Main.
- D296 I **1075.13** Heart failure increases neutral sphingomyelinase activity and ceramide content in rat diaphragm. **L. Ferreira, G.M. Deevska, M. Nikolova-Karakashian, J.-k. Yoo and D.D. Christou.** Univ. of Florida and Univ. of Kentucky.
- D297 II **1075.14** Phytoecdysteroid treatment reduces Notch signaling in aged skeletal muscle. **S.T. Arthur, K.A. Zwetsloot, M.M. Lawrence, D.C. Nieman, M.A. Lila, M. Grace, C.R. Nowicki, I.D. Cooley and R.A. Shanely.** Univ. of North Carolina at Charlotte, Appalachian State Univ. and North Carolina State Univ., Kannapolis.
- D298 I **1075.15** Preliminary investigation of skeletal muscle signal recognition particle receptor beta in response to aging in the rat. **C.N. Receno, R.P. Doyle, L.R. DeRuisseau and K.C. DeRuisseau.** Syracuse Univ. and Le Moyne Col.
- D299 II **1075.16** Alterations in  $\text{Ca}^{2+}$  regulatory proteins and  $\text{Ca}^{2+}$ -dependent gene expression in skeletal muscle from ALS mice. **E.R. Chin, D.A.G. Mazala and D. Chen.** Univ. of Maryland College Sch. of Publ. Hlth.
- D300 I **1075.17** Docosahexaenoic acid prevents atrophy-related signaling in palmitate-treated myotubes. **M. Woodworth-Hobbs, B. Zheng and R. Price.** Emory Univ.
- D301 II **1075.18** The effects of IL-6 dosage and duration on the regulation of protein turnover in C2C12 myotubes. **S. Gao and J. Carson.** Univ. of South Carolina.
- D302 I **1075.19** Both reactive oxygen species and nitric oxide mediate TNF-induced diaphragm dysfunction. **S. Stasko, B. Hardin, J. Smith, S. Arbogast, J. Moylan and M.B. Reid.** Univ. of Kentucky and Inst. of Myology, Paris.
- D303 II **1075.20** Effects of estradiol on avian myogenic satellite cell proliferation and expression of heparan sulfate proteoglycans, MyoD and myogenin. **D.C. McFarland, S.G. Velleman, J.E. Pesall and C.S. Coy.** South Dakota State Univ. and The Ohio State Univ., Wooster.
- D304 I **1075.21** Administration of recombinant adeno-associated virus vector to the diaphragm through direct intramuscular injection. **A.J. Smuder, D.J. Falk, W.B. Nelson and S.K. Powers.** Univ. of Florida.
- D305 II **1075.22** Characterization of  $G_z$ -coupled dopamine D3 receptors in gastric smooth muscle. **S. Rajagopal, D.P. Kumar, S. Bhattacharya, J.R. Grider and K.S. Murthy.** Virginia Commonwealth Univ.

## 1076. EXERCISE/NUTRITION AND MUSCLE PROTEIN SYNTHESIS

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D306 I **1076.1** Muscle RING finger-1 inhibits IGF1-dependent Akt activation and exercise-induced cardiac hypertrophy. **K.M. Wadosky, J.E. Rodriguez and M.S. Willis.** Univ. of North Carolina at Chapel Hill.
- D307 II **1076.2** Exercise mitigates beta-2 adrenergic receptor dysfunction by decreasing homocysteine in diabetes. **P.K. Mishra, I.G. Joshua and S.C. Tyagi.** Univ. of Louisville.
- D308 I **1076.3** Inhibition of glycolysis and mTORC1 activation in human skeletal muscle with blood flow restriction exercise. **D.M. Gundermann, J.M. Dickinson, C.S. Fry, D.K. Walker, E. Volpi and B.B. Rasmussen.** Univ. of Texas Med. Branch.
- D309 II **1076.4** Impact of chronic voluntary resistance training during recovery following hindlimb unloading on rat hindlimb muscles. **K.L. Shimkus, Y. Shirazi-Fard, H.A. Hogan and J.D. Fluckey.** Texas A&M Univ.

## 1077. AGING AND MUSCLE FUNCTION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D310 I **1077.1** The effects of calorie restriction on skeletal muscle glucose uptake and insulin signaling in 24-month-old rats. **D.A. Sequea, N. Sharma, E. Arias and G.D. Cartee.** Univ. of Michigan Sch. of Kinesiol.
- D311 II **1077.2** Altered levels of mitochondrial morphology proteins in skeletal muscle of mitochondrial DNA mutator mice. **A.-M. Joseph, S.E. Wohlgenuth, A. Picca, N. Wawrzyniak, G.C. Kujoth, P.J. Adhietty, T.A. Prolla and C. Leeuwenburgh.** Univ. of Florida, Univ. of Bari, Italy and Univ. of Wisconsin-Madison.
- D312 I **1077.3** Resveratrol attenuates age-associated functional deterioration and augmentation of cardiac fibrosis. **A. Yu, T. Sin and P. Siu.** The Hong Kong Polytech Univ.
- D313 II **1077.4** Phytoecdysteroid treatment increases fiber size and PI3K-Akt signaling in aged skeletal muscle. **M.M. Lawrence, K.A. Zwetsloot, S.T. Arthur, D.C. Nieman, M.A. Lila, M. Grace, B.A. Ray, J.R. Via, C.P. Romoda, D.K. Westbrook, K.E. Hargrove, P.M. Lederer, C.S. John, I. Cooley, P.C. Tessener and R.A. Shanely.** Appalachian State Univ., Boone and Kannapolis, Univ. of North Carolina at Charlotte and North Carolina State Univ., Kannapolis.
- D314 I **1077.5** Effect of resveratrol and caloric restriction on mitochondrial regulation and apoptotic susceptibility in aged rat skeletal muscle. **A.G. Malamo, J. Silvestre, M.E. Adams, L.M.-D. Nguyen, A.M. Joseph, D. Dutta, J. Xu, M.L. Dirain, D.M. Tuckerman, C. Leeuwenburgh and P.J. Adhietty.** Univ. of Florida.

- D315 II 1077.6 Association between uric acid, lean mass, and muscle strength gains in the elderly. **N.M. Johannsen, M.A. Welsch, D. Credeur, B. Hollis, T.S. Church and J.D. Allen.** Pennington Biomed. Res. Ctr., LSU and Duke Univ. Med. Ctr.
- D316 I 1077.7 Alzheimer's disease is associated with muscle weakness. **B. Bush, J. Lloyd, K.C. DeRuisseau and S. Keslacy.** Syracuse Univ.
- D317 II 1077.8 Lifelong wheel running with mild caloric restriction protects against the age-related disruption of the dystrophin-glycoprotein complex in skeletal muscle. **J.M. Hord, Y. Lee, C. Leeuwenburgh and J.M. Lawler.** Texas A&M Univ. and Univ. of Florida.

## 1078. SKELETAL MUSCLE PHYSIOLOGY

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D318 I 1078.1 Activin IIB receptor blockade improves muscular function in a mouse model of spinal muscular atrophy. **M. Liu, E.R. Barton and H.L. Sweeney.** Univ. of Pennsylvania.
- D319 II 1078.2 Dietary nitrate dramatically increases force in mouse skeletal muscle. **A. Hernández, T.A. Schiffer, N. Ivarsson, J.D. Bruton, J.O. Lundberg, E. Weitzberg and H. Westerblad.** Karolinska Inst.
- D320 I 1078.3 Regulation of GLUT1-mediated glucose and dehydroascorbic acid transport. **S. Andrisse, G.D. Patel, J.E. Chen, A.M. Webber, L.D. Spears and J.S. Fisher.** Saint Louis Univ.
- D321 II 1078.4 Functional decline, remodeling, and compensation in the respiratory system of a canine model of Duchenne muscular dystrophy. **A. Mead, A. Malik, M. Petrov, M. Childers, J. Bogan, G. Seidner, J. Kornegay and H. Stedman.** Univ. of Pennsylvania, Univ. of Pennsylvania Perelman Sch. of Med., Wake Forest Univ. and Univ. of North Carolina at Chapel Hill.
- D322 I 1078.5 Macrophage AMPK $\alpha$ 1 is necessary for the resolution of inflammation during skeletal muscle regeneration. **R. Mounier, M. Theret, S. Cuvelier, K. Sakamoto, D. Zibrova, M. Foretz, B. Viollet and B. Chazaud.** Inst. Cochin, Paris and Univ. of Dundee, U.K.
- D323 II 1078.6 Effects of glutamine supplementation on muscle function in a mouse model of spinal cord injury. **K. Huey, C. Chamney, M. Godar and E. Garrigan.** Drake Univ.
- D324 I 1078.7 Angiotensin II depletes the skeletal muscle satellite cell pool and prevents skeletal muscle regeneration. **T. Yoshida, S. Galvez, B.M. Rezk, L. Semprun-Prieto, S. Sukhanov, Z. Yablonka-Reuveni and P. Delafontaine.** Tulane Univ. Sch. of Med. and Washington Univ. Sch. of Med.
- D325 II 1078.8 A novel method to measure glucose uptake by single skeletal muscle fibers reveals a similar level of insulin resistance for type IIA, IIB, IIX and IIB/X fibers from obese Zucker rat epitrochlearis muscle. **J.G. MacKrell and G.D. Cartee.** Univ. of Michigan Sch. of Kinesiol.
- D326 I 1078.9 No thermal effect of GSM electromagnetic waves exposure on EDL rat skeletal muscles. **S. Shouaib, W. Ramadan, A. Ibreik, H. Khachfe, F. Jbai and W. Joumaa.** Lebanese Univ. and Lebanese Intl. Univ.
- D327 II 1078.10 Onset and recovery of muscle hemodynamic and contractile properties of males and females following a submaximal isometric contraction. **A.G. Crenshaw, L. Pettersson and P. Johnson.** Ctr. for Musculoskeletal Res., Umea, Sweden and Univ. of Washington.
- D328 I 1078.11 Effects of fatigue on electromechanical delay in human skeletal muscle: new insights from an electromyographic and mechanomyographic combined approach. **F. Esposito, E. Cè, S. Rampichini, E. Limonta and A. Veicsteinas.** Univ. of Milan and Don Gnocchi Fndn., Milan.
- D329 II 1078.12 The effects of cAMP on force of contraction and recovery from fatigue of fast twitch muscle is dependent on stimulation parameters. **T.L. MacDonald and C.L. Murrant.** Univ. of Guelph, Canada.
- D330 I 1078.13 PCG-1 alpha over-expression rescues dystrophic muscle by modifying gene expression. **K. Hollinger, D. Rice, E. Snella and J.T. Selsby.** Iowa State Univ.
- D331 II 1078.14 Growth-related signaling increases with duty cycle following high force contractions in mouse tibialis anterior. **J. Rahnert and T.J. Burkholder.** Georgia Tech.
- D332 I 1078.15 Skeletal muscle fibroblast collagen expression is negatively regulated by satellite cells. **C.S. Fry, J.R. Jackson, J.J. McCarthy and C.A. Peterson.** Col. of Hlth. Sci. and Col. of Med., Univ. of Kentucky.
- D333 II 1078.16 Lipid stimulates myoglobin expression in skeletal muscle cells. **A.E. Schlater, M.A. De Miranda, Jr., A.M. Corley and S.B. Kanatous.** Colorado State Univ. and Pomona Col., CA.
- D334 I 1078.17 Impaired regeneration in ERR $\alpha$ -deficient skeletal muscle. **S. LaBarge, M. McDonald and J. Huss.** City of Hope.
- D335 II 1078.18 Interleukin-6/JAK/STAT3-induced satellite cell proliferation is regulated through induction of Cyclin D1. **M. Kurosaka and S. Machida.** Tokai Univ., Japan.
- D336 I 1078.19 The effect of N-acetylcysteine on contractile function and protein-thiol oxidation in skeletal muscles of mdx mice. **G.J. Pinniger, E.B. Assan, J. Terrill and P. Arthur.** Univ. of Western Australia.
- D337 II 1078.20 Impaired calcium handling in skeletal muscles of mitochondrial-DNA-mutator mice. **N. Ivarsson, A. Hernández, J. Bruton and H. Westerblad.** Karolinska Inst.
- D338 I 1078.21 The effect of nitric oxide on the detection of superoxide generated by mouse skeletal muscle fibers in vitro. **T. Pearson and M.J. Jackson.** Univ. of Liverpool.
- D339 II 1078.22 Studies of mitochondrial and non-mitochondrial sources implicate NADPH oxidase(s) in the increased skeletal muscle superoxide generation that occurs during contractile activity. **G.K. Sakellariou, A. Vasilaki, J. Palomero, A. Kayani, L. Zibriki, A. McArdle and M.J. Jackson.** Inst. of Ageing and Chronic Dis., Liverpool.
- D340 I 1078.23 Impact of antenatal inflammation on diaphragm muscle function in the preterm lamb. **G.J. Pinniger, T. Lavin, A. Bakker, C. Berry, P. Noble and J.J. Pillow.** Sch. of Women and Infant's Hlth., Univ. of Western Australia.
- D341 II 1078.24 Ataxia telangiectasia mutated influences AICAR-stimulated glucose transport. **L. Spears, M.R. McQuin, A.L. Renth, A.R. Kennedy and J.S. Fisher.** Saint Louis Univ.
- D342 I 1078.25 The transcription factor ATF4 is an essential mediator of skeletal muscle atrophy. **S.M. Ebert, S.D. Kunkel, M.C. Dyle, S.A. Bullard and C.M. Adams.** Univ. of Iowa.

- D343 II **1078.26** mRNA expression signatures of human skeletal muscle atrophy identify a natural compound that increases muscle mass. **S.D. Kunkel, M. Suneja, S.M. Ebert, K.S. Bongers, D.K. Fox, M.C. Dyle, F. Alipour, R.K. Shields and C.M. Adams.** Fraternal Order of Eagles Diabetes Res. Ctr., Univ. of Iowa Hosps. and Clins. and Univ. of Iowa.
- D344 I **1078.27** Effect of hypoxia on single skeletal muscle fiber contractility at physiological temperature. **A.A. Shiah, L. Nogueira, P.G. Gandra and M.C. Hogan.** UCSD.
- D345 II **1078.28** Alterations in the myogenic capacity of satellite cells in a mouse model of ALS. **S.A. English, S. Gupta, D. Clermont, D. Chen, D. Mazala and E.R. Chin.** Univ. of Maryland College Park.
- D346 I **1078.29** In vivo quantification of 3D muscle architecture in triceps surae muscle. **M. Rana and J.M. Wakeling.** Simon Fraser Univ., Canada.
- D347 II **1078.30** ERK1/2 are possible mediators of the anti-proteolytic effects of  $\beta$ 2-adrenoceptor/cAMP signaling in skeletal muscle. **D.A.P. Gonçalves, W.A. Silveira, F.A. Graça, Í.C. Kettelhut and L.C.C. Navegantes.** Sch. of Med. of Ribeirão Preto, Univ. of São Paulo.
- D348 I **1078.31** Exercise preconditioning prevents skeletal muscle wasting in monocrotaline-induced cardiac cachexia. **D. Gonçalves, T. Henriques-Coelho, R. Ferreira, H. Fonseca, M. João Neuparth, J. Justino, D. Duarte, S. Vieira, F. Amado, J. Alberto Duarte and A. Leite-Moreira.** Univ. of Porto, Univ. of Aveiro and Coop. Higher Polytech and Univ., CRL, Portugal.
- D349 II **1078.32** Inactivation of STAC3 causes perinatal death and defects in skeletal muscle in mice. **B.M. Reinholt, X. Ge, S. Park, D.E. Gerrard and H. Jiang.** Virginia Tech.
- D350 I **1078.33** Pyrene exposure induces activation and differentiation of cultured satellite cells in Northern Leopard frogs. **N.J. Goertzen and E.K. Stabenau.** Bradley Univ., IL.
- D351 II **1078.34** Role of epinephrine in the control of protein degradation during fasting. **F.A. Graça, E.C. Lira, D.A.P. Gonçalves, W.A. Silveira, N.M. Zanon, I.C. Kettelhut and L.C.C. Navegantes.** Sch. of Med. of Ribeirão Preto, Univ. of São Paulo.
- D352 I **1078.35** Muscle size assessment with panoramic ultrasound: measurement reliability among varying body masses. **E.J. Salley and E.S. Hayes.** Taylor Univ., IN.
- D353 II **1078.36** Norepinephrine in vivo restores the low phosphorylation levels of Akt and attenuates the high expression of atrophy- and autophagy-related genes in skeletal muscles of fasted mice. **W.A. Silveira, D.A.P. Gonçalves, F.A. Graça, N.M. Zanon, I.C. Kettelhut and L.C.C. Navegantes.** Sch. of Med. of Ribeirão Preto, Univ. of São Paulo.
- D354 I **1078.37** Overexpression of HSP10 in transgenic mice protects skeletal muscle against endotoxic shock-induced loss of force generation. **A.C. Kayani, C. Routley, M. Touramani Douramani, W.H. Dillmann, R. Mestrl and M. Jackson.** Univ. of Liverpool, UCSD and Loyla Univ., IL.
- D355 II **1078.38** Glibenclamide prevents the attenuation of the exercise pressor reflex by tempol in the ligated rats. **K. Yamauchi, A.K. Leal, A.J. Stone and M.P. Kaufman.** Penn State.
- D356 I **1078.39** Absolute quantification of muscle glycogen content in patients with glycogen storage disease by  $^{13}\text{C}$  NMR spectroscopy at 7 Tesla. **K. Heinicke, I. Dimitrov, S. Cheshkov, C.R. Malloy and R.G. Haller.** Texas Hlth. Presbyterian Hosp. Dallas, Univ. of Texas Southwestern Med. Ctr. and Philips Med. Syst., Cleveland.
- D357 II **1078.40** Doublet discharges improve force during fatigue in single fibers. **A.J-H. Cheng, J.D. Bruton and H. Westerblad.** Karolinska Inst.
- D358 I **1078.41** MRI-based screening for metabolic insufficiency of leg muscle during aerobic exercise in cystic fibrosis. **J.A.L. Jeneson, M.S. Werkman, N. Blanken, J. van Oorschot, K. van der Ent, H.G. Arets, H.J. Hulzebos and T. Takken.** Wilhelmina Children's Hosp., Univ. Med. Ctr. Utrecht and Eindhoven Univ. of Technol., Netherlands.

## 1079. THERMAL PHYSIOLOGY: FROM ACUTE RESPONSES TO PROTECTIVE ADAPTATION (POSTERS)

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D359 I **1079.1** Heat acclimation mediated cytoprotective memory: do epigenetic mechanisms play a role? A lesson from the heart. **M. Horowitz.** The Hebrew Univ. of Jerusalem.
- D360 II **1079.2** Heat exposure causes a complex stress response in heat-intolerant mice. **A. Islam, P. Abraham, C. Hapner, B. Andrews-Shigaki, P. Deuster and Y. Chen.** Uniformed Svcs. Univ. of Hlth. Sci.
- D361 I **1079.3** Cardiovascular, autonomic, and thermoregulatory effects of repeated exertional heat stress in rats. **H.M. Stauss, N. Choudhary, A. Nash, F.O. Liaboe and K.C. Kregel.** Univ. of Iowa.
- D362 II **1079.4** Gestational thermal environment alters postnatal response to heat stress. **J.S. Johnson, R. Boddicker, S.C. Pearce, M.V. Sanz-Fernandez, M. Lucy, T. Safranski, N.K. Gabler, R. Rhoads, J. Ross, J. Patience, S. Lonergan, L. Baumgard and J. Selsby.** Iowa State Univ., Univ. of Missouri-Columbia and Virginia Tech.
- D363 I **1079.5** The impact of IL-6 supplementation on murine intestinal permeability and systemic cytokine levels following heat stroke. **N.A. Phillips and T.L. Clanton.** Univ. of Florida.
- D364 II **1079.6** Effect of temperature on isoproterenol-induced increases in left ventricular developed pressure. **R. Klabunde, A.D. LePorte and T.E. Wilson.** Ohio Univ. Heritage Col. of Osteo. Med.
- D365 I **1079.7** Prolactin's role during acute and chronic heat stress in growing pigs. **M.V. Sanz-Fernandez, S.C. Pearce, N.C. Upah, L.R. Long, A. Nayeri, E. Sucu, N.K. Gabler, J.F. Patience, W.H. Hsu, R.P. Rhoads and L.H. Baumgard.** Iowa State Univ., Uludag Univ., Turkey and Virginia Tech.
- D366 II **1079.8** Integrative physiology of antidepressant drug action. **C.A. Lowry, M.W. Hale, K.F. Dady, J.L. Lukkes, K.J. Kelly and C.L. Raison.** Univ. of Colorado Boulder, La Trobe Univ., Australia and Univ. of Arizona.
- D367 I **1079.9** Improved temperature regulation following heat acclimation in well-healed skin graft subjects exercising in the heat. **J. Pearson, M.S. Ganio, R.A.I. Lucas and C.G. Crandall.** Univ. of Texas Southwestern Med. Ctr. and Texas Hlth. Presbyterian Hosp., Dallas.
- D368 II **1079.10** KCa channels and EETs: major contributors to cutaneous thermal hyperemia. **V.E. Brunt and**

- C.T. Minson.** Univ. of Oregon.
- D369 I **1079.11** eNOS and nNOS contribution to reflex cutaneous vasodilation during dynamic exercise in humans. **T.C. McNamara, J. Keen, G.H. Simmons, L.A. Holowatz and B.J. Wong.** Kansas State Univ., Nike Sports Res. Lab., Beaverton, OR and Penn State.
- D370 II **1079.12** Changes in interstitial ATP levels and blood flow during local heating of human skin. **J.R. Gifford, J. Bridges, C. Heal, B. Marshall, S. Goldthorpe and G. Mack.** Brigham Young Univ.
- D371 I **1079.13** Locally-mediated cutaneous vasoconstriction is augmented in essential hypertensive humans. **C.J. Smith and L.A. Holowatz.** Penn State.
- D372 II **1079.14** The effect of voluntary hypocapnic hyperventilation on thermoregulatory responses in exercising humans. **N. Fujii, Y. Honda, K. Komura, B. Tsuji, A. Sugihara, K. Watanabe, N. Kondo and T. Nishiyasu.** JSPS, Tokyo, Univ. of Oregon, Univ. of Tsukuba and Kobe Univ., Japan.
- D373 I **1079.15** Effect of training modality on inter-individual differences in shivering pattern in humans. **M-A. Imbeault, P. Oneid, O. Jay, D. Worthylake and F. Haman.** Univ. of Ottawa and Res. Inst., Montfort Hosp., Ottawa.
- D374 II **1079.16** Skin temperature modulation of shivering response in humans. **M-A. Imbeault, O. Landry Mantha and F. Haman.** Univ. of Ottawa and Hosp. Montfort Res. Inst., Ottawa.
- D375 I **1079.17** Cold air breathing during isometric handgrip: effect of healthy aging on coronary blood flow. **M.D. Muller, Z. Gao, J. Mast, C. Blaha, R. Drew, U.A. Leuenberger and L.I. Sinoway.** Penn State Hershey Heart and Vasc. Inst.
- D376 II **1079.18** Mitochondria function and structure in brown adipose tissue is influenced by maternal low salt intake during the perinatal period. **K.L. Lopes, E.A. Dos Santos, L.N.S. Furukawa and J.C. Heimann.** Univ. of São Paulo and Karolinska Inst.

## 1080. THE LETHALITY OF TRAUMA: NEW INSIGHTS INTO THE PHYSIOLOGY OF HEMORRHAGE (POSTERS)

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D377 I **1080.1** Reduced vascular smooth muscle sensitivity to contraction in ex vivo hemorrhaged rabbit epigastric artery. **P.H. Ratz, R.W. Barbee, A.S. Miner, P.S. Reynolds and D. Contaifer.** Virginia Commonwealth Univ.
- D378 II **1080.2** Cardiac mitochondrial proteomic expression in inbred rat strains divergent in survival time after hemorrhage. **H.G. Klemcke, R.M. DeKroon, M. Mocanu, J.B. Robinette and O. Alzate.** U.S. Army Inst. of Surg. Res., Fort Sam Houston and Univ. of North Carolina.
- D379 I **1080.3** Activation of 5HT<sub>1A</sub> receptors in the nucleus tractus solitarius contributes to blood pressure compensation with blood loss and peripheral chemoreflex responses in the presence of acidosis. **J.E. Vantrease, N. Dudek and K. Scrogin.** Loyola Univ. Chicago, Maywood.
- D380 II **1080.4** Resting sympathetic baroreflex sensitivity in subjects with low and high tolerance to simulated hemorrhage with lower body negative pressure. **C. Hinojosa-Laborde, K.L. Ryan, C.A. Rickards and V.A. Convertino.** U.S. Army Inst. of Surg. Res., Fort Sam Houston and Univ. of Texas

at San Antonio.

- D381 I **1080.5** Time course of compensatory physiological responses to central hypovolemia varies with tolerance. **K.L. Ryan, C.A. Rickards, C. Hinojosa-Laborde and V.A. Convertino.** U.S. Army Inst. of Surg. Res., Fort Sam Houston and Univ. of Texas at San Antonio.
- D382 II **1080.6** Type 1 diabetes in young women is associated with decreased circulatory response to hypovolemic stress. **M. Lindenberger, T. Lindström and T. Länne.** Univ. Hosp., Linköping Univ. Sweden.
- D383 I **1080.7** Variability in orthostatic tolerance during heat stress: role of reductions in cerebral perfusion. **J.F. Lee, M.L. Harrison, S. Brown and R.M. Brothers.** Univ. of Texas at Austin.
- D384 II **1080.8** Hypercapnia does not improve hyperthermic simulated hemorrhagic tolerance. **R.A.I. Lucas, J. Pearson, M.S. Ganio and C.G. Crandall.** Texas Hlth. Presbyterian Hosp., Dallas and Univ. of Texas Southwestern Med. Ctr.
- D385 I **1080.9** Tolerance to a hemorrhagic challenge during heat stress is improved with inspiratory resistance breathing. **R.M. Brothers, M.S. Ganio, R.A.I. Lucas and C.G. Crandall.** Texas Hlth. Presbyterian Hosp. Dallas, Univ. of Texas at Austin, Univ. of Arkansas and Univ. of Texas Southwestern Med. Ctr.
- D386 II **1080.10** The role of plasma angiotensin II in orthostatic intolerance during heat stress conditions. **M.L. Harrison, J.F. Lee, S. Brown and R.M. Brothers.** Univ. of Texas at Austin.
- D387 I **1080.11** Local skin temperature alters cutaneous vasoconstrictor responses to a simulated hemorrhagic challenge while heat stressed. **J. Pearson, R.A. Lucas and C.G. Crandall.** Univ. of Texas Southwestern Med. Ctr. and Texas Hlth. Presbyterian Hosp., Dallas.
- D388 II **1080.12** Diagnostic power of computed tomography in the helmeted human skull using a trauma-limiting protocol. **J. Pan, B.W. Tobin and A. Islas.** Paul L. Foster Sch. of Med., El Paso.

## 1081. CIRCADIAN AND BIOLOGICAL TIMEKEEPING

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D389 I **1081.1** Scheduled exercise modulates daily rhythms of behavior, physiology, and gene expression in mice. **A.M. Schroeder, D.H. Loh, M.C. Jordan, K.P. Roos and C.S. Colwell.** UCLA.
- D390 II **1081.2** Exercise capacity is influenced by thermal balance at onset of active/inactive phases of circadian cycle. **F.S.M. Machado and C.C. Coimbra.** Fed. Univ. of Minas Gerais, Brazil.
- D391 I **1081.3** Daily rhythm of brain oxidation. **K. Haushalter, H. Patel and S.S. Ali.** UCSD.
- D392 II **1081.4** Comparison of clock gene expression across skeletal muscles of different origins and functions. **E.M. Weekman, X. Zhang and K.A. Esser.** Univ. of Kentucky.
- D393 I **1081.5** Anti-phase expression of the BK channel (Kcna1) alters circadian locomotor activity in mice. **M. Lai, B. Wright, J. Whitt and A. Meredith.** Univ. of Maryland



Sch. of Med. and Univ. of Maryland Baltimore County.  
 D394 II **1081.6** Regulation of the circadian clock in human blood vessels. **Y. Wang and D. Fulton.** Georgia Hlth. Sci. Univ.

**1082. DIVING AND HYPERBARIA****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D395 I **1082.1** Simulation of apneas at the end of argon inhalation, using seven parallel regions of the lung. **L.J. Caucha, J.C. Cruz and J.M. Melendrez.** Natl. Univ. of Tumbes and Natl. Univ. of Piura, Peru.
- D396 II **1082.2** Simulation of experiments inhaling argon at 1 and 7 atmospheres. **J.M. Melendrez, L.J. Caucha and J.C. Cruz.** Natl. Univ. of Piura and Natl. Univ. of Tumbes, Peru.
- D397 I **1082.3** Simulation of expired nitrogen after inhaling argon at 1 atmosphere. **J.C. Cruz.** Natl. Univ. of Piura, Peru.
- D398 II **1082.4** Increased bone mineral density in experienced scuba divers. **Z. Valic, J. Bozic, T. Ticinovic Kurir, A. Novak, D. Supe-Domic and M. Valic.** Univ. of Split Sch. of Med. and Univ. Hosp. Split, Croatia.
- D399 I **1082.5** High doses of pseudoephedrine taken 2 hours prior to "diving" to 132 feet of seawater (5 ATA) while breathing pure O<sub>2</sub> increases risk for CNS oxygen toxicity in unanesthetized rats. **R. Pilla, H.E. Held, C.S. Landon and J.B. Dean.** Univ. of South Florida.
- D400 II **1082.6** Neuroplasticity of CNS oxygen toxicity: increased risk of seizure due to hyperbaric preconditioning and kindling effect. **R. Pilla, T. Fiorelli, H.E. Held, C.S. Landon and J.B. Dean.** Univ. of South Florida.
- D401 I **1082.7** Cardiac vagal modulation during static and dynamic breath-hold dives in elite divers. **A. Kiviniemi, T. Breskovic, L. Uglesic, B. Kuch, P. Zubin, A. Sieber, M.P. Tulppo and Z. Dujic.** Verve Res., Oulu, Finland, Univ. of Split, Croatia, Sant'Anna Sch. of Adv. Studies of Pisa and The Imego Inst., Gothenburg, Sweden.
- D402 II **1082.8** Baseline plasma cGMP levels correlates with breath hold capacity in competitive breath hold divers. **P. Lindholm, T.A. Schiffer, J.O. Lundberg and E. Weitzberg.** Karolinska Inst.
- D403 I **1082.9** Microparticle enlargement is a key point of vascular injury caused by decompression stress. **M. Yang, T.N. Milovanova, M. Bogush, V. Bhopale and S.R. Thom.** Univ. of Pennsylvania and Hosp. of Univ. of Pennsylvania.
- D404 II **1082.10** Prior eccentric exercise modifies diving-induced inflammatory gene expression in rats. **I. Eftedal, A. Jørgensen and A. Flatberg.** Norwegian Univ. of Sci. and Technol.
- D405 I **1082.11** *Pseudomonas aeruginosa* produce autoantibodies against HSP60 in rats. **M. Havnes, C. Ahlén, A. Brubakk and O-J. Iversen.** NTNU and SINTEF, Trondheim, Norway.

**1083. FEVER AND HYPOTHERMIA****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D406 I **1083.1** Adenosine A1-receptor agonist (CHA) produces a hypothermic state by reducing BAT thermogenesis. **D. Tupone, C.J. Madden, H. Algwaiz and S.F. Morrison.** Oregon Hlth. & Sci. Univ.
- D407 II **1083.2** 30.5±1.5°C is the optimal hypothermia to protect hypoxic/ischemic heart. **X-H. Ning, L.N. Sekhar, N.L. Kupchik, M.A. Corson, J.H. Werrbach, T.S. Tylee, Y-K. Soh, E. Wang, O.M. Villet, M. Ge, L-P. Fan, L. Yao, A.K. Olson, C. Zhu, D.L. Anderson, S-H. Chen and M.A. Portman.** Univ. of Washington, Seattle Children's Hosp., Harborview Med. Ctr. and Seattle Keiro Rehab. & Care Ctr.
- D408 I **1083.3** Activity of preoptic area neurons supports thermal effector activation during fever. **S.F. Morrison and D. Tupone.** Oregon Hlth. & Sci. Univ.
- D409 II **1083.4** Hyperthermia potentiates the IL-6 mRNA response to LPS in C2C12 muscle cells. **S.S. Welc, D.L. Chen and T.L. Clanton.** Univ. of Florida.
- D410 I **1083.5** Hypothalamic mechanisms relating to improvement of thermal tolerance in heat- and exercise-acclimated mice. **K. Tokizawa, C-H. Lin, Y. Uchida, S-i. Sakakibara and K. Nagashima.** Waseda Univ., Japan.

**1084. TEMPERATURE REGULATION AND FLUID BALANCE****Poster**

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D411 I **1084.1** Sudomotor activity and heat balance with serial cooling and heating of thermosensors in the esophagus and stomach. **O. Jay, A.R. Bain and N.C. Lesperance.** Univ. of Ottawa.
- D412 II **1084.2** Activation of human sweat glands using intradermal electrical stimulation. **G.W. Mack, J.R. Gifford, C. Heal and S. Goldthorpe.** Brigham Young Univ.
- D413 I **1084.3** Skin sympathetic nerve activity component synchronized with cardiac cycle is involved in hyperosmotic suppression of cutaneous vasodilation in hyperthermia. **Y-i. Kamijo, Y. Okada, S. Ikegawa, K. Okazaki, M. Goto and H. Nose.** Shinshu Univ. Grad. Sch. of Med., Japan.
- D414 II **1084.4** The cutaneous vascular response to heat stress does not explain sex-related differences in sudomotor activity. **D. Gagnon and G.P. Kenny.** Univ. of Ottawa.
- D415 I **1084.5** Release of acetylcholine during whole-body heating in aged skin. **M. Shibasaki, H. Negishi, H. Kubo, K. Okazaki and C.G. Crandall.** Grad. Sch. of Humanities and Sci., Nara Women's Univ., Japan, Osaka City Univ., Texas Hlth. Presbyterian Hosp. Dallas and Univ. of Texas Southwestern Med. Ctr.

- D416 II 1084.6 Exogenous tetrahydrobiopterin restores cutaneous vasodilation in hypercholesterolemic humans by stabilizing eNOS. **J.L. Kutz, C.J. Smith, L.A. Holowatz and W.L. Kenney.** Penn State.
- D417 I 1084.7 Heat acclimatization in semi professional soccer players. **S. Racinais, M. Mohr, M. Buchheit, S. Voss and L. Nybo.** Aspetar, Qatar Orthopaed. and Sports Med. Hosp., Univ. of Exeter Col. of Envrn. Sci., U.K., ASPIRE Acad. for Sports Excellence, Qatar and Univ. of Copenhagen.
- D418 II 1084.8 Thermoregulatory responses are decreased by carbohydrate ingestion through hyperosmotic suppression while the effects were attenuated by insulin in passively heated men. **A. Suzuki, K. Okazaki, D. Imai, R. Takeda, N. Naghavi, S. Matsumura and T. Miyagawa.** Osaka City Univ. and Osaka Univ. of Hlth. and Sport Sci.
- D419 I 1084.9 Head cooling improves orthostatic tolerance during passive whole-body heating. **S.L. Davis, K.S. Rola, S. Fjortoft, M. Korra, M.N. Murphy and T.E. Wilson.** Southern Methodist Univ., Univ. of Texas Southwestern Med. Ctr. and Ohio Univ. Heritage Col. of Osteo. Med.
- D420 II 1084.10 Activation of hemostatic pathways by exercise-induced hyperthermia. **M. Hopman, T. Eijvogels, M. Veltmeijer, M. van Geffen, D. Thijssen and W. van Heerde.** Radboud Univ. Nijmegen Med. Ctr., Netherlands.
- D421 I 1084.11 Rate of heat storage does not influence exercise intensity at a fixed rating of perceived exertion. **M.N. Cramer, Y. Molgat-Seon, A.N. Carlsen and O. Jay.** Sch. of Human Kintetics, Univ. of Ottawa.
- D422 II 1084.12 Comparison of internal temperature responses to prolonged arm and leg ergometer exercise. **D.M. Keller, M.R. Samels and C.L. Butts.** Univ. of Texas at Arlington.
- D423 I 1084.13 Estimating core temperature during exercise in heat using non-invasive measurements. **X. Xu, A.J. Karis, S.P. Mullen, T. Patel, M.J. Buller and W.R. Santee.** U.S. Army Res. Inst. of Envrn. Med., Natick, MA.
- D424 II 1084.14 Evaluation of  $U_{osm}:P_{osm}$  ratio and  $P_{osm}$  as hydration biomarkers in healthy young women during daily activities. **L.E. Armstrong, E.C. Johnson, C.X. Munoz, L. LeBellego, A. Klein, D.J. Casa and C.M. Maresh.** Univ. of Connecticut and Danone Res., Palaseau, France.
- D425 I 1084.15 Decreased tight junction gene expression in the duodenum following heat stroke in F344 rats. **B.G. Helwig, J.A. Ward and L.R. Leon.** U.S. Army Res. Inst. of Envrn. Med., Natick, MA.
- D426 II 1084.16 Hypothalamic gene expression profiles during heat stroke recovery in a conscious mouse model. **J. Biedenkapp, B.G. Helwig and L.R. Leon.** U.S. Army Res. Inst. of Envrn. Med., Natick, MA.
- D427 I 1084.17 Skeletal muscle is a potential source of cytokines during heat stroke recovery in mice. **L.R. Leon, H.L. Eustis and M.L. Urso.** U.S. Army Res. Inst. of Envrn. Med., Natick, MA.
- D428 II 1084.18 Effect of physical restraint on the limits of thermoregulation in telemetered rats. **C. Aydin, C. Grace and C. Gordon.** US EPA, Research Triangle Park.
- D429 I 1084.19 Increased daily activity alters thermal perception and behavioral thermoregulation in mice. **C-H. Lin, K. Tokizawa, Y. Uchida and K. Nagashima.** Waseda Univ., Japan.

## 1085. GRAVITATIONAL AND SPACE

## Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D430 I 1085.1 Impaired cerebrovascular autoregulation and  $CO_2$  response are related to changes in systolic pressure after long-duration spaceflight. **R.L. Hughson, K. Zuj, J.K. Shoemaker, A. Blaber, D.K. Greaves and P. Arbeille.** Univ. of Waterloo, Canada, Univ. of Western Ontario, Simon Fraser Univ., Canada and Univ. of Tours, France.
- D431 II 1085.2 Induction of a radio-adaptive response by low-dose gamma irradiation in mouse cardiac myocytes. **J. Seawright, C.M. Westby and H. Wu.** Texas A&M Univ., Univs. Space Res. Assn., Houston and NASA Johnson Space Ctr.
- D432 I 1085.3 Redox regulation of nNOS translocation and muscle atrophy during short-term mechanical unloading. **J.M. Lawler, M. Kunst, K. Joshi, J.M. Hord, Y. Lee and D.A. Martinez.** Texas A&M Univ. and Univ. of Houston.
- D433 II 1085.4 Influence of 10 days of unilateral lower limb suspension and combined exercise training on human vastus lateralis and soleus muscles. **J.A. Cotter, F. Haddad, A.M. Yu, T.N. Hoang, A. Kreitenberg, M.J. Baker, P.A. Tesch, K.M. Baldwin, V.J. Caiozzo and G.R. Adams.** Univ. of California, Irvine and Mid Sweden Univ., Östersund.
- D434 I 1085.5 The change in lower limb venous compliance is different between women and men following 60 days of head-down bedrest but is not associated with venoconstrictor dysfunction. **C.M. Westby, S.M.C. Lee, M.B. Stenger and S.H. Platts.** Univs. Space Res. Assn. and Wyle Integrated Sci. and Engin. Gp., NASA Johnson Space Ctr.
- D435 II 1085.6 Leucine preserves muscle and strength and enhances recovery following bed rest. **K.L. English, J. Mettler, M.M. Mamerow, C.H. Mathers, J.M. Pattarini and D. Paddon-Jones.** Univ. of Texas Med. Branch.
- D436 I 1085.7 Skeletal muscle fatigue and neuromuscular activation during bed rest. **J.A. Mettler, K.L. English, B.M. Doucet, M.M. Mamerow and D. Paddon-Jones.** Univ. of Texas Med. Branch.
- D437 II 1085.8 Reaction time performance is related to brain blood flow during gravitational stress. **A.A. Phillips, D.E.R. Warburton, C.T. Drury and S.S.D. Bredin.** Univ. of British Columbia.
- D438 I 1085.9 Influence of hypergravity environment on interaction between baroreflex and vestibulo-sympathetic reflex during head-up tilt. **H. Morita, C. Abe, T. Kawada and M. Sugimachi.** Gifu Univ. Grad. Sch. of Med. and Natl. Cerebral and Cardiovasc. Ctr. Res. Inst., Suita, Japan.
- D439 II 1085.10 Animal model of simulated microgravity: a comparative study of hindlimb unloading via tail versus pelvic suspension. **P. Chowdhury, A. Long, G. Harris, M. Soulsby, N. Akel, D. Gaddy, J. Jayroe and M. Dobretsov.** Univ. of Arkansas for Med. Sci.
- D440 I 1085.11 Modeling intracranial pressure in microgravity during parabolic flight. **L.L. Bachman, Jr., K.G. Patterson, T.M. Hegstad, E.A. Grigoryan, M. Sayad-Shah and A.R. Hargens.** UCSD and Grossmont Col., CA.

D441 II **1085.12** Pan-omic approaches to study the effects of microgravity on host responses to toxins. **E. Waddy, N. Chakraborty, A. Gautam, W. Santos, A. Hoke, M. Jett and R. Hammamieh.** U.S. Army Ctr. for Envrn. Hlth. Res., Fort Detrick, MD.

## 1086. MUSCLE PLASTICITY AND GENE REGULATION/EXPRESSION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D442 I **1086.1** Enhanced expression of EcSOD in skeletal muscle blocks chronic heart failure-induced muscle atrophy and exercise intolerance in mice. **M. Okutsu, V.A. Lira, M. Zhang and Z. Yan.** Univ. of Virginia.

D443 II **1086.2** Matrix metalloprotease inhibitor batimastat does not improve skeletal muscle function post-traumatic injury. **M.L. Urso, C.A. Strohbach, H.L. Eustis and G.L. Warren.** U.S. Res. Inst. of Envrn. Med., Natick, MA and Georgia State Univ.

D444 I **1086.3** Translational suppression of atrogin-1 and MuRF1 by miR-23a integrates resistance to skeletal muscle atrophy. **S. Wada, Y. Kato, T. Ushida and T. Akimoto.** Grad. Sch. of Med., Univ. of Tokyo and Natl. Inst. of Adv. Industrial Sci. and Technol. (AIST), Ibaraki.

D445 II **1086.4** Melatonin and/or therapeutic exercise induces autophagy-mediated muscles remodeling in collagenase-induced osteoarthritic rats. **Y. Hong, H. Kim, S. Lee and Y. Hong.** Inje Univ., South Korea.

D446 I **1086.5** The effects of exercise on skeletal muscle GSK3 $\beta$  in a spinal cord injury pain model. **T.E. Jones, M.K. Wood, K.L. Brewer and S.K. Bareiss.** East Carolina Univ.

D447 II **1086.6** Similar reductions in expression of proliferative genes are observed in skeletal muscle and organs with age. **J.C. Jones and A.C. Dilger.** Univ. of Illinois at Urbana-Champaign.

D448 I **1086.7** Attenuated muscle regrowth with age is not associated with differences in anabolic and catabolic pathways. **E.E. Dupont-Versteegden, A.L. Ferry, J.M. Hoch and J.L. White.** Univ. of Kentucky.

D449 II **1086.8** Effects of twice-daily ingestion of essential amino acids on amino acid transporter transcript and protein expression in older adults prior to total knee arthroplasty. **A.D. Hocker, A.N. Bailey, H.A. Senesac, S.M. Ratchford, B.A. Jewett, B.A. Lantz, S.N. Shah and H.C. Dreyer.** Univ. of Oregon and Slocum Ctr. for Orthoped.

D450 I **1086.9** Adiponectin expression in skeletal muscle cells in response to hypertrophic and atrophic stimuli. **K. Goto, Y. Ohno, A. Goto, A. Ikuta, T. Sugiura, Y. Ohira and T. Yoshioka.** Grad. Sch. of Hlth. Sci., Toyohashi Sozo Univ., Yamaguchi Univ., Grad. Sch. of Med., Osaka Univ. and Hiroasaki Gakuin Univ., Japan.

D451 II **1086.10** Markers of autophagy are elevated in cardiac tissue following doxorubicin administration. **A.N. Kavazis, A.J. Smuder, K. Min and S.K. Powers.** Mississippi State Univ. and Univ. of Florida.

D452 I **1086.11** Variation of global mRNA expression in biopsies from the same human muscle. **C.J.B. Sundberg, M. Lindholm, B. Werne Solnestam, J. Lundberg and H. Fischer.** Karolinska Inst. and Royal Inst. of Technol., Stockholm.

D453 II **1086.12** Gene expression changes after a single botox injection in the rat tibialis anterior muscle. **M. Mathewson, V. Minamoto, S. Subramaniam, S.R. Ward and R. Lieber.** UCSD.

D454 I **1086.13** Regulation of rDNA transcription and ribosome biogenesis at the onset of skeletal muscle hypertrophy. **F. von Walden, A-K. Östlund Farrants and G.A. Nader.** Karolinska Inst. and Stockholm Univ.

D455 II **1086.14** Effects of varying exercise intensities on GDNF expression and neuromuscular junction morphology. **A.M. Gyorkos, M. McCullough and J. Spitsbergen.** Western Michigan Univ.

D456 I **1086.15** The presence and regulation of antisense long non-coding RNA with altered myosin expression in exercising human muscle. **C.E. Pandorf, F. Haddad, T. Owerkowicz, K.M. Baldwin, V.J. Caiozzo and G.R. Adams.** Univ. of California, Irvine.

D457 II **1086.16** Differential myogenic and cell cycle gene translation following unaccustomed resistance loading may contribute to disparate myofiber hypertrophy potential during resistance training. **M.J. Stec, A. Thalacker-Mercer, X. Cui, E. Merritt and M. Bamman.** Univ. of Alabama at Birmingham.

D458 I **1086.17** Gene expression in cardiac tissue and liver of hypoxic and hyperoxic *Alligator mississippiensis*. **L. Parrilla, T. Owerkowicz, E. Steele, M. Omori, A. Lee, J.W. Hicks and B. Rourke.** California State Univ., Long Beach, Univ. of California, Irvine and California State Univ., San Bernardino.

D459 II **1086.18** A molecular mechanism for frequency dependent skeletal muscle fiber plasticity. **E. Jaimovich, G. Jorquera, S. Buvinic and M. Casas.** Univ. of Chile.

D460 I **1086.19** Exercise during pregnancy attenuates prenatal high-fat diet-induced hypermethylation of Pgc-1 $\alpha$  in skeletal muscle. **R.C. Laker, T. Lillard, M. Okutsu, J.J. Connelly and Z. Yan.** Univ. of Virginia.

D461 II **1086.20** Satellite cell expression of myogenic regulatory factors is altered when co-cultured with preadipocytes. **K.J. Thornton, K.C. Chapalamadugu, M.E. Doumit and G.K. Murdoch.** Univ. of Idaho.

D462 I **1086.21** Angiopoietins regulate capillary network in non-obese type 2 diabetic muscle, but VEGF is not necessary for the angiogenic response to exercise. **H. Fujino, H. Kondo, S. Murakami, N. Fujita, F. Nagatomo and A. Ishihara.** Kobe Univ. Grad. Sch. of Hlth. Scis., Nagoya Women's Univ. and Kyoto Univ.

D463 II **1086.22** Effect of photo-irradiation on mitochondrially-associated signaling in C2C12 muscle cells. **L.M-D. Nguyen, K.A. Larkin, P.A. Borsa and P.J. Adhihetty.** Univ. of Florida.

D464 I **1086.23** Targeted expression of the non-native Ca<sup>2+</sup>-buffering protein parvalbumin exacerbates the dystrophic phenotype in mdx mouse slow muscle fibers. **M. Al Zein, E.R. Chin, B.J. Jasmin and R.N. Michel.** Concordia Univ., Canada, Univ. of Maryland College Park and Univ. of Ottawa.

D465 II **1086.24** Rapamycin prevents muscle growth and the increase inMHCIIa induced by voluntary wheel running. **B. Patchen and S.J. Swoap.** Williams Col.

D466 I **1086.25** Fiber-type skeletal muscle response to dietary selenium and isoflavone supplementation in male mice. **M.T. Stallings, J.M. Hardman, C.M. Hart, M.J. Christensen and C.R. Hancock.** Brigham Young Univ.

- D467 **II** **1086.26** Fast-to-slow: myosin heavy chain alterations in response to altered Six1 gene expression. **B.C. Collins**, **B.S. Gordon** and **M.C. Kostek**. Univ. of South Carolina.
- D468 **I** **1086.27** Differential adaptation of glycolytic and oxidative muscles to hypoxia. **C.C. De Theye**, **S.E. Koehler**, **A.M.W.J. Schols**, **W.H. Lamers** and **R.J.C. Langen**. Maastricht Univ., Netherlands.
- D469 **II** **1086.28** Fat accumulation, fibrosis, fiber-type switching, and a reduction in specific force production following rotator cuff tear. **J. Gumucio**, **M. Davis**, **P. Stafford**, **J. Bradley**, **C. Schiffman**, **E. Lynch**, **D. Clafin**, **A. Bedi** and **C.L. Mendias**. Univ. of Michigan.

## 1087. NEURAL CONTROL OF THE CIRCULATION DURING EXERCISE

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D470 **I** **1087.1** A role for central command in the generation of the exaggerated cardiovascular response to exercise in hypertension. **N. Liang**, **M. Mizuno**, **R. Downey**, **J.H. Mitchell** and **S.A. Smith**. Univ. of Texas Southwestern Med. Ctr. and Hiroshima Univ.
- D471 **II** **1087.2** Cardiac output and total vascular conductance responses to simulated carotid hypertension in young women: exercise and ovarian hormones. **A. Kim**, **J.P. Fisher**, **S.H. Deo**, **L.C. Vianna** and **P.J. Fadel**. Univ. of Missouri-Columbia and Sch. of Sport & Exer. Sci., Univ. of Birmingham, U.K.
- D472 **I** **1087.3** Short-term exercise training enhances nitric oxide-mediated sympatholysis. **N.G. Jendzjowsky** and **D.S. DeLorey**. Univ. of Alberta.
- D473 **II** **1087.4** Cumulative effects of successive bouts of maximal exercise on heart rate fluctuations. **P.P.S. Soares**, **A.M. Calvão**, **F.L. Sá**, **T.J.P. Penna** and **M.A. Menezes**. Fluminense Fed. Univ., Niterói and Volta Redonda, Brazil.
- D474 **I** **1087.5** Sequential effects of training on GABAergic neurons in central autonomic areas. **L.C. Michelini**, **T.T. Zampieri**, **S.D. Silva, Jr.**, **A. Ceroni** and **A. Ruggeri**. Univ. of São Paulo.
- D475 **II** **1087.6** Spinal cord GABA receptors inhibit the exercise pressor reflex in decerebrate rats. **H-J. Wang**, **K.P. Patel**, **I.H. Zucker** and **W. Wang**. Univ. of Nebraska Med. Ctr.
- D476 **I** **1087.7** Characterize ASIC3 in muscle sensory neurons with femoral artery occlusion. **J. Xing**, **J. Lu** and **J. Li**. Penn State Col. of Med.
- D477 **II** **1087.8** Neutralization of NGF attenuates augmented sympathetic nerve responses to activation of chemically sensitive muscle afferents in rats with femoral artery occlusion. **J. Lu**, **J. Xing** and **J. Li**. Penn State Col. of Med.
- D478 **I** **1087.9** Baroreflex responsiveness is attenuated in African Americans during steady-state leg exercise. **S.W. Holwerda**, **M.R. Samels** and **D.M. Keller**. Univ. of Texas at Arlington.
- D479 **II** **1087.10** Sympathetic response to fatiguing handgrip and muscle metaboreflex activation is attenuated in smokers compared to non-smokers. **R. Drew**, **M.D. Muller**, **J. Cui**, **C. Blaha**, **J. Mast** and **L.I. Sinoway**. Penn State Col. of Med.
- D480 **I** **1087.11** Sympathetic overactivation explains the exaggerated exercise pressor response in chronic kidney disease. **J. Park**, **A.A. Quyyumi** and **H.R. Middlekauff**. Emory Univ., Atlanta VA Med. Ctr. and UCLA.
- D481 **II** **1087.12** The skeletal muscle metaboreflex is attenuated in healthy older adults. **J.L. Greaney**, **D.G. Edwards**, **P.J. Fadel** and **W.B. Farquhar**. Univ. of Delaware and Univ. of Missouri-Columbia.
- D482 **I** **1087.13** Thin-beam ultrasound overestimation of blood flow: how wide is your beam? **T.M. Buck**, **D.C. Sieck** and **J.R. Halliwill**. Univ. of Oregon.

## 1088. CONTROL OF BREATHING: CENTRAL CONNECTIVITY, NEUROMODULATION AND NEUROTRANSMISSION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D483 **I** **1088.1** Endothelin-1 induces NR1 phosphorylation in NG 108-15 cells. **Y. Liu**, **X. Li** and **J.W. Weiss**. Beth Israel Deaconess Med. Ctr.
- D484 **II** **1088.2** Postsynaptic modulation of nucleus tractus solitarius neurons in response to prostaglandin E<sub>2</sub>. **K. Gresham**, **C. Mayer**, **R.J. Martin** and **C.G. Wilson**. Case Western Reserve Univ.
- D485 **I** **1088.3** Anatomical and functional connections between the locus coeruleus and the nucleus of the solitary tract in neonatal rats. **L.T. Lopes**, **L.A. Patrone**, **K-y. Li**, **A. Imber**, **C.D. Graham**, **L. Gargaglioni** and **R.W. Putnam**. São Paulo State Univ. and Wright State Univ.
- D486 **II** **1088.4** Effect of carotid body denervation on breathing and central neuromodulation. **J.R. Miller**, **C. Muere**, **G. Mouradian**, **S. Neumueller**, **M.R. Hodges**, **L.G. Pan** and **H.V. Forster**. Med. Col. of Wisconsin and VA Med. Ctr.
- D487 **I** **1088.5** Effects on ventilation ( $V_E$ ) and neuromodulator concentration of cholinergic receptor blockade at the pre-Bötzing complex. **C. Muere**, **J. Miller**, **S. Neumueller**, **G. Mouradian**, **L. Pan**, **M. Hodges** and **H. Forster**. Med. Col. of Wisconsin, Marquette Univ. and Zablocki VA Med. Ctr.
- D488 **II** **1088.6** Gap junctions in the neonatal mouse pre-Bötzing complex: insights using fluorescence recovery after photobleaching. **J. Kelty** and **E. Shields**. Central Michigan Univ.
- D489 **I** **1088.7** Signaling pathways underlying the P2Y<sub>1</sub> receptor-mediated excitation of the preBötzing complex inspiratory rhythm generating network in vitro. **V. Rajani**, **J.D. Zwicker**, **B. Panaitescu**, **T.S. Alvares**, **E. Posse de Chaves**, **K. Ballanyi** and **G.D. Funk**. Univ. of Alberta.
- D490 **II** **1088.8** Microglia attenuate the opioid-induced depression of preBötzing complex inspiratory rhythm in vitro via a TLR4-independent pathway. **J.D. Zwicker**, **Y. Zhang**, **M.R. Hutchinson**, **K.C. Rice**, **L.R. Watkins** and **G.D. Funk**. Univ. of Alberta, Univ. of Adelaide, NIDA/NIH and Univ. of Colorado Boulder.
- D491 **I** **1088.9** Methylxanthine reversal of opioid-induced respiratory depression in the in situ neonatal rat working heart-brainstem preparation. **E. Ferguson**, **P. Ciechanski**, **A. Roy**, **K. Ballanyi** and **R. Wilson**. Univ. of Calgary and Univ. of Alberta.

D492 **II** **1088.10** Pontine  $\mu$ -opioid receptors mediate the bradypnea caused by clinically relevant rates of intravenous remifentanyl in dogs. **I. Prkic, S. Mustapic, T. Radocaj, A.G. Stucke, E.A. Stuth, F.A. Hopp, C. Dean and E.J. Zuperku.** Med. Col. of Wisconsin, Children's Hosp. of Wisconsin and Zablocki VA Med. Ctr.

### 1089. CONTROL OF BREATHING: DEVELOPMENT

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D493 **I** **1089.1** Erythropoietin and its antagonist regulate the hypoxic fictive breathing in newborn mice. **J. Soliz, H. Khemiri and T. Seaborn.** Laval Univ., Canada.

D494 **II** **1089.2** Systemic administration of interleukin-1 $\beta$  enhances thermal prolongation of the laryngeal chemoreflex in decerebrate piglets—implications for sudden infant death syndrome. **L. Xia, D. Bartlett, Jr. and J.C. Leiter.** Dartmouth Med. Sch.

D495 **I** **1089.3** Partial silencing of medullary serotonin vesicular neurotransmission inhibits respiratory long term facilitation but does not prevent apneas in mice. **K.T. Barrett, R. Brust, J. Kim, S. Dymecki, A. Li and E.E. Nattie.** Dartmouth Med. Sch., Harvard Med. Sch. and Univ. of Toronto.

D496 **II** **1089.4** Developmental changes in NMDA receptor subunits alter burst frequency of neonatal rat brainstem slices containing the preBöttinger complex. **P.M. Getsy, D. Kaufman, K. Anagnostos and C.G. Wilson.** Case Western Reserve Univ.

D497 **I** **1089.5** Supplementation of L-arginine and/or inhibition of arginase enhance the effect of inhaled NO on airway function of hyperoxia-exposed rat pups. **A. Zaidi, A. Jafri and S.I.A. Zaidi.** Solon High Sch. and Case Western Reserve Univ.

### 1090. DEVELOPMENT OF THE CONTROL OF BREATHING (POSTERS)

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D498 **I** **1090.1** GABA-A receptor inhibition reverses autoresuscitation defects in serotonin-deficient Pet-1 $^{-/-}$  mice. **K.J. Cummings, A. Li and E. Nattie.** Univ. of Missouri-Columbia and Dartmouth Med. Sch.

D499 **II** **1090.2** Gestational stress promotes apneas in newborn rats. **R. Kinkead, S. Fournier, S. Steele, C. Dolbec and A. Bairam.** Univ. Laval, Canada and Univ. of Ottawa.

D500 **I** **1090.3** Effects of pharmacologic manipulation of the brainstem serotonergic system on duration of the laryngeal chemoreflex—implications for sudden infant death syndrome. **W.T. Donnelly, D. Bartlett, Jr. and J.C. Leiter.** Dartmouth Med. Sch.

D501 **II** **1090.4** Age-dependent effects of progesterone on ventilation and apnea in rats. **V. Joseph, C. Julien, R. Kinkead and A. Bairam.** Laval Univ., Canada.

D502 **I** **1090.5** Effects of postnatal development, temperature and the pons on respiratory rhythm and pattern generation in rat pups. **A.Y. Fong, M.B. Zimmer and W.K. Milsom.** Australian Sch. of Adv. Med., Macquarie Univ., Ferris State Univ., MI and Univ. of British Columbia.

D503 **II** **1090.6** Thermal prolongation of the Hering-Breuer inflation reflex in neonatal rats depends on an adenosinergic mechanism in the brainstem. **A.V. Arnal, J.L. Gore, D. Bartlett, Jr. and J.C. Leiter.** Dartmouth Med. Sch.

D504 **I** **1090.7** Prenatal nicotine exposure increases frequency and duration of apneic events in neonatal rats. **I.J. Kidder, J.A. Mudery and E.F. Bailey.** Univ. of Arizona.

D505 **II** **1090.8** The effects of chronic nicotine exposure on chemosensitivity of medullary 5-HT neurons. **J. Avraam, Y. Wu and G.B. Richerson.** Univ. of Iowa.

D506 **I** **1090.9** Carotid body growth and the critical period for hyperoxia-induced developmental plasticity in rats. **R.W. Bavis, S.C. Fallon, K.E. Tobin and E.F. Dmitrieff.** Bates Col.

D507 **II** **1090.10** Prior exposure to sustained hypoxia impairs the acute hypoxic ventilatory response in rat pups following postnatal chronic intermittent hypoxia. **P. MacFarlane, J. Ao, C. Mayer, J. Di Fiore, C. Wilson and R.J. Martin.** Case Western Reserve Univ.

D508 **I** **1090.11** Blunted hypoxic ventilatory drive in adult humans with a history of premature birth. **A. Beshish, M.L. Bates, E.T. Farrell, D.F. Pegelow and M.W. Eldridge.** Univ. of Wisconsin-Madison.

### 1091. NEURAL CONTROL OF CARDIOVASCULAR FUNCTION

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

D509 **I** **1091.1** Negative pressure on an occluded limb induces sympathetic activation. **J. Cui, C. Blaha, M.D. Herr, J. Mast, M.D. Muller, R.C. Drew and L.I. Sinoway.** Penn State Hershey Med. Ctr.

D510 **II** **1091.2** Selective innervation of upper and lower thoracic spinal segments by medullary raphe neurons in felines. **L. Carlino, S.A. Weber, M.F. Gowen and B.J. Yates.** Univ. of Pittsburgh.

D511 **I** **1091.3** Inhibition of AT1 receptors alters remodeling of the guinea pig cardiac plexus following chronic MI. **J.C. Hardwick, S.E. Ryan, M.J. Wilson, E.M. Southerland and J.L. Ardell.** Ithaca Col. and East Tennessee State Univ.

D512 **II** **1091.4** Opioid receptors modulate excitatory cardiovascular reflex responses to myocardial ATP stimulation through a P2 receptor mechanism. **L-W. Fu, S. Barvarz, J. Ho and J.C. Longhurst.** Univ. of California, Irvine.

D513 **I** **1091.5** Comparison of the cardiovascular effects produced by interference with GABA transmission in the left and right sides of dorsomedial hypothalamus in conscious rats. **M.A.P. Fontes and A.C. Oliveira.** Fed. Univ. of Minas Gerais, Brazil.

D514 **II** **1091.6** Angiotensin II type 1A receptors in the brain mediate the effects of the brain RAS on fluid balance in the DOCA-salt model. **A.M. Hilzendeger, J.L. Grobe, A.L. Mark and C.D. Sigmund.** Univ. of Iowa.

- D515 I 1091.7 Expression of angiotensin type 1A receptors in C1 neurons of the rostral ventrolateral medulla is required for the pressor response to angiotensin II. **A.M. Allen, N. Jancovski, Y-T. Choong, D.A. Carter, S.B. Gurley, D. Chen and J.K. Bassi.** Univ. of Melbourne and Duke Univ. Med. Ctr.
- D516 II 1091.8 Effects of medullary administration of nitric oxide precursor on cardiovascular responses and neurotransmission during static exercise in stroke rats. **A. Ally, S. Phattanarudee, E. Shafique and T. Maher.** South Col. Sch. of Pharm., TN, Chulalongkorn Univ., Thailand, Univ. of Chicago and Massachusetts Col. of Pharm. and Hlth. Sci.
- D517 I 1091.9 Blunted sensitivity of intracardiac ganglion neurons to nicotine in type-2 diabetic rats. **J. Liu, H. Tu and Y-L. Li.** Univ. of Nebraska Med. Ctr.
- D518 II 1091.10 Sex-specific sympathetic responses to chemoreflex stress in healthy young men and women. **C.W. Usselman, C.A. Nielson, T.A. Luchyshyn, T.I. Gimon and J.K. Shoemaker.** Univ. of Western Ontario.
- D519 I 1091.11 Reduced translocation of the TRPV1 receptor in afferent neurons of cardiomyopathic rats. **M.M. Nguyen, L.E. Stout, Q. Li and M.G. Garry.** Univ. of Minnesota, Minneapolis.
- D520 II 1091.12 Brain insulin modulates the cardiovascular response to central command and exercise pressor reflex stimulation in rats. **M. Mizuno, R. Downey, J.H. Mitchell and S.A. Smith.** Univ. of Texas Southwestern Med. Ctr.
- D521 I 1091.13 Fos expression in the FoxP2 and Lmx1b neurons of the parabrachial nucleus following cardiovascular changes. **R. Miller, M. Knuepfer and A. Loewy.** Washington Univ. Sch. of Med.
- D522 II 1091.14 Collateralization of projections of rostral ventrolateral medulla neurons to levels of the thoracic spinal cord that regulate upper- and lower-body blood flow. **M.F. Gowen, S.A. Weber, T. Suzuki, Y. Sugiyama and B.J. Yates.** Univ. of Pittsburgh.
- D523 I 1091.15 Angiotensin type 2 receptors over expression in the nucleus of the solitary tract attenuate renovascular hypertension. **G.T. Blanch, A.H. Freiria-Oliveira, H. Li, E. Colombari, C. Sumners and D.S.A. Colombari.** FOAR-UNESP, Brazil, Sch. of Biotechnol., Southern Med. Univ., China and Univ. of Florida.
- D524 II 1091.16 Intermittent fasting after spinal cord injury does not improve the spontaneous recovery of baroreflex regulation in the rat. **M.R. Zahner.** Johns Hopkins Univ. Sch. of Med.
- D525 I 1091.17 Heterogeneity in arm and leg vasoconstrictor responses to spontaneous bursts of resting muscle sympathetic nerve activity in humans. **S.T. Fairfax, J. Padilla, M.J. Davis and P.J. Fadel.** Univ. of Missouri-Columbia.
- D526 II 1091.18 Immunoreactivity for the NR1 subunit of the NMDA receptor occurs in spinally-projecting catecholamine and serotonin neurons of the rat ventral medulla. **I.J. Llewellyn-Smith and P.J. Mueller.** Flinders Univ., Australia and Wayne State Univ. Sch. of Med.
- D527 I 1091.19 Hemodynamic responses to electrical stimulation of the aortic depressor nerve, in conscious rats, after  $\alpha 2$  adrenergic receptor blockade. **M.T. Durand, L.O. Dias, J.A. Castania and H.C. Salgado.** Sch. of Med. of Ribeirão Preto, Univ. of São Paulo, Ribeirão Preto and State Univ. of Santa Cruz, Brazil.
- D528 II 1091.20 Social isolation causes endothelial dysfunction: implications for depression and cardiovascular disease. **A.J. Grippo, J.D. Peuler, L.E. Phelps, M-A.L. Scotti and N. McNeal.** Northern Illinois Univ., Midwestern Univ., IL and Univ. of Illinois at Chicago.
- D529 I 1091.21 Peripheral cardiac sympathetic dysfunction in the pre-hypertensive spontaneously hypertensive rat. **J. Shanks, S. Manou-Stathopoulou, C-J. Lu, D. Li, D.J. Paterson and N. Herring.** Univ. of Oxford.
- D530 II 1091.22 PGE<sub>2</sub> facilitates the activation of renal sensory nerves by a positive feedback mechanism involving activation of PLC and COX-2. **U.C. Kopp and M.Z. Cicha.** Univ. of Iowa Carver Col. of Med. and VA Med. Ctr.
- D531 I 1091.23 Cardiac effects of the disruption and reestablishment of social bonds in the male prairie vole. **J. Wardwell, N. McNeal, M-A.L. Scotti, K. Preihs and A.J. Grippo.** Northern Illinois Univ., Univ. of Illinois, Chicago.
- D532 II 1091.24 Central infusion of a nitric oxide donor restores baroreflex control of heart rate in heart failure. **R. Ramchandra, S.G. Hood and C.N. May.** Florey Neurosci. Insts., Melbourne.
- D533 I 1091.25 The attenuation of the stress evoked tachycardia produced by angiotensin-(1-7) in the basolateral amygdala is reversed by blockade of Mas receptor. **M.A.P. Fontes, F.C. Muller Ribeiro, C.H. Xavier, R.A.S. Santos and C.G. Oscar.** Fed. Univ. of Minas Gerais, Brazil.
- D534 II 1091.26 Disruption of social bonds in male prairie voles negatively influences behavioral, cardiac, and autonomic function. **N. McNeal, M-A.L. Scotti, J. Wardwell, D.M. Trahanas, P. Dave, B. Pinkepank, D.L. Chandler, S.L. Bates, M. LaRocca and A.J. Grippo.** Northern Illinois Univ., Univ. of Illinois, Chicago.
- D535 I 1091.27 Shift of the cardiovascular baroreflex response with maintained sensitivity during head up tilt. **C.E. Schwartz, M.S. Medow, Z. Messer, I.L. Baughman, C. Terilli, R. Tambone and J.M. Stewart.** New York Med. Col., Hawthorne and Valhalla.
- D536 II 1091.28 A<sub>2a</sub> adenosine receptors modulate cardiopulmonary chemoreflex control of regional sympathetic outputs via activation of GABAergic neurons within the caudal portion of the nucleus of the solitary tract: functional and anatomical evidence. **Z. Minic, I.J. Llewellyn-Smith, D.S. O'Leary and T.J. Scislo.** Wayne State Univ. and Flinders Univ., Australia.
- D537 I 1091.29 Long-term endurance training in older adults preserves cardiovascular control but not heart rate responses to exercise. **T.A. Luchyshyn, K.N. Norton, J.C. Corkal and J.K. Shoemaker.** Univ. of Western Ontario Sch. of Kinesiol.
- D538 II 1091.30 Dendritic release of VP mediates crosstalk between neuroendocrine and presympathetic PVN neurons: role in osmotically-driven homeostatic responses. **S.J. Son, J.A. Filosa, H. Zheng, K.P. Patel and J.E. Stern.** Georgia Hlth. Sci. Univ. and Univ. of Nebraska Med. Ctr.
- D539 I 1091.31 The influence of breathing on hemodynamic oscillations at presyncope. **C.A. Rickards, C. Hinojosa-Laborde, K.L. Ryan and V.A. Convertino.** Univ. of Texas at San Antonio and U.S. Army Inst. of Surg. Res., Fort Sam Houston.
- D540 II 1091.32 GABA-A receptors mediating sympathoinhibition elicited by moxonidine in rats. **T.B. Alves, L.T. Totola, A.C. Takakura, E. Colombari and T.S. Moreira.** Fed. Univ. of São Paulo, Univ. of São Paulo and Sao Paulo State Univ.

- D541 I **1091.33** Paradoxical relationship between alpha-adrenergic tone and muscle sympathetic nerve activity in human metabolic syndrome. **E.J. McKenna, J. Limberg, J.J. Sebranek, B. Walker, S.A. Hagen, B.J. Morgan and W.G. Schrage.** Univ. of Wisconsin-Madison.
- D542 II **1091.34** Carotid baroreflex control of blood pressure to simulated hypotension in young and older women. **A. Kim, J.P. Fisher and P.J. Fadel.** Univ. of Missouri-Columbia and Sch. of Sport and Exer. Sci., Univ. of Birmingham, U.K.
- D543 I **1091.35** Assessment of HD-X11 transmitter (DSI) for telemetric measurement of arterial pressure, electrocardiogram, heart rate and autonomic function in conscious mice. **R. Sabharwal and M.W. Chapleau.** Univ. of Iowa and VA Med. Ctr.
- D544 II **1091.36** Aldosterone acts in the nucleus of the solitary tract to alter stress responsiveness. **N. Cho, M. McCowan and D.A. Scheuer.** Univ. of Florida.
- D545 I **1091.37** Electroacupuncture activated pathway from nucleus tractus solitarii to rostral ventrolateral medulla. **Z-L. Guo and J.C. Longhurst.** Univ. of California, Irvine.
- D546 II **1091.38** Intracerebroventricular injection of liposome-entrapped GABA attenuates the renal sympathetic nerve activity response evoked by central administration of bicuculline in anesthetized rats. **G.C. Vaz, A.P.O. Bahia, R.A.S. Santos, F. Frézard and M.A.P. Fontes.** Fed. Univ. of Minas Gerais, Brazil.
- D547 I **1091.39** Nesfatin-1 acts through a central POMC-CRH-OT circuit to increase mean arterial pressure. **G.L.C. Yosten and W.K. Samson.** Saint Louis Univ.
- D548 II **1091.40** Influence of body mass index on neural cardiovascular reactivity to mental stress in humans. **J.J. Durocher and J.R. Carter.** Michigan Technol. Univ.
- D549 I **1091.41** Menstrual cycle and sympathetic neural activity in humans: a retrospective study. **J.R. Carter, Q. Fu, C.T. Minson and M.J. Joyner.** Michigan Technol. Univ., Texas Hlth. Presbyterian Hosp., Dallas, Mayo Clin. and Univ. of Oregon.
- D550 II **1091.42** Macrophage inhibitory factor in the nucleus of tract solitary improves baroreflex function in spontaneously hypertensive rats. **A.H. Freiria-Oliveira, G.T. Blanch, H. Li, D.S.A. Colombari, C. Sumners and E. Colombari.** FOAR-UNESP, Araraquara, Brazil, Southern Med. Univ. Sch. of Biotechnol., China and Univ. of Florida.
- D551 I **1091.43** Ubiquitination is involved in the alteration of peripheral acetylcholine mediation in the aging heart. **J.L. Freeling and Y. Li.** Univ. of South Dakota.
- D552 II **1091.44** Combined vasopressin V1a and oxytocin receptor antagonism prevents vasopressin-induced pressor response and sympathoexcitation in awake rats. **N.F. Rossi and M. Maliszewska-Scislo.** Wayne State Univ. and John D. Dingell VA Med. Ctr.
- D553 I **1091.45** Role of cardiac output versus peripheral vasoconstriction in mediating the muscle metaboreflex pressor response during dynamic exercise and post-exercise muscle ischemia. **M.D. Spranger, J.A. Sala-Mercado, M. Coutsos, J. Kaur, D. Stayer and D.S. O'Leary.** Wayne State Univ. Sch. of Med.
- D554 II **1091.46** Direct recording of renal sympathetic nerve activity in unrestrained, conscious mice. **S.M. Hamza and J.E. Hall.** Univ. of Mississippi Med. Ctr.
- D555 I **1091.47** Assessment of chronic sympathetic nerve recording using Data Sciences International telemetry. **S.D. Stocker.** Penn State Col. of Med.
- D556 II **1091.48** The effect of chronic treatment with diazepam on stress and hypertension in Schlager BPH/2J hypertensive mice. **P. Davern, S. Chowdhury, K. Jackson, T-P. Nguyen-Huu and G.A. Head.** Baker IDI Heart & Diabetes Inst., Melbourne.
- D557 I **1091.49** Estrogen regulation of ion channel expression mediating neuronal excitability in rat presympathetic PVN neurons. **S.K. Lee, P.D. Ryu and S.Y. Lee.** Seoul Natl. Univ.
- D558 II **1091.50** Role of small conductance calcium-activated potassium channels (SK2) expressed in hypothalamic PVN neurons in regulating sympathetic nerve activity in rats. **L. Gui, M. Gu, L.P. LaGrange, J. Zhu and Q-H. Chen.** Michigan Technol. Univ., Univ. of Incarnate Word, TX and Affiliated Hosp. of Nantong Univ., China.
- D559 I **1091.51** Central angiotensin II induces sympathoexcitation and attenuates the open loop baroreflex gain without altering central baroreflex characteristics. **K. Onitsuka, K. Hosokawa, T. Sakamoto, K. Sakamoto, T. Tobushi, T. Fujino, K. Saku, R. Matsukawa, Y. Hirooka and K. Sunagawa.** Kyushu Univ. Grad. Sch. of Med. Sci., Japan.
- D560 II **1091.52** The 2-nitrate-1,3-dibuthoxypropan, a nitric oxide donor, alters autonomic function in spontaneously hypertensive rats. **M.S. França Silva, M.M.O. Monteiro, I.A. Medeiros and V.A. Braga.** Fed. Univ. of Paraiba, Brazil.
- D561 I **1091.53** Long term enhancement of cerebral vascular resistance in spontaneously hypertensive rats produces short term pressor responses and long term remodeling of cerebral circulation. **A.M. Alviar Baquero, C. Barrett, S-J. Guild, S. Malpas and J.F. Paton.** Univ. of Bristol and Univ. of Auckland.
- D562 II **1091.54** Physical (in)activity dependent changes in the morphology of RVLM neurons. **N.A. Mischel, I.J. Llewellyn-Smith and P.J. Mueller.** Wayne State Univ. Sch. of Med. and Flinders Univ., Australia.
- D563 I **1091.55** Autonomic control in a rat model of sepsis induced by cecal ligation and puncture. **G.R.L. Veiga, L.M. Oyama, R. Fazan, Jr., R. Pontes, R. Campos and C. Bergamaschi.** Fed. Univ. of São Paulo and Univ. of Med. of USP-Ribeirão Preto.
- D564 II **1091.56** Changes in expression of markers of GABA transmission in nucleus of the solitary tract of ovariectomized female rats. **E.J. Spary, A. Maqbool, M.J. Drinkhill and T.F.C. Batten.** Univ. of Leeds, U.K.
- D565 I **1091.57** Differential pattern of splanchnic and lumbar sympathetic nerve activity to stimulation of rostral ventrolateral medulla in sedentary versus physically active rats. **M. Subramanian, T. Azar and P.J. Mueller.** Wayne State Univ.
- D566 II **1091.58** Acute effects of different continuous positive airway pressures on cardiovascular autonomic control in healthy subjects. **E. Tobaldini, M.A. Wu, C.B. Cogliati, D. Torzillo, M. Pecis, L. Mellace, K.F. Morris, A. Porta and N. Montano.** Univ. of Milan and Sacco Hosp. and Univ. of South Florida Hlth.
- D567 I **1091.59** Altered expression and function of the astrocyte glutamate transporter GLT1 in the hypothalamus of heart failure rats. **V.C. Biancardi, E.S. Potapenko and J.E. Stern.** Georgia Hlth. Sci. Univ.
- D568 II **1091.60** Cardiovascular responses to photothrombotic middle cerebral artery stroke in anesthetized rats. **S. Adams, J.A. Condrey and P.W. Davenport.** Univ. of Florida.

- D569 I **1091.61** Astrocytes influence neurosecretory and presympathetic hypothalamic neurons via activation of extrasynaptic NMDARs negatively coupled to A-type K<sup>+</sup> channels. **K. Naskar and J.E. Stern.** Georgia Hlth. Sci. Univ.
- D570 II **1091.62** Acute hypernatremia increases the discharge of sympathetic-vasomotor neurons in the rostral ventrolateral medulla. **S.D. Stocker.** Penn State Col. of Med.
- D571 I **1091.63** The role of the paraventricular nucleus glia in the onset of renal wrap hypertension. **B. Hammond and C. Northcott.** Michigan State Univ.
- D572 II **1091.64** Blunted responses of renal sympathetic nerve activity to C-type natriuretic peptide in the PVN of rats with heart failure. **B. Xu, H. Zheng and K.P. Patel.** Univ. of Nebraska Med. Ctr.
- D573 I **1091.65** Pharmacological pacemaker current inhibition improves hyperadrenergic postural tachycardia in human subjects. **C. Schroeder, J. Tank, K. Heusser, D. Rieck, F.C. Luft and J. Jordan.** Hannover Med. Sch. and Med. Univ. Charité, Berlin.
- D574 II **1091.66** Age but few other commonly measured physiologic traits are associated with cardiovascular reactivity across multiple stressors in healthy young adults. **A.R. Allen, L.R. Gullixson, Z. Liu and J.H. Eisenach.** Mayo Clin. and Med. Sch. of Zhejiang Univ., China.
- D575 I **1091.67** The cardiovascular responses to chemoreflex activation are not changed by isolated blockade of NMDA or non-NMDA receptors in the dorsomedial hypothalamus. **N.T. Silva and A.S. Haibara.** Fed. Univ. of Minas Gerais, Brazil.
- D576 II **1091.68** Does ATP  $\gamma$ S potentiate the muscle chemoreflex response to lactic acid? **A.J. Stone, K. Yamauchi, A.K. Leal and M.P. Kaufman.** Penn State Col. of Med.
- D577 I **1091.69** Repeated restraint stress increases baseline blood pressure in spontaneously hypertensive rats. **M.L. McCowan, B. Erdos, N. Cho, C. Sumners and D.A. Scheuer.** Univ. of Florida.
- D578 II **1091.70** Aldosterone (aldo) interacts with PKA, MAPKs and PLC pathway to sensitize angiotensin II-induced hypertension. **B. Xue, Z. Zhang, F. Guo and A.K. Johnson.** Univ. of Iowa.
- D579 I **1091.71** Leptin increases baroreflex gain: role of melanocortin 3/4 receptors in the hypothalamic paraventricular nucleus. **B. Li, P.A. Cassaglia and V.L. Brooks.** Oregon Hlth. & Sci. Univ.
- D580 II **1091.72** The role of macrophage migration inhibitory factor in the paraventricular nucleus during acute stress. **B. Erdos, R. Clifton, M.L. McCowan, C. Sumners and D.A. Scheuer.** Univ. of Florida.
- D581 I **1091.73** Central cholinergic or angiotensinergic activation facilitates the pressor responses to glutamate injected into the RVLM. **J.M.C. Gomide, S. Gasparini, L.A. De Luca, Jr., D.S. Colombari, P.M. De Paula, T.S. Moreira and J.V. Menani.** Sch. of Dent., São Paulo State Univ. and Inst. of Biomed. Sci., São Paulo.
- D582 II **1091.74** Cholecystokinin antagonizes opioid function during electroacupuncture modulation of reflex hypertension in rats. **M. Li, S.C. Tjen-A-Looi, E. Choi, Z. Xu, J. Ho and J.C. Longhurst.** Univ. of California, Irvine.
- D583 I **1091.75** Baroreflex rhythms regulate synaptic amplification in sympathetic ganglia. **M.G. Springer and J.P. Horn.** Univ. of Pittsburgh.
- D584 II **1091.76** Monitoring neurovascular coupling in the hypothalamic supraoptic nucleus in an in vitro slice preparation. **W. Du, K.J. Kim, J.E. Stern and J.A. Filosa.** Georgia Hlth. Sci. Univ.
- D585 I **1091.77** Photostimulation of caudal C1 catecholaminergic neurons reduces arterial pressure and heart rate. **C.J. Madden.** Oregon Hlth. & Sci. Univ.
- D586 II **1091.78** Changes in peripheral but not central pulse wave velocity with estradiol administration is positively correlated with muscle sympathetic nerve activity. **J.A. Miner, J.C. Miner, P.F. Kaplan and C.T. Minson.** Univ. of Oregon and Oregon Hlth. & Sci. Univ.
- D587 I **1091.79** Cerebral autoregulation is enhanced at higher levels of exercise intensity. **M. Falvo, J. Witkowski and J. Serrador.** VA New Jersey Hlth. Care Syst., East Orange and Harvard Med. Sch.
- D588 II **1091.80** Spontaneous baroreflex control of muscle sympathetic nerve activity: impact of baseline duration. **S.W. Holwerda, L.C. Vianna and P.J. Fadel.** Univ. of Missouri-Columbia.
- D589 I **1091.81** Central hypothalamic pathways mediating stress responsiveness vary in different rat strains. **M.M. Knuepfer, M. Busauskas, J. Langasek and L. Willingham.** St. Louis Univ.

## 1092. NEUROVASCULAR RESPONSES TO AGING AND DISEASE: ADAPTATIONS AND INTERVENTIONS (POSTERS)

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D590 I **1092.1** Aging and the effect of autonomic blockade on central and peripheral pulse wave velocity. **R. Harvey, D.P. Casey, E.C. Hart, N. Charkoudian, T.B. Curry, M.J. Joyner and J.N. Barnes.** Mayo Clin. Col. of Med. and U.S. Army Res. Inst. of Envrn. Med., Natick, MA.
- D591 II **1092.2** Fish oil and sympathetic nerve activity in normotensive and prehypertensive humans. **C.E. Schwartz, M.J. Joyner, H. Yang and J.R. Carter.** Michigan Technol. Univ., New York Med. Col. and Mayo Clin.
- D592 I **1092.3** Cardiovascular baroreceptor sensitivity and peak oxygen consumption in chronic obstructive pulmonary disease. **H. Edgell, C. Steinback, M. Reiger, N. Vogan, E. Wong, M. Bhutani and M. Stickland.** Univ. of Alberta and Univ. of Calgary, Canada.
- D593 II **1092.4** Augmented alpha-adrenergic vasoconstriction during exercise in human metabolic syndrome. **J.K. Limberg, E.J. McKenna, J.J. Sebranek, B.J. Walker, S.A. Hagen, B.J. Morgan and W.G. Schrage.** Sch. of Med. and Publ. Hlth., Univ. of Wisconsin-Madison.
- D594 I **1092.5** Impaired cardiac norepinephrine transport in the hypertensive rat. **J. Shanks, S. Mane, R. Ryan and D.J. Paterson.** Oxford Univ.
- D595 II **1092.6** Treatment with a nitric oxide-donating NSAID counteracts functional muscle ischemia in dystrophin-deficient mdx mice. **G.D. Thomas, A. Monopoli, C. De Nardi, E. Ongini and R.G. Victor.** Cedars-Sinai Med. Ctr. and NicOx Res. Inst., Bresso, Italy.
- D596 I **1092.7** Acute phosphodiesterase inhibition improves functional muscle ischemia in patients with Becker muscular dystrophy. **E.A. Martin, A.E. Walker, B.L. Scott, T.C. Malott, N. Singh, S.V. Gurudevan, J. Johannes, R.M. Elashoff, G.D. Thomas and R.G. Victor.** Cedars-Sinai Med. Ctr. and UCLA.



- D597 **II** **1092.8** Morning blood pressure surge is associated with arterial stiffness and sympathetic baroreflex sensitivity in elderly hypertensive patients. **Y. Okada, M.M. Galbreath, S. Shibata, S.S. Jarvis, T.B. VanGundy, R.L. Meier, W. Vongpatanasin, B.D. Levine and Q. Fu.** Texas Hlth. Presbyterian Hosp. Dallas and Univ. of Texas Southwestern Med. Ctr.
- D598 **I** **1092.9** Acute phosphodiesterase inhibition ameliorates functional muscle ischemia in dystrophin-deficient mdx mice. **L. Li, R.G. Victor and G.D. Thomas.** Cedars-Sinai Med. Ctr.
- D599 **II** **1092.10** Augmented supraorbital skin sympathetic nerve activity responses to symptom trigger events in rosacea patients. **T.E. Wilson, K. Toma, K. Metzler-Wilson and D. Sammons.** Ohio Univ. Heritage Col. of Osteo. Med.
- D600 **I** **1092.11** The dopamine D3 receptor knockout mouse models aging-related changes in hypertension and cardiac fibrosis. **R. Lust, B.E. Keeler, T. Johnson, C. Jones, D.A. Tulis, J.A. Virag and S. Clemens.** East Carolina Univ. Brody Sch. of Med.

### 1093. CARDIOVASCULAR ENDOCRINOLOGY, INCLUDING RENIN-ANGIOTENSIN-ALDOSTERONE

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D601 **I** **1093.1** Evidence for GPR107 as a cognate receptor for neuronostatin. **G.L.C. Yosten and W.K. Samson.** Saint Louis Univ.
- D602 **II** **1093.2** Characterization of a neuronostatin receptor in a human kidney cell line. **M.M. Elrick, G.L.C. Yosten and W.K. Samson.** St. Louis Univ.
- D603 **I** **1093.3** mTOR/S6K signaling: a novel effector of neuronal action of angiotensin II. **K. Muta, J.L. Grobe, C.D. Sigmund and K. Rahmouni.** Univ. of Iowa.
- D604 **II** **1093.4** A novel model of conditionally inducible angiotensin production in the brain: investigations of sodium and fluid intake. **J.P. Coble, J.L. Grobe, M. Cassell and C. Sigmund.** Univ. of Iowa.
- D605 **I** **1093.5** Age dependent cardiovascular responses to angiotensin II in conscious mice. **W. Qi, E.S.S.B. Gera and F.G. Smith.** Univ. of Calgary, Canada.
- D606 **II** **1093.6** AT1 receptor antagonism but not mineralocorticoid receptor blockade lowers blood pressure in obese Zucker rats. **J.M. do Carmo, A.A. da Silva and J.E. Hall.** Univ. of Mississippi Med. Ctr.
- D607 **I** **1093.7** Losartan attenuates cardiac remodeling but does not prevent vascular dysfunction in isoproterenol-treated rats. **A.P. Davel, J.A. Victorio, S.P. Clerici and L.V. Rossoni.** UNICAMP, Campinas and Univ. of São Paulo.
- D608 **II** **1093.8** The effects of angiotensin II receptor antagonism on fear memory and immune cell modulation. **P.J. Marvar, D. Geem, N. Khoury and K.J. Ressler.** Emory Univ.
- D609 **I** **1093.9** Metabolic and cardiovascular effects of AT1 receptor blockade in rats with diet-induced obesity. **S.A. Oliveira Junior, D.M. Guizoni, P.F. Martinez, B.P. Torres, A.O. Campana, C.R. Padovani, K. Okoshi, M.P. Okoshi and A.C. Cicogna.** Fed. Univ. of Mato Grosso do Sul, Brazil and São Paulo State Univ.
- D610 **II** **1093.10** Autoradiography of non-AT-1, non-AT-2 125-I-SI angiotensin II binding in neurolysin knockout and wild-type mouse brains. **R.C. Speth, K.L. Santos, J.D. Swindle, L. Gonzalez Reiley, A. Linares, I. Schadock, M. Bader and V.T. Karamyan.** Nova Southeastern Univ., Univ. of Florida, Max Delbruk Ctr. for Molec. Med., Berlin and Texas Tech Univ. Hlth. Sci. Ctr., Amarillo.
- D611 **I** **1093.11** ACE2 reduces hyperglycemia by preventing pancreatic renin angiotensin system over-activation in high fat diet-fed mice. **K.H. Chhabra, K.B. Pedersen, V. Shenoy, M.K. Raizada and E. Lazartigues.** LSU Hlth. Sci. Ctr., New Orleans and Univ. of Florida.
- D612 **II** **1093.12** Developmental time-course of vascular RNA expression and protein levels for ACE, eNOS and iNOS in young Syrian cardiomyopathic hamsters. **N. Cruz, J. Quidgley, J.M. Garcia, G.M. Torres, N. Escobales, J.D. Miranda, P.I. Altieri and M.J. Crespo.** Univ. of Puerto Rico Sch. of Med. and Univ. of Puerto Rico, Rio Piedras Campus.
- D613 **I** **1093.13** Aldosterone induces cardiomyocyte hypertrophy in vitro and in vivo via interleukin-18. **E.A. Pankey, S.N. Murthy, R.V. Bysani, P.J. Kadowitz and A.J. Valente.** Tulane Univ. Sch. of Med. and Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- D614 **II** **1093.14** Drosha-dependent miRNA regulate aldosterone synthesis by increasing StAR and HSD3B2 expression. **K. Oki, E.P. Gomez-Sanchez and C.E. Gomez-Sanchez.** Univ. of Mississippi Med. Ctr. and Jackson VA Med. Ctr.
- D615 **I** **1093.15** 25-Hydroxyvitamin D and body mass index in female adolescents. **T.M. Gwathmey, P. Nixon, M. Chappell and L. Washburn.** Wake Forest Baptist Hlth.
- D616 **II** **1093.16** Generation of circulating globular adiponectin is catalyzed by thrombin. **J.T. Wigle, L. Tworek, C.G. Taylor and P. Zahradka.** Univ. of Manitoba and St. Boniface Res. Ctr., Winnipeg.

### 1094. NEUROENDOCRINOLOGY, HYPOTHALAMUS, PITUITARY, STRESS AND TRAUMA INCLUDING ADRENAL GLAND

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D617 **I** **1094.1** Steroid hormones in the saliva of children after acute physical stress in school. **H. Budde, C. Windisch, M. Wegner, A. Arafat and C. Voelcker-Rehage.** Reykjavik Univ., Iceland, Jacobs Univ. Bremen, Germany, Humboldt Univ. Berlin and Charité Berlin.
- D618 **II** **1094.2** Negative regulation of the human growth hormone gene by insulin in primary pituitary cell cultures and a possible role for hypoxia inducible factor. **H. Vakili, Y. Jin and P.A. Cattini.** Univ. of Manitoba.

- D619 I **1094.3** Effect of the peroxisome proliferator-activated receptor gamma agonist rosiglitazone on the hypothalamic GT1-7 cell line. **V. Hwang, M.O. Fernandez and N.J. Webster.** UCSD and VA San Diego Healthcare Syst.
- D620 II **1094.4** Effect of brain specific deletion of PPAR $\gamma$  on puberty onset, hypothalamic gene expression and diet-induced obesity in C57BL/6 mice. **M.O. Fernandez, S. Sharma, V. Hwang, J.M. Olefsky and N.J. Webster.** UCSD and VA San Diego Healthcare Syst.
- D621 I **1094.5** SIRT1 acutely modulates glucose sensing of POMC neurons in the hypothalamus. **X. Shi, D. Li, L. Chan and X. Guan.** Baylor Col. of Med. and Univ. of Texas MD Anderson Cancer Ctr.
- D622 II **1094.6** Blast brain injury elevates catecholamine biosynthesis in the rat adrenal medulla. **N. Tümer, S. Svetlov, N. Kirichenko, M. Whidden, B. Erdos, V. Prima, A. Sherman, F. Kobeissy, R. Yeziarski, C. Vierck and K. Wang.** VA Med. Ctr., Univ. of Florida, Banyan Biomarkers Inc., Alachua, FL and West Chester Univ.
- D623 I **1094.7** Behavioral assessments of mouse strain differences in response to social stress. **M. Jibitu, J. Meyerhoff, N. Chakraborty, T.C.M. Lima, M. Jett and R. Hammamieh.** U.S. Army Ctr. for Envrn. Hlth. Res., Frederick, MD, Georgetown Univ. Sch. of Med. and Fed. Univ. of Santa Catarina, Brazil.
- D624 II **1094.8** Differential responses of genes for neurosecretory granules in the rat adrenal medulla to acute and repeated stress. **E.L. Sabban, A. Tillinger, L.I. Serova and R. Nostramo.** New York Med. Col.

## 1095. REPRODUCTION AND SEX HORMONES

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D625 I **1095.1** ageLOC vitality enhances sexual functions in normal and impotent models. **Z. Wu, Y. Dong, C. Zhao, Y. Zhang, N. Tan, J. Lu and J-S. Zhu.** Pharmanex Beijing Pharmacol. Ctr., Nu Skin Ctr. for Anti-Aging Res., Provo, UT and Hong Kong Polytech Univ.
- D626 II **1095.2** Rescue of obesity-induced infertility in female mice due to an ovarian theca cell-specific knockout of the insulin receptor. **S. Wu, F. Wondisford and A. Wolfe.** Johns Hopkins Univ.
- D627 I **1095.3** Enhanced uterine contractility in an animal model of endometriosis. **S. Hernandez, M.L. Cruz, A. Ramirez, A. Torres-Reveron and C.B. Appleyard.** Ponce Sch. of Med. and Hlth. Sci., PR and Nova Southeastern Univ.
- D628 II **1095.4** The importance of testes function in mouse models of cachexia. **J.P. Hardee, J.P. White, M.J. Puppa, J.D. Aartun, A.A. Narsale, S. Sato and J.A. Carson.** Univ. of South Carolina.
- D629 I **1095.5** CXCL12 $\alpha$  induces proliferation and migration of endometrial epithelial cells expressing CXCR4. **A. Ruiz, J. Monteiro, M. Colon, M. Echevarria, L. Morales, M. Bayona, A. Fazleabas and I. Flores.** Ponce Sch. of Med. & Hlth. Sci., PR and Michigan State Univ.

- D630 II **1095.6** Depression and anxiety behaviors are influenced by sex and estrous cycle stage. **J.K. Alvarado, J.S. Rivera, E.A. Jimenez, D.L. Ramos-Ortolaza and A. Torres-Reveron.** Univ. of Puerto Rico and Nova Southeastern Univ., Ponce and Ponce Sch. of Med. and Hlth. Sci., PR.
- D631 I **1095.7** Cospeptin, a novel reproductive peptide. **C. Bryant, G.L.C. Yosten and W.K. Samson.** Saint Louis Univ.

## 1096. SEX DIFFERENCES IN RENAL FUNCTION AND DISEASE

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D632 I **1096.1** Activation of the novel estrogen receptor GPR30 reduces blood pressure and renal injury in the streptozotocin-induced diabetic rat infused with angiotensin II. **C. Maric-Bilkan and E. Flynn.** Univ. of Mississippi Med. Ctr. and Women's Hlth. Res. Ctr., Jackson.
- D633 II **1096.2** Sex hormones induce gender-related difference in renal expression of a novel prostaglandin transporter, OAT-PG, influencing basal PGE<sub>2</sub> concentration. **S. Asano, R. Hatano, K. Onoe and M. Matsubara.** Ritsumeikan Univ. and Tohoku Univ. Sch. of Med., Japan.
- D634 I **1096.3** Male-dominant upregulation of organic anion transporter 1 and 3. **M. Henjakovic, W. Wegner, B.C. Burckhardt and G. Burckhardt.** Univ. Med. Ctr. Göttingen, Germany.
- D635 II **1096.4** Hepatic and renal sat-1 and CFEX in ethylene glycol-induced oxalate nephrolithiasis in rats. **B.C. Burckhardt, H. Brzica, D. Breljak, I. Vrhovac, V. Micek, M. Lovric, N. Schnedler and G. Burckhardt.** Ctr. of Physiol. and Pathophysiol., Goettingen and Inst. for Med. Res. and Occup. Hlth. and Univ. Hosp. Ctr., Zagreb, Croatia.
- D636 I **1096.5** Lack of testosterone worsens ischemia/reperfusion-induced acute kidney injury and its deleterious cardiac effects. **A. Soljancic, A. Lopez-Ruiz, K. Chandrashekar, R. Maranon, M. Mahgoub, R. Liu and L.A. Juncos.** Univ. of Mississippi Med. Ctr. and Alfaisal Univ., Saudi Arabia.
- D637 II **1096.6** Role of the sex chromosomal complement (XX or XY) to impact blood pressure and natriuresis in the model of aldosterone escape. **L. Li, S. Tsukerman, H. Ji, K. Sandberg and C. Ecelbarger.** Georgetown Univ.
- D638 I **1096.7** Loss of estrogen increases leptin levels, liver dysfunction and insulin resistance in Toll-like receptor 4 mutation mice. **M.J. Romero-Aleshire, H.L. Brooks, P. Hoyer and T.S. Tsao.** Univ. of Arizona.
- D639 II **1096.8** Estrogen supplementation in female mice yields higher sodium retention than that of testosterone in male mice. **A. Rouch, K. Curtis, L. Fan, L. Kudo, S. Toal and R. Naukam.** Oklahoma State Univ. Ctr. for Hlth. Sci.
- D640 I **1096.9** The full-length estrogen receptor ER $\alpha$ 66 mediates ERK activation and downregulation of ER $\alpha$ 36 and ER $\beta$  expression in kidneys of female diabetic mice. **D.L. Irsik, R.W. Fallet, P.K. Carmines and P.H. Lane.** Univ. of Nebraska Med. Ctr. and Univ. of Oklahoma Hlth. Sci. Ctr.

### 1097. BLOOD PRESSURE AND FLUID VOLUME REGULATION IN PREGNANCY AND DEVELOPMENTAL PROGRAMMING

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D641 I **1097.1** Pulmonary inflammation and airway hyperresponsiveness associated with placental ischemia-induced hypertension in rat dams and offspring. **A.C. Johnson, R.S. Eskuri, J.S. Gilbert and J.F. Regal.** Univ. of Minnesota Med. Sch. Duluth and Univ. of Oregon.
- D642 II **1097.2** Aminoimidazole carboxamide ribonucleotide administration attenuates placental-ischemia-induced hypertension and angiogenic imbalance in rats. **C.T. Banek, A.J. Bauer, M.B. Rasmussen, H.C. Dreyer and J.S. Gilbert.** Univ. of Oregon and Univ. of Minnesota Med. Sch. Duluth.
- D643 I **1097.3** Pravastatin attenuates hypertension and angiogenic imbalance in placental ischemia-induced hypertension in the rat. **A.J. Bauer, C.T. Banek, K.E. Lillegard, J.F. Regal and J.S. Gilbert.** Univ. of Minnesota Med. Sch. Duluth and Univ. of Oregon.
- D644 II **1097.4** Inhibitor of complement activation attenuates placental ischemia-induced hypertension in rat. **K.E. Lillegard, A.C. Johnson, S.J. Lojovich, A.J. Bauer, H. Marsh, J.S. Gilbert and J.F. Regal.** Univ. of Minnesota Med. Sch. Duluth, Celldex Therapeut. Inc., Needham, MA and Univ. of Oregon.
- D645 I **1097.5** Sildenafil administration attenuates placental ischemia and sFlt-1 induced hypertension in pregnant rats. **E.M. George, K. Cockrell, M. Arany and J.P. Granger.** Univ. of Mississippi Med. Ctr.
- D646 II **1097.6** Hyperinsulinemia increases blood pressure and pup weight in pregnant rats. **A.T. Palei, E. George, K. Cockrell, M. Arany and J. Granger.** Univ. of Mississippi Med. Ctr.
- D647 I **1097.7** Mechanism of protection of the aldosterone signaling pathway in the rat collecting duct during pregnancy. **C. West and S.M.E. Masilamani.** Virginia Commonwealth Univ. Sch. of Med.
- D648 II **1097.8** Effect of increased cortisol on heart rate in pregnant ewes. **M. Keller-Wood, E.M. Richards, D.A. Scheuer and C.E. Wood.** Univ. of Florida.
- D649 I **1097.9** Pregnancy amplifies the deleterious effects of nanoparticle exposure on microvascular nitric oxide: a role for oxidant stress. **M.A. Boegehold, T.R. Nurkiewicz and S.M.E. Masilamani.** West Virginia Univ.
- D650 II **1097.10** Profile of nitric oxide synthases, antioxidants, and pro-oxidant enzymes and oxidative stress markers in the kidney cortex during rat pregnancy. **M.W. Cunningham, Jr., J. Sasser and C. Baylis.** Univ. of Florida Col. of Med.
- D651 I **1097.11** Thrombospondin-2 may exert its effects on fetoplacental development in the BPH/5 mouse model of preeclampsia through CD36 and CD47 receptors. **Y. Zhou, J.L. Sones, A.K. Woods and R.L. Davisson.** Cornell Univ. and Weil Cornell Med. Col.

- D652 II **1097.12** Effects of a high maternal sodium intake on offspring of genetically diverse (CCHS) mice. **B.N. Van Vliet, A. Gillingham and R.J. Hitzemann.** Mem. Univ. of Newfoundland, Canada and Univ. of Oregon.

### 1098. PHYSIOLOGICAL GENOMICS AND NOVEL TECHNOLOGIES OF CARDIOVASCULAR AND RENAL DISEASES

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D653 I **1098.1** A combinatorial genetic approach identifies a significant locus that controls elevated heart rate in mice. **I.A. Ilushkina, E.M. Smolock, J. Gerloff, G. Glazko, A.N. Murashev, A.J. Lusic and V.A. Korshunov.** Univ. of Rochester Sch. of Med. and Dent., Shemyakin-Ovchinnikov Inst. of Bioorganic Chem., Russia, Univ. of Arkansas for Med. Sci. and David Geffen Sch. of Med., UCLA.
- D654 II **1098.2** Physiological genomics: renal gene interaction in diabetic nephropathy. **K.J. Kelly and J. Dominguez.** Indiana Univ. Sch. of Med. and VA Hosp.
- D655 I **1098.3** Analysis of renal hemodynamics and pressure-natriuresis in Dahl salt-sensitive rats. **D.A. Beard.** Med. Col. of Wisconsin.
- D656 II **1098.4** A mathematical model of calcium and phosphate homeostasis and early chronic kidney disease. **W.A. Pruett and R.L. Hester.** Univ. of Mississippi Med. Ctr.
- D657 I **1098.5** Impact of SOD on endothelial cell-free radical distribution during eNOS uncoupling. **S. Kar and M. Kavdia.** Wayne State Univ.
- D658 II **1098.6** Time-dependent changes in myocardial proteins of the porcine left ventricle during pressure overload. **I.M. Lankhuizen, E. McClellan, D. Merkus, M. te Lintel Hekkert, P. Juhasz, A. Adourian, Y.M. Pinto, A.P. Stubbs and D.J. Duncker.** Erasmus Univ. Med. Ctr., Netherlands, BG Med. Inc., Waltham, MA and Acad. Med. Ctr., Univ. of Amsterdam.
- D659 I **1098.7** Novel conplastic strains reveal direct and independent effects of mitochondrial genomic variants on intrinsic aerobic fitness. **S. Kumarasamy, K. Gopalakrishnan, S. Yerga-Woolwine, P. Farms and B. Joe.** Univ. of Toledo Col. of Med. and Life Sci.
- D660 II **1098.8** Genetic background (C57BL/6J versus FVB/N) influence in global gene expression profile to high fat diet. **M.A. Christoffolete, M. Nascimento-Sales, A.C.B. Mendes, S.S. Melo, R.F. Prata and M.O. Ribeiro.** Fed. Univ. of ABC and Mackenzie Presbyterian Univ., Brazil.
- D661 I **1098.9** Establishing biomarkers of hypertension-related kidney disease in a novel rat model. **A.C. Harmon, A. Johnson, A. Driesbach and M.R. Garrett.** Univ. of Mississippi Med. Ctr.
- D662 II **1098.10** Differential regulation of blood pressure in transgenic mice containing -217A/G polymorphism of human angiotensinogen gene in response to immobilization stress. **S. Jain, V.G. Pandey, S. Maharjan, B. Mopidevi, S.K.C. Arudra and A. Kumar.** Univ. of Toledo Med. Ctr.
- D663 I **1098.11** Physiological angiogenesis in congenic SS.BN-(D13hmgc41-D13Rat)/Mcwi strain is renin dependent. **T.J. Stodola, C. Moreno-Quinn and A.S. Greene.** Med. Col. of Wisconsin.

- D664 II **1098.12** Strain-dependent variation in vasoreactivity in isolated mouse thoracic aorta. **S.K. Kim, J.J. Avila and M.P. Massett.** Texas A&M Univ.
- D665 I **1098.13** Amelioration of endothelial dysfunction in middle cerebral arteries of fawn-hooded rats by antioxidant treatment and chromosomal substitution. **B. Weinberg and J.H. Lombard.** Med. Col. of Wisconsin.
- D666 II **1098.14** A new method of attaching a solid-state pressure sensor for measurement of chronic intracranial pressure in freely moving rats using biotelemetry. **D. McLeod, L. Murtha and K. Pitsillides.** Univ. of Newcastle and Hunter Med. Res. Inst., Australia and Endosomatic Systs. Inc., Davis.
- D667 I **1098.15** An implantable closed loop programmable bolus injector with multiple dose control. **T.A. Athens, K. Pitsillides and M. Axelsson.** Davis Senior H.S., Endosomatic Systs. Inc., Davis and Göteborg Univ., Sweden.
- D668 II **1098.16** A new biotelemetry system to monitor blood flow velocity, blood pressure and temperature in small animals: preliminary data from cigarette smoke-exposed SH rats. **L. Maggie, L.G. Griffiths, D. Uyeminami, K. Johnson, K.E. Pinkerton and K. Pitsillides.** Univ. of California, Davis and Endosomatic Systems Inc., Davis.

### 1099. RENAL ORGANIC SOLUTE TRANSPORT

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D669 I **1099.1** The different mode of organic anion transport in NPT1/*SLC17a1* and NPT4/*SLC17A3*. **P. Jutabha, H. Endou and N. Anzai.** Dokkyo Med. Univ. Sch. of Med., Japan and J-Pharma Co. Ltd., Tokyo.
- D670 II **1099.2** Twelve transmembrane helices form the functional core of mammalian MATE1. **X. Zhang, X. He, J. Baker, F. Tama, G. Chang and S. Wright.** Univ. of Arizona and The Scripps Res. Inst.
- D671 I **1099.3** Competitive exchange diffusion to determine transport of hOCT2 inhibitors. **J.N. Harper and S.H. Wright.** Univ. of Arizona.
- D672 II **1099.4** Interaction of human MATE1 and MATE2-K with N-butylpyridinium chloride and other cationic ionic liquids. **L.J. Martinez-Guerrero and S. Wright.** Univ. of Arizona.
- D673 I **1099.5** No extrarenal expression of SGLT2 and sex differences in renal expression. **M. Rose, M. Gerasimova, R. Cunard, H. Koepsell, I. Sabolic and V. Vallon.** UCSD, VA San Diego Healthcare Syst., Univ. of Würzburg, Germany and Med. Res. and Occup/ Hlth., Zagreb, Croatia.
- D674 II **1099.6** Regulation of ABC transporters by hypoxia in HK-2 human proximal tubule epithelial cells. **G. Chung and C.D. Brown.** Newcastle Univ., U.K.
- D675 I **1099.7** Role of drug transporters in the systemic disposition of fluoroquinolones. **A. Mulgaonkar, J. Venitz and D.H. Sweet.** Virginia Commonwealth Univ. Sch. of Pharm.

### 1100. RENAL WATER TRANSPORT, UREA TRANSPORT AND COUNTERCURRENT MECHANISMS

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D676 I **1100.1** Renomedullary interstitial hyaluronan is important for hydration-induced diuresis. **P. Hansell, F. Palm and S. Stridh.** Uppsala Univ., Sweden.
- D677 II **1100.2** Effect of acute infusion of low-molecular-weight polyvinylpyrrolidone on renal function. **Q. Yan, Z. Du, L. Wan, F-X. Beck, G. Giebisch and T. Wang.** Yale Univ. Sch. of Med., Amity Regional H.S., Woodbridge, CT and Univ. of Munich.
- D678 I **1100.3** Quantitative phosphoproteomics of hypercalcemia induced nephrogenic diabetes insipidus. **S. Khositseth, P. Somparn, N. Thippamon, P. Uawithya, R-F. Shen and S-H. Chen.** Thammasat Univ., Thailand, Siriraj Hosp., Bangkok, FDA, Bethesda and Natl. Cheng Kung Univ., Taiwan.
- D679 II **1100.4** A mathematical model for a renal medullary tubule structure of neonatal rats. **M. Marcano and M. Bonilla-Félix.** Univ. of Puerto Rico, Río Piedras Campus and Med. Sci. Campus.
- D680 I **1100.5** GPR91 deletion improves lithium-induced nephrogenic diabetes insipidus. **L. Lam, H.A. Gevorgyan, A.D.M. Riquier-Brisson and J. Peti-Peterdi.** Univ. of Southern California.
- D681 II **1100.6** Impact of nitric oxide-mediated vasodilation on outer medullary NaCl transport and oxygenation. **A. Edwards and A.T. Layton.** CNRS, Paris and Duke Univ.
- D682 I **1100.7** Relationship of three-dimensional architecture of thin limbs of Henle's loops to the renal inner medullary concentrating mechanism. **K.Y. Westrick, W.H. Dantzler and T.L. Pannabecker.** Univ. of Arizona.
- D683 II **1100.8** Role of interstitial nodal spaces in the urine concentrating mechanism of the rat kidney. **R.L. Gilbert, T.L. Pannabecker and A.T. Layton.** Univ. of Arizona and Duke Univ.
- D684 I **1100.9** Role of estrogen in the urinary concentrating mechanism. **S. Chandra, M.J. Romero-Aleshire, Q. Cai, J. Funk and H.L. Brooks.** Univ. of Arizona.
- D685 II **1100.10** Stoichiometry determination of UT-A1 and UT-A3 within collecting duct urea transporter complex. **C.L. Chou, L. Han, G. Wang, M. Gucek, T. Pisitkun and M.A. Knepper.** NHLBI/NIH.
- D686 I **1100.11** Urine concentrating mechanism: impact of vascular and tubular architecture and a proposed descending limb urea-Na cotransporter. **T.L. Pannabecker, W.H. Dantzler and A.T. Layton.** Univ. of Arizona and Duke Univ.
- D687 II **1100.12** Vasopressin increases ATF3 mRNA expression in mouse renal inner medulla. **Y. Gao, Q. Cai, E. Adun and H.L. Brooks.** Col. of Med., Univ. of Arizona.
- D688 I **1100.13** AVP infusion increases the expression of urea transporters and ER stress pathway genes in medullae of female mice with urinary concentrating defect. **A. Booth, Q. Cai, M.J. Romero-Aleshire, S. Chandra and H.L. Brooks.** Univ. of Arizona.

### 1101. ORIGINS OF IMPAIRED CARDIOVASCULAR-RENAL FUNCTION AND BODY FLUID BALANCE

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D689 I **1101.1** Antioxidant treatment during development prevents low birth weight, hypertension, and enhanced sensitivity to mild renal ischemia in offspring exposed to placental insufficiency. **N.B. Ojeda, S. Wilkening, J. Dasinger, B.T. Alexander, G. Graves and P. Rhodes.** Univ. of Mississippi Med. Ctr.
- D690 II **1101.2** Early life stress induces endothelial dysfunction in a mouse model of maternal separation. **D.H. Ho, M.L. Yu, C. Bazacliu and J.S. Pollock.** Georgia Hlth. Sci. Univ.
- D691 I **1101.3** Gestational chronic intermittent hypoxia causes asymmetric growth restriction and alters cholesterol homeostasis in the liver of Sprague-Dawley rats. **W. Iqbal, E. Barry, D. Hardy and J. Ciriello.** Univ. of Western Ontario and McMaster Univ., Canada.
- D692 II **1101.4** Intrauterine growth restriction induces a greater susceptibility to hypertension and metabolic dysfunction with aging in female growth-restricted rats. **S. Intapad, L.F. Tull, A.D. Brown, J.H. Dasinger, N.B. Ojeda and B.T. Alexander.** Univ. of Mississippi Med. Ctr.
- D693 I **1101.5** Dissection of the renal failure-3 QTL. **N.C. Yeo, C. O'Meara, J. Lazar and H.J. Jacob.** Med. Col. of Wisconsin.
- D694 II **1101.6** Epigenomic markers for heritable risk of preeclampsia. **C.M. Anderson, M.L. Wright, J.L. Ralph, E.O. Uthus and J.E. Ohm.** Univ. of North Dakota and USDA, Grand Forks.
- D695 I **1101.7** Differential adrenergic signaling in the regulation of renal blood flow in rats with heart failure. **A.M. Schiller, H-J. Wang and I.H. Zucker.** Univ. of Nebraska Med. Ctr.
- D696 II **1101.8** A prospective, longitudinal study of the improvement of vascular function and cardiac autonomic control following renal transplantation. **K.P. Ferrante, H.M. Stauss and R.S. Kalil.** Univ. of Iowa.
- D697 I **1101.9** Hydrochlorothiazide exacerbates metabolic syndrome in the SHROB rat model. **P. Ernsberger, A. Agarwal, B. Lute and R.J. Koletsky.** Case Western Reserve Univ.
- D698 II **1101.10** Impact of antenatal betamethasone on p47 phox in kidney and 8-isoprostane responses to angiotensin II in proximal tubule cells in male sheep after uninephrectomy. **J. Bi, Y. Su, J. Figueroa, M.C. Chappell and J.C. Rose.** Wake Forest Univ. Sch. of Med.
- D699 I **1101.11** Congenital solitary kidney rats are predisposed to significant renal injury. **X. Wang, A. Johnson, L. Solberg-Woods and M.R. Garrett.** Univ. of Mississippi Med. Ctr. and Med. Col. of Wisconsin.
- D700 II **1101.12** Fetal betamethasone exposure and age influence the expression of AT7/mas receptors in the solitary tract nucleus. **A.C. Marshall, H.A. Shaltout, M. Nautiyal, M.C. Chappell and D.I. Diz.** Wake Forest Univ.

D701 I **1101.13** Role of angiotensin II in the hypertension and renal hemodynamic changes in rats with an altered nephrogenesis: age- and sex-dependent differences. **F.J. Salazar, V. Reverte, A. Tapia, J. Gambini, I. Gimenez, J.M. Moreno and M.T. Llinas.** Univ. of Murcia, Univ. of Valencia and Univ. of Zaragoza, Spain.

D702 II **1101.14** Early life stress exaggerates renal sympathetic outflow in adult rats. **A.S. Loria, D.M. Pollock and J.S. Pollock.** Georgia Hlth. Sci. Univ.

### 1102. DEVELOPMENTAL PROGRAMMING AND CARDIO-RENAL FUNCTION IN ADULTS

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D703 I **1102.1** Early life stress-induced exaggerated AngII aortic vasoconstriction is transmitted to the F1 generation. **A.S. Loria, T. Cunningham and J.S. Pollock.** Georgia Hlth. Sci. Univ.
- D704 II **1102.2** Oxidative stress and hemodynamics alterations induced by fluoxetine. **C.J. Lagranha, A.I. Silva, L. Galindo-Novaes, R. Manhaes-de-Castro, J.H. Costa-Silva and S.L. Souza.** Acad. Ctr. of Vitoria-UFPE and Fed. Univ. of Pernambuco, Brazil.
- D705 I **1102.3** Effects of prenatal betamethasone exposure and unilateral nephrectomy on sodium uptake in ovine renal proximal tubule cells from young adult male sheep. **Y. Su, J. Bi, L. Tang, J.P. Figueroa and J.C. Rose.** Wake Forest Univ. Hlth. Sci.
- D706 II **1102.4** Combining whole transcriptome expression with SILAC to investigate mTOR inhibition in cultured baboon fetal proximal tubule cells. **M. Nakamura, L.A. Cox, J.P. Glenn, S. Pardo, S. Habib, S.P. Weintraub and M.J. Nijland.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio and Texas Biomed. Res. Inst., San Antonio.
- D707 I **1102.5** Early cardiovascular alterations induced by zinc deficiency during fetal life and lactation. **F. Mendes Garrido Abregu, R. Sanchez, L.C. Veiras, A. Costa, A.L. Tomat and C. Arranz.** Univ. Buenos Aires and IQUIMEFA-CONICET, Buenos Aires.
- D708 II **1102.6** Effects of low maternal aldosterone on offspring cardiovascular development. **T. McKee and P. Knoblich.** Minnesota State Univ. Mankato.
- D709 I **1102.7** Perinatal taurine imbalance induces insulin resistance via the renin-angiotensin system in adult female rats. **S. Roysommuti, A. Thaeomor, D. Jirakulsomchok and J.M. Wyss.** Khon Kaen Univ., Thailand and Univ. of Alabama at Birmingham.

### 1103. WATER AND ELECTROLYTE HOMEOSTASIS: PATHOPHYSIOLOGY AND PHYSIOLOGY

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT  
HALLS A-D

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D710 I **1103.1** Circadian expression of H,K-ATPase type 2 contributes to the stability of plasma K<sup>+</sup> levels. **G. Crambert, G. Centeno, D. Firsov and A. Salhi.** INSERM, UPMC-CNRS, Paris and Univ. of Lausanne.
- D711 II **1103.2** H,K-ATPase type 2 is required for renal adaptation to pregnancy. **G. Crambert, A. Doucet and A. Salhi.** UPMC-CNRS, Paris.
- D712 I **1103.3** Collecting duct renin synthesis and secretion are stimulated by angiotensin II via protein kinase C activation and cAMP accumulation. **L. Liu, L.S. Lara, A. Gonzalez, C.R.T. Bourgeois, D.M. Seth, L.G. Navar and M.C. Prieto.** Tulane Univ. Sch. of Med. and Fed. Univ. of Rio de Janeiro.
- D713 II **1103.4** Na delivery, ENaC and mitochondrial NCX mediate flow-stimulated collecting duct ET-1 production. **M. Pandit and D.E. Kohan.** Univ of Utah.
- D714 I **1103.5** Regulated intramembrane proteolysis contributes to control of the osmoprotective transcription factor, NFAT5. **Y. Izumi, M.B. Burg and J.D. Ferraris.** NHLBI/NIH.
- D715 II **1103.6** Estradiol prevents increased cortical AQP2 expression and urine osmolality in rats subjected to ovariectomy for 7 days. **R. Norregaard, Y. Wang, W. Miller-Little and J. Frøkiær.** Aarhus Univ., Denmark.
- D716 I **1103.7** A single-amino acid mutation converts human aquaporin 5 to an anion channel. **X. Qin and W.F. Boron.** Case Western Reserve Univ.
- D717 II **1103.8** Exploring CO<sub>2</sub> permeability of plant aquaporins. **X. Qin, H. Hu, J.I. Schroeder and W.F. Boron.** Case Western Reserve Univ. and UCSD.
- D718 I **1103.9** Effect of Oryeongsan on hypertonic stress-induced water channel expression and apoptosis in renal collecting duct cells. **S.M. Lee, Y.J. Lee, J.J. Yoon, D.G. Kang and H.S. Lee.** Wonkwang Univ., South Korea.
- D719 II **1103.10** Inhibitory effect of *Poria cocos* on high glucose-induced rat mesangial cell proliferation. **J.J. Yoon, Y.J. Lee, S.M. Lee, Y.P. Lee, J.S. Kim, D.G. Kang and H.S. Lee.** Wonkwang Univ., South Korea, Korea Inst. of Oriental Med., Daejeon.
- D720 I **1103.11** Oryeongsan (Wulingsan) induces natriuresis and diuresis along with an inhibition of the renin-angiotensin-aldosterone system. **Y.M. Ahn, M.C. Kho, R. Tan, K.W. Cho, D.G. Kang and H.S. Lee.** Wonkwang Univ., South Korea.
- D721 II **1103.12** Sodium reabsorption in the distal convoluted tubule is enhanced in the 11 $\beta$ -hydroxysteroid dehydrogenase type 2 knockout mouse. **R.W. Hunter, L. Mullins, M.A. Bailey and J.J. Mullins.** Univ. of Edinburgh.
- D722 I **1103.13** Upregulation of renal medullary 20-HETE production opposes the development of hypertension in sleeping beauty transposon CYP4A1 transgenic Dahl S rats. **S. Murphy, F. Fan, R. Baker, A. Guerts, H. Jacob and R. Roman.** Univ. of Mississippi Med. Ctr. and Med. Col. of Wisconsin.
- D723 II **1103.14** Effects of K-deficient diets  $\pm$  Na supplementation on Na, K, and H<sub>2</sub>O transporters' abundance along the nephron. **M.T.X. Nguyen, L.E. Yang, N.K. Fletcher, D.H. Lee, R. Silver and A.A. McDonough.** Keck Sch. of Med., Univ. of Southern California and Weill Cornell Med. Col.
- D724 I **1103.15** Retrograde signaling does not mediate sodium excretion during dorsal column stimulation. **C.F. Tschautscher and P. Knoblich.** Minnesota State Univ. Mankato.
- D725 II **1103.16** Potassium adaptation is impaired in hypophysectomized rats. **J.H. Youn and Y.T. Oh.** Univ. of Southern California Keck Sch. of Med.
- D726 I **1103.17** Chronic estrogen and 5-HT1A agonist treatment reduce sodium appetite in ovariectomized rats. **R.L. Melo, F.V. Fonseca, I.G. Araujo, C. Silva-Almeida, V.A. Marcacini, A.S. Mecawi and L.C. Reis.** Fed. Rural Univ. of Rio de Janeiro.
- D727 II **1103.18** Peripheral prazosin combined with noradrenaline into the lateral parabrachial nucleus facilitates cholinergic-induced sodium appetite. **S. Gasparini, J.M.C. Gomide, G.M.F. Andrade-Franz , C.A.F. Andrade, D.S.A. Colombari, L.A. De Luca, Jr., P.M. De Paula, T.S. Moreira and J.V. Menani.** Sch. of Dent., S o Paulo State Univ. and Univ. of S o Paulo.
- D728 I **1103.19** Vasopressin not aldosterone is associated with changes in body mass and urine volume during a controlled 4 d fluid intake intervention. **E.C. Johnson, C.X. Munoz, L. LeBellego, A. Klein, L. Jimenez, B.R. Kupchak, W.J. Kraemer, D.J. Casa, C.M. Maresh and L.E. Armstrong.** Univ. of Connecticut and Danone Res., Palaiseau, France.
- D729 II **1103.20** Angiotensin II receptor subtype 1a (at1ar) gene silencing in neurons of the subfornical organ prevents increased drinking behavior in bile duct ligated rats. **J.D. Walch and J.T. Cunningham.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio and Univ. of North Texas Hlth. Sci. Ctr., Fort Worth.
- D730 I **1103.21** Co-localization of dynorphin with inducible cAMP element repressor in the supraoptic nucleus. **H.D. Bengs, Y. Rangel, C. Franklin, G.M. Toney and H.B. Gottlieb.** Univ. of Texas Hlth. Sci. Ctr. at San Antonio and Univ. of Incarnate Word Feik Sch. of Pharm.
- D731 II **1103.22** Regulation of TRPV2 in magnocellular neurons of the supraoptic nucleus in rat. **T.P. Nedungadi, J.D. Walch and J.T. Cunningham.** Univ. of North Texas Hlth. Sci. Ctr. and Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- D732 I **1103.23** TRPC4 expression in supraoptic (SON) and paraventricular (PVN) magnocellular neurosecretory cells. **T.P. Nedungadi, J.D. Walch and J.T. Cunningham.** Univ. of North Texas Hlth. Sci. Ctr. and Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- D733 II **1103.24** Renal handling of potassium in a *Sus scrofa* model of acute hemorrhagic shock. **C.F.T. Uyehara, P.J. Golden, W.M. Ichimura, L.A.M. Murata, A.K. Sato and C.A. Hernandez.** Tripler Army Med. Ctr., HI.
- D734 I **1103.25** Oleanolic acid-induced regulation of atrial natriuretic peptide secretion in perfused beating atrial model. **H.Y. Kim, X. Li, K.W. Cho, D.G. Kang and H.S. Lee.** Wonkwang Univ., South Korea.
- D735 II **1103.26** Alterations of zinc, copper, and magnesium concentrations during and after open heart surgery. **Y-Q. Yan, X-C. Liu, W-B. Jing, X-Y. Bai, Q. Yang and G-W. He.** TEDA Intl. Cardiovasc. Hosp., Med. Col., Nankai Univ., China, The Chinese Univ. of Hong Kong and Oregon Hlth. & Sci. Univ.

## 1104. NEUROHUMORAL MECHANISMS OF BLOOD PRESSURE REGULATION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D736 I **1104.1** Phospholipases A<sub>2</sub> and cyclooxygenase 1 are critical for angiotensin II-induced reactive oxygen species production and L-type Ca<sup>2+</sup> current in subfornical organ neurons. **G. Wang, J. Anrather, V. Pickel, C. Iadecola and R.L. Davisson.** Weill Cornell Med. Col. and Col. of Vet. Med., Cornell Univ.
- D737 II **1104.2** Angiotensin II increases transient receptor potential vanilloid 4 channel expression and phosphorylation in hypothalamic cell line 4B. **A. Saxena, T.P. Nedungadi, F. Carreno, M. Bachelor and J.T. Cunningham.** Univ of North Texas Hlth. Sci. Ctr.
- D738 I **1104.3** Neuropeptide Y immunoreactivity in arterial and venous sympathetic neurons. **A.H. Shah, G. Cano, J.P. Card, A.F. Sved and D.L. Kreulen.** Michigan State Univ. and Univ. of Pittsburgh.
- D739 II **1104.4** Tonic and reflex control of renal sympathetic nerve activity are altered by a discrete increase in sodium intake in renovascular hypertensive rats. **C.G. Shimoura, G.S. Lincevicius, C. Bergamaschi and R. Campos.** Fed. Univ. of São Paulo.
- D740 I **1104.5** Elevated arterial pressure in conscious water-deprived rats: role of global and regional sympathetic activity. **B. Veitenheimer and J. Osborn.** Univ. of Minnesota, Minneapolis.
- D741 II **1104.6** Irbesartan improves autonomic tone in a mouse model of renovascular arterial hypertension. **R.U. Pliquet and R.P. Brandes.** J.W. Goethe Univ., Frankfurt am Main and Martin Luther Univ. Halle-Wittenberg, Germany.
- D742 I **1104.7** Effect of OVLT lesion on AngII-salt hypertension in the rat. **J.P. Collister, A.A. Vieira, M.K. Olson, D.B. Nahey and J.W. Osborn.** Univ. of Minnesota, St. Paul and Minneapolis.
- D743 II **1104.8** CNS  $\alpha_2$  subunit proteins – the origin of impaired fluid and electrolyte homeostasis and blood pressure regulation in a salt-sensitive phenotype? **R.D. Wainford and C.L. Pascale.** Boston Univ. and LSU Hlth. Sci. Ctr., New Orleans.
- D744 I **1104.9** Role of aldosterone on sympathetic hyperactivity in renovascular hypertensive rats. **G.S. Lincevicius, C.G. Shimoura, E.E. Nishi, C. Bergamaschi and R. Campos.** Fed. Univ. of São Paulo.
- D745 II **1104.10** Fructose-rich diet from weaning to adulthood: effects on sympathetic activity in rats. **R.P. Andrade, I.C. Araujo, I.J. Lopes, B.K. Lopes, F. Santos, M.C. Irigoyen, P. Fiorino and V. Farah.** Mackenzie Univ., São Paulo, Fed. Univ. of São Paulo and Heart Inst.-INCOR, São Paulo.
- D746 I **1104.11** Influence of renal sympathetic nerve activity on mean arterial pressure during reduced renal perfusion pressure. **F. Karaaslan, R. Hester and T. Lohmeier.** Univ. of Mississippi Med. Ctr.
- D747 II **1104.12** Renal hemodynamic responses to sustained suppression of central sympathetic outflow. **R. Ilescu, D. Georgakopoulos, E.D. Irwin and T.E. Lohmeier.** Univ. of Med. and Pharm. Iasi, Romania, Univ. of Mississippi Med. Ctr., CVRx, Inc., Minneapolis, North Mem. Med. Ctr., Robbinsdale, MN.

- D748 I **1104.13** Bradykinin and excitatory reno-renal reflexes. **E. Barry and E.J. Johns.** University Col. Cork.

## 1105. RENIN-ANGIOTENSIN-ALDOSTERONE SYSTEM IN REGULATION OF BLOOD PRESSURE AND RENAL FUNCTION

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D749 I **1105.1** Pressure–natriuretic and hemodynamic adjustments to chronic ACE inhibition in inbred F344 and Lewis rat strains. **R.I. Menzies, C.J. Kenyon, J.J. Mullins and M.A. Bailey.** Univ. of Edinburgh.
- D750 II **1105.2** Interaction between Ang1-7 ('Mas') and AT1 receptors in regulating renal sodium and water excretion. **J.A. O'Neill and E.J. Johns.** University Col. Cork.
- D751 I **1105.3** Differential effects of ACE and chymase in the metabolism of exogenous angiotensin-(1-12) in Wistar-Kyoto rats. **N. Moniwa, J. Varagic, S. Ahmad and C.M. Ferrario.** Wake Forest Univ. Sch. of Med.
- D752 II **1105.4** Effects of combination therapy with valsartan and aliskiren on arterial pressure, cardiac hypertrophy and urinary protein excretion in hypertensive rats. **N. Moniwa, J. Varagic, S. Ahmad and C.M. Ferrario.** Wake Forest Univ. Sch. of Med.
- D753 I **1105.5** Angiotensin (1-7) formation in angiotensin converting enzyme 2 knockout mice. **F.L. Lino, N. Weir, N. Grobe, K. Elased and M. Morris.** Wright State Univ. Boonshoft Sch. of Med.
- D754 II **1105.6** Development of a radioligand for angiotensin-converting enzyme-2. **R.C. Speth, N. Grobe, K.L. Santos, J.D. Swindle, M. Morris and E. Lazartigues.** Nova Southeastern Univ., Univ. of Florida, Wright State Univ. Boonshoft Sch. of Med. and LSU Hlth. Sci. Ctr., New Orleans.
- D755 I **1105.7** Lack of specificity for AT1 angiotensin receptor antibodies in Western blot analysis. **M. Herrera, M.A. Sparks and T.M. Coffman.** Duke Univ.
- D756 II **1105.8** Stimulation of renal sodium transporters' abundance and phosphorylation during chronic angiotensin II (All) infusion requires intrarenal All formation. **N.K. Fletcher, A.A. McDonough, M.T.X. Nguyen, T. Janjulia, K.E. Bernstein and R.A. Gonzalez-Villalobos.** Keck Sch. of Med. of Univ. of Southern California and Cedars-Sinai Med. Ctr.
- D757 I **1105.9** Expression of renin angiotensin system components in Npr1 gene-disrupted mice. **R. Periyasamy, S. Das and K.N. Pandey.** Tulane Univ. Sch. of Med.
- D758 II **1105.10** Anandamide and its metabolites as novel natriuretic and antihypertensive lipids from the renal medulla. **J.K. Ritter, C. Li, M. Xia, C. Li, A. Lichtman and P-L. Li.** Virginia Commonwealth Univ.
- D759 I **1105.11** Evaluation of ENaC and fluid secretion along the mouse CD: endothelin-1 downregulates Na reabsorption. **I.J. Lynch, B.D. Cain and C.S. Wingo.** Univ. of Florida and North Florida/South Georgia Veterans Hlth. Syst.
- D760 II **1105.12** Chronic nicotine aggravates subpressor angiotensin II-induced renal and cardiac disease. **K. Chandrashekar, R.O. Maranon, A. Soljancic, A. Lopez-Ruiz, I. Arany, R. Liu and L.A. Juncos.** Univ. of Mississippi Med. Ctr.

- D761 I **1105.13** Anti-mouse renin expression in the rat kidney. **M. Hurley, E. Apenteng, S. Tyrpak, J. DenHaese and M. Olivieri.** D'Youville Col., NY.
- D762 II **1105.14** Bradykinin B2 receptor increases renin expression and release in cortical collecting duct M-1 cells. **L.S. Lara, C.R.T. Bourgeois, S.S. El-Dahr and M.C. Prieto.** Fed. Univ. of Rio de Janeiro and Tulane Univ.
- D763 I **1105.15** Chronic parathyroid hormone-related protein induces hypercalcemia and increases plasma renin activity. **D.K. Atchison, E. Westrick, D.L. Szandzik and W.H. Beierwaltes.** Henry Ford Hlth. Syst. and Wayne State Univ. Sch. of Med.
- D764 II **1105.16** Cyclooxygenase-2 inhibition prevent angiotensin II-induced oxidative stress but not hypertension in humans. **V. Pialoux and S.B. Ahmed.** Univ. Lyon 1, France and Univ. of Calgary, Canada.
- D765 I **1105.17** Juxtaglomerular cell CaSR stimulation decreases renin release via activation of the PLC/IP3 pathway. **M.C. Ortiz-Capisano, M. Reddy and W.H. Beierwaltes.** Henry Ford Hosp.

## 1106. ALCOHOLIC AND NONALCOHOLIC FATTY LIVER DISEASES

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D766 I **1106.1** Induction of non-alcoholic fatty liver is prevented by betaine supplementation in rats. **C.W. Ahn, D.Y. Kwon, S.J. Kim and Y.C. Kim.** Seoul Natl. Univ. Col. of Pharm.
- D767 II **1106.2** Dietary palmitate and palmitate accumulation in the steatotic rat liver confounds fructose-induced endoplasmic reticulum stress. **C.R. Patel, V. Douard, M. Siegel and R. Ferraris.** UMDNJ, Newark.

## 1107. BARRIER FUNCTION AND REPAIR

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D768 I **1107.1** Mast cell corticotropin releasing factor receptor subtypes play opposing roles in mediating stress-induced colonic barrier dysfunction. **A. Moeser and A. Gibson.** North Carolina State Univ.
- D769 II **1107.2** Inflammation and disruption of the mucosal architecture in claudin-7-deficient mice. **Y-H. Chen, Z. Lu, L. Ding, O. Foreman, R. Tatum, Q. Lu, R. Renegar and J. Cao.** East Carolina Univ. Brody Sch. of Med., The Jackson Lab., Sacramento and Stony Brook Univ.
- D770 I **1107.3** Identification of discrete single tight junction opening/closing events with ion channel-like properties. **C.R. Weber, L. Shen, Y. Wang, Y. Wang, D.J. Nelson and J.R. Turner.** Univ. of Chicago.
- D771 II **1107.4** Simulated microgravity modifies intestinal epithelial barrier function and alters expression of tight junction proteins. **C.A. Stork, R.R. Marchelletta, G.K. Prisk and D.F. McCole.** UCSD.

- D772 I **1107.5** Chitosan oligosaccharides ameliorate inflammation in two experimental models of colitis through inhibition of intestinal epithelial cell NF- $\kappa$ B signaling and apoptosis. **C. Muanprasat, M. Yousef, R. Pichyangkura and V. Chatsudthipong.** Fac. of Sci., Mahidol Univ. and Fac. of Sci., Chulalongkorn Univ., Thailand.
- D773 II **1107.6** MUC17 expression is differently regulated by TLRs interaction with their ligands. **S. Resta-Lenert and S. Ho.** VA San Diego Healthcare Syst.
- D774 I **1107.7** Expression of intestinal mucins may be affected by the dietary protein source. **E.M. Onyango and B.M. Habiambere.** East Tennessee State Univ.
- D775 II **1107.8** Localized mobilization of intracellular calcium promotes epithelial repair in vivo. **E. Aihara and M.H. Montrose.** Univ. of Cincinnati.

## 1108. INTESTINAL INFLAMMATION AND PATHOPHYSIOLOGY

### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D776 I **1108.1** *Lactobacillus rhamnosus* GG and *Bifidobacterium longum* attenuate cytokine expression in the lungs of weanling mice with peritonitis-induced sepsis. **L. Khailova, P. Wischmeyer and J.A. Dominguez.** Univ. of Colorado Anschutz Med. Campus.
- D777 II **1108.2** Antioxidant therapy targeted to the folate receptor ameliorates intestinal inflammation and injury in a model of colitis. **S. Knight, K. Kundu, D. Weiss, N. Murthy and W.R. Taylor.** Emory Univ. and Georgia Tech.
- D778 I **1108.3** Adiponectin enhances murine colitis via adiponectine receptor 1 pathway. **Y-J. Peng, B-H. Liu, H.J. Mersmann and S-T. Ding.** Natl. Taiwan Univ. and Baylor Col. of Med.
- D779 II **1108.4** Role of serotonin in the pathogenesis of inflammatory bowel disease. **S.C. Regmi, Y. Kang, S. Park, S-Y. Park and J-A. Kim.** Yeungnam Univ., South Korea.
- D780 I **1108.5** Toll-like receptor 5 (TLR5), but not TLR4 or 3, induces TNF $\alpha$  production by intestinal epithelial cells, which is enhanced by suppressor of cytokine signaling 3. **I. Thagia and R. Rigby.** Lancaster Univ., U.K.
- D781 II **1108.6** Luminal fructose induces endoplasmic reticulum stress and the unfolded protein response PERK pathway in perfused rat small intestine. **C.R. Patel, V. Douard, C. Monteiro and R. Ferraris.** UMDNJ, Newark.
- D782 I **1108.7** Estrogen deficiency alters intestinal physiology to promote bone loss. **J. Zhang, R. Irwin, S. Raetz, R. Britton and L.R. McCabe.** Michigan State Univ.



### 1109. INTESTINAL SOLUTE TRANSPORT IN INFLAMMATION (POSTERS)

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D783 I **1109.1** The effect of *Helicobacter typhlonius* infection on colonic ion transport in the IL10 knockout mice. **A. Lindstrom, S. Fan, M. Schultz and G. Butt.** Univ. of Otago, New Zealand.
- D784 II **1109.2** Leptin receptor deficiency causes intestinal hyperplasia and altered membrane abundance of glucose transporters. **J.A. Dominguez and T. Rieg.** Univ. of Colorado Anschutz Med. Campus, UCSD and VA San Diego Healthcare Syst.
- D785 I **1109.3** Macromolecular complex of CFTR, NHERF2 and iNOS at the plasma membrane contributes to diarrhea in IBD. **K. Arora, S. Yarlagadda, A. Ren, W. Zhang, C. Sinha and A.P. Naren.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.
- D786 II **1109.4** Duox<sup>a</sup> a novel antimicrobial duodenal defense mechanism. **M. Higashiya, Y. Akiba, S. Rudenky, P.H. Guth, E. Engel and J.D. Kaunitz.** UCLA and West Los Angeles VA Med. Ctr.

### 1110. LIVER PHYSIOLOGY AND PATHOPHYSIOLOGY

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D787 I **1110.1** AQP9 and UT-A facilitate hepatocyte basolateral membrane urea permeability in mouse. **S.K. Jelen, P. Gena, J. Lebeck, J. Prætorius, R.A. Fenton, J. Frøkiær, S. Nielsen, G. Calamita and M. Rützler.** Aarhus Univ., Denmark and Univ. of Bari, Italy.
- D788 II **1110.2** Gli1 is activated via the non-classical TGF $\beta$ /SMAD3 pathway rather than the sonic hedgehog pathway in a murine model of hepatic encephalopathy. **M. McMillin, C. Galindo, G. Frampton, H.Y. Pae and S. DeMorrow.** Texas A&M Hlth. Sci. Ctr., Scott & White Hosp. and Central Texas Veteran's Healthcare Syst., Temple.
- D789 I **1110.3** Regulation of keratin intermediate filaments by lysine acetylation. **N.T. Snider, J.M. Leonard, R. Kwan and M.B. Omary.** Univ. of Michigan.
- D790 II **1110.4** Endothelins induce choleresis through ET<sub>B</sub> receptors coupled to nitric oxide release and vago-vagal reflexes. **M.R. Rodriguez, M.S. Ventimiglia, A.C. Najenson, M.S. Vatta and L.G. Bianciotti.** Sch. of Pharm. and Biochem., Univ. of Buenos Aires.
- D791 I **1110.5** Hydrogen sulfide protects against hepatocyte cell death and mitochondrial reactive oxygen during hypoxia. **E. Norris, F. Schleser, C. Culberson and M.G. Clemens.** Universit of North Carolina at Charlotte.
- D792 II **1110.6** Hepatic foxO1 acetylation is regulated by menin and influenced by insulin signaling. **L. Wuescher, K. Angevine and E. Mensah-Osman.** Univ. of Toledo Col. of Med.

- D793 I **1110.7** Increased serum bile acids after extrahepatic biliary obstruction causes leakiness to the blood brain barrier via the disruption of tight junctions. **S. DeMorrow, G. Frampton, C. Galindo, H.Y. Pae and M. Quinn.** Texas A&M Hlth. Sci. Ctr., Scott & White Hosp. and Central Texas Veteran's Healthcare Syst., Temple.

### 1111. MECHANISMS OF INTESTINAL NUTRIENT, WATER AND ELECTROLYTE TRANSPORT

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D794 I **1111.1** TMEM16A and NHERF1 regulate Ca<sup>2+</sup> and cAMP stimulated Cl<sup>-</sup> secretion in murine colon. **M.H. Kazi, I. Ali, R. Sarker, B. Cha, N.C. Zachos, B.D. Harfe, M. Donowitz and C.M. Tse.** Natl. Inst. of Cholera & Enteric Dis., Kolkata, India, Johns Hopkins Univ. Sch. of Med. and Univ. of Florida.
- D795 II **1111.2** The gate residue F101 regulates coupling of Na and sugar cotransport in hSGLT1. **B.A. Hirayama, D.D.F. Loo, X. Jiang and E.M. Wright.** UCLA.
- D796 I **1111.3** Comparative sugar transport by crustacean hepatopancreas and intestine. **duka, a. and ahearn, g. a.** dept. of biology, university of north florida, jacksonville, florida 32224. **A. Duka and G.A. Ahearn.** Univ. of North Florida.
- D797 II **1111.4** 3H-D-glucose transport is both Na<sup>+</sup>- and K<sup>+</sup>-dependent in the marine shrimp, *Litopenaeus setiferus*. **G.A. Ahearn, I. Obi and K.M. Sterling.** Univ. of North Florida.
- D798 I **1111.5** Functional and structural regulation of urate handling by human SLC2A9 isoforms in the *Xenopus laevis* oocyte expression system. **C.I. Cheeseman, K. Witkowska and T. Long.** Univ. of Alberta.

### 1112. METAL ION TRANSPORT

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D799 I **1112.1** Direct uptake of copper from ceruloplasmin by cells with and without CTR1, and potential involvement of a copper reductase. **M. Ishida, D. Ramos, D. Mar, K.J. Lee and M.C. Linder.** California State Univ., Fullerton.
- D800 II **1112.2** Intestinal divalent metal-ion transporter-1 is critical for iron homeostasis but is not required for maintenance of Cu or Zn. **A. Shawki, S.R. Anthony, Y. Nose, T. Barrientos De Renshaw, D.J. Thiele and B. Mackenzie.** Univ. of Cincinnati Col. of Med. and Duke Univ. Sch. of Med.
- D801 I **1112.3** No evidence that copper is a transported substrate of the iron transporter DMT1. **A. Shawki, E.J. Niespodzany and B. Mackenzie.** Univ. of Cincinnati Col. of Med.
- D802 II **1112.4** *Leishmania infantum* ZIP3 is a zinc transporter that is tightly regulated by zinc status. **S. Carvalho, R. Silva, A. Shawki, B. Mackenzie, H. Castro, D. Eide, V. Costa and A.M. Tomás.** Inst. for Molec. and Cell Biol., Porto, Portugal, Univ. of Cincinnati and Univ. of Wisconsin-Madison.

- D803 I 1112.5 Expression of a MAPEG GST from *Leishmania tarentolae*. **N.Y. Osei-Owusu, J. Hearne and R. Currington.** Univ. of Maryland Eastern Shore.
- D804 II 1112.6 Release of iron from cellular iron stores in lysosomes: potential involvement of divalent metal transporter 1 and common metabolites. **J. Morgan, A. La, T. Nguyen, E. Sauble, A. Gonzalez, A. Nguyen and M.C. Linder.** California State Univ., Fullerton.

### 1113. PANCREATIC PHYSIOLOGY AND PATHOPHYSIOLOGY

#### Poster

TUE. 7:30 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- D805 I 1113.1 Cyclosporin A, but not FK506 induces osmotic lysis of pancreas zymogen granules, intracinar enzyme release and lysosome instability by activating a K<sup>+</sup> channel. **F. Thévenod, W-K. Lee, M. Braun and C. Langelüddecke.** Univ. of Witten/Herdecke, Germany and Univ. of Oxford.
- D806 II 1113.2 Purinergic regulation of ion transport in capan-1 cell monolayers. **J. Wang and I. Novak.** Univ. of Copenhagen.
- D807 I 1113.3 Islet dysfunction in rats fed a high fat diet: a structure-function study. **K.L. Sweazea, J. Brower, J. Faust, I. Malenica and R. Herman.** Arizona State Univ.

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# WEDNESDAY, APRIL 25

## Pharmacology and Experimental Therapeutics

### 1114. CARDIOPROTECTION

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:30 PM-2:45 PM

- S1 **1114.1** Cardiac inflammation and dysfunction during dengue virus infection in mice. **L. Kangussu, V. Costa, V. Olivon, M. Melo, F. Soriani, M. Rachid, R. Santos, M. Teixeira, D. Souza and D. Bonaventura.** Fed. Univ. of Minas Gerais, Brazil.
- S2 **1114.2** TNF- $\alpha$  induces MMP-9 expression via a TNFR1/c-Src/EGFR, PDGFR-dependent pathway in rat cardiomyoblastic cells. **R-C. Hsu and C-M. Yang.** Chang Gung Univ., Taiwan.
- S3 **1114.3** Antioxidants N-acetylcysteine and allopurinol synergistically enhance cardiac HIF-1 $\alpha$  and heme oxygenase-1 and attenuate postischemic myocardial injury in diabetic rats. **X. Mao, Y. Liu, T. Wang, S. Lei, M.G. Irwin, P.M. Vanhoutte and Z. Xia.** The Univ. of Hong Kong.
- S4 **1114.4** Lipocalin-2 mediated myocardial extracellular matrix remodeling is correlated with Akt/P38 activity in hearts. **B. Yang, P.M. Vanhoutte and Y. Wang.** The Univ. of Hong Kong.
- S5 **1114.5** RhoA, phospholipase C $\epsilon$  and PKD signaling mediate S1P induced cardioprotection against ischemia/reperfusion. **S.Y. Xiang, K. Ouyang, J. Chen, A.V. Smrcka and J. Heller Brown.** UCSD and Univ. of Rocheser.
- S6 **1114.6** An apoptosis signal-regulating kinase 1 inhibitor reduces cardiomyocyte apoptosis and infarct size in a rat ischemia-reperfusion model. **P.Z. Gerczuk, D.G. Breckenridge, J.T. Liles, J.C. Shryock, L. Belardinelli, R.A. Kloner and W. Dai.** Good Samaritan Hosp., Los Angeles and Gilead Sci. Inc., Palo Alto.
- S7 **1114.7** Angiopoietin-1 reduces myocardial apoptosis and promotes cardiac repair via recruitment of hematopoietic progenitor cells in diabetic db/db mice. **J-X. Chen and H. Zeng.** Univ. of Mississippi Med. Ctr.
- S8 **1114.8** High fat feeding modulates apoptotic/autophagic pathways in post-ischemic myocardium and confers cardioprotection. **L. Haar, X. Ren, N. Bertaux-Skeirik, M. Tranter, J. Rubinstein and W.K. Jones.** Univ. of Cincinnati and Xavier Univ., OH.
- S9 **1114.9** Cardiac-specific overexpression of GTP cyclohydrolase 1 ameliorates cardiac dysfunction and remodeling after myocardial infarction. **Z-D. Ge, J. Vásquez-Vivar, S.L. Baumgardt, P.F. Pratt, Jr., D.C. Warltier and J.R. Kersten.** Med. Col. of Wisconsin.
- S10 **1114.10** Generation of G $\alpha_{12}^{G184S}$  conditional mutant mice to study regulator of G protein signaling proteins. **S. Parra, X. Huang, S. Wade, K. Kaur, R. Charberneau and R.R. Neubig.** Univ. of Michigan.
- S11 **1114.11** Insufficient HO1 response to ischemic stress correlates with increased inflammation and reduced survival of EPCs in diabetic patients. **Y. Issan, E. Hochhauser, R. Kornowski, D. Leshem-Lev, E. Lev, R. Sharoni, L. Vanella, N. Puri, M. Laniado-Schwartzman, N.G. Abraham and E. Porat.** Felsenstein Med. Res., Tel Aviv Univ. and Rabin Med. Ctr., Israel, Univ. of Toledo and New York Med. Col.

- S12 **1114.12** Wogonin reduces infarct size and improves ventricular function in chronic myocardial ischemia rats. **S-M. Lin, S-K. Tsai, C-L. Chih, M-W. Nien and S-S. Huang.** Sch. of Med., Taipei Veterans Gen. Hosp. and Natl. Yang-Ming Univ., Cheng-Hsin Gen. Hosp. and Col. of Med., Chung Shan Med. Univ. and Hosp. and Cheng Hsin Gen. Hosp., Taiwan.
- S13 **1114.13** Acute, NO-mediated, effects of erythropoietin are not associated with its cardioprotective properties. **M.I. Talan, I. Ahmet and E.G. Lakatta.** NIA/NIH, Baltimore.
- S14 **1114.14** A2B receptors on hematopoietic cells control accumulation of dendritic cells after myocardial infarction. **S. Ryzhov, K. Yuryeva, S. Novitskiy, A. Biktasova, M.M. Dikov, I. Biaggioni and I. Feoktistov.** Vanderbilt Univ. and Siberian State Med. Univ., Russia.
- S15 **1114.15**  $\beta$ 1-Adrenergic receptor-mediated transactivation of epidermal growth factor receptor acutely regulates cardiac gene expression. **L.A. Grisanti, J.A. Talarico, R.L. Carter, S.W. Radcliffe and D.G. Tilley.** Temple Univ.
- S16 **1114.16** A2B adenosine receptors stimulate release of IL-6, CXCL1/IL-8 and vascular growth factor from cardiac stromal cells. **S. Ryzhov, A.E. Goldstein, S. Novitskiy, I. Biaggioni and I. Feoktistov.** Vanderbilt Univ.
- S17 **1114.17** Effects of noble gas conditioning on caveolin expression in the rat heart in vivo. **N.C. Weber, D. van de Vondervoort, I.R. Niesman, M. Saldana, D.M. Roth, B. Preckel and H. Patel.** Acad. Med. Ctr., Univ. of Amsterdam and UCSD.
- S18 **1114.18** Cardiac myocyte-specific caveolin-3 overexpression alters  $\beta$ -adrenergic receptor activity. **A.R. Busija, D.M. Roth, P.A. Insel and H.H. Patel.** UCSD.
- S19 **1114.19** Electrophysiological properties of YM-244769, a new and selective NCX blocker, in heart. **Y. Watanabe, S. Kita and T. Iwamoto.** Hamamatsu Univ. and Fukuoka Univ., Japan.
- S20 **1114.20** Fibroblast's phenotypic changes in chronic heart failure-induced pulmonary fibrosis. **M-F. Doursout, J. Chu, Y.Y. Liang, S.J. Dou and K. Uray.** Univ. of Texas Med. Sch. at Houston.
- S21 **1114.21** Protective role of coronary endothelium in the development of heart hypertrophy/failure. **X. Sun and D. Ku.** Univ. of Alabama at Birmingham and Duke Univ. Med. Ctr.

### 1115. VASCULAR SYSTEMS PHARMACOLOGY

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:30 PM-2:45 PM

- S22 **1115.1** Vascular PI3K-Akt signaling contributes to peripheral NMDAR-mediated pressor response in conscious rats. **M. McGee and A. Abdel-Rahman.** East Carolina Univ.
- S23 **1115.2** Ethanol attenuation of peripheral NMDAR-mediated pressor response. **M. McGee and A. Abdel-Rahman.** East Carolina Univ.
- S24 **1115.3** Vasoactive effect of SWCNT exposure to oral mucosal arterioles. **M.D. Frame, B. Sitharaman, S.M. Chowdhury and P. Avti.** Stony Brook Univ.

- S25 **1115.4** Perivascular fat impairs contraction in aorta from obese but not lean adult rats. **S.W. Watts, J.L. McClain and A.M. Dorrance.** Michigan State Univ.
- S26 **1115.5** Sildenafil stimulates heme oxygenase-1 gene expression in vascular smooth muscle cells via a soluble guanylate cyclase-independent pathway. **X-m. Liu, K.J. Peyton and W. Durante.** Univ. of Missouri-Columbia.
- S27 **1115.6** Salt modulates vascular response through cyp-epoxygenases in the presence of A<sub>2A</sub> AR. **I. Pradhan, S.J. Mustafa, D.C. Zeldin, C. Ledent, J.R. Falck and M.A. Nayeem.** West Virginia Univ., NIEHS/NIH, Research Triangle Park, Univ. Libre Brussels and Univ. of Texas at Dallas.
- S28 **1115.7** Reactivity changes in coronary artery and thoracic aorta in the gene mutant mice sgcd (B6.129 Sgcdtm1Mcn). **M.C. Marin-Romero, G. Guevara-Balcazar, H. Rosas, R.M. Coral-Vazquez, R.A. Bobadilla-Lugo and M.C. Castillo-Hernandez.** Sch. of Med. IPN, Mexico City and Hosp. Med. Ctr. Siglo XXI, Mexico City.
- S29 **1115.8** Oxidative stress and NADPH oxidase participation on the hypotensive responses of [Ru(terpy)(bdq)NO<sup>+</sup>]<sub>3</sub><sup>+</sup> (TERPY) in spontaneously hypertensive rats. **S.R. Potje, F.C. Munhoz, M.C. Hildebrand, R.S. Silva, L.M. Bendhack and C. Antoniali.** State Univ. of São Paulo, Araçatuga and Univ. of São Paulo, Ribeirão Preto.
- S30 **1115.9** Hyperbaric oxygen therapy effect in vascular reactivity. **N. Estrada, G. Guevara-Balcazar, G.C. Villanueva-Lopez, E. Mera-Jimenez, E. Lara-Padilla and M.C. Castillo-Hernandez.** Sch. of Med. IPN, Mexico City.
- S31 **1115.10** Cross-talk between  $\alpha_{1D}$ -adrenoceptors and angiotensin II metabolites in vascular smooth muscle is involved in hypertension. **I.A. Gallardo-Ortiz, J.J. López-Guerrero, L. Del Valle-Mondragón, M. Ibarra, P. López-Sánchez and R. Villalobos-Molina.** FESI-UNAM, Tlalnepantla, Natl. Inst. of Cardiol. Ignacio Chávez, Mexico City and Higher Sch. of Med.-IPN, Mexico City.
- S32 **1115.11** Metal-based guanylate cyclase stimulators/activators. **N.R.F. Nascimento, R.M. Campos, P.P.C. Costa, M.C. Fonteles, C.F. Santos, D.S. de Sá, E.H. Sousa and L.G.L. França.** Ceará State Univ. and Fed. Univ. of Ceará, Brazil.
- S33 **1115.12** Phenylephrine-induced current and vasoconstriction are blunted in mesenteric arteries of TRPC3 knockout mice. **A.R. Pathan, B.M. Bowlin, K. Machaca, J. Abramowitz, F. Zheng and N.J. Rusch.** Univ. of Arkansas for Med. Sci., Weill Cornell Med. Col. in Qatar and NIEHS/NIH, Research Triangle Park.
- S34 **1115.13** Enhanced catabolism to acetaldehyde in rostral ventrolateral medullary neurons accounts for the pressor effect of ethanol in SHR. **M.M. El-Mas and A.A. Abdel-Rahman.** Sch. of Med., East Carolina Univ.
- S35 **1115.14** Role of rostral ventrolateral medullary ERK/JNK/p38 MAPK signaling in the pressor effects of ethanol and its oxidative product acetaldehyde in SHR. **M.M. El-Mas, M. Fan and A.A. Abdel-Rahman.** Sch. of Med., East Carolina Univ.
- S36 **1115.15** Triton X-100 inhibits L-type voltage-operated calcium channels. **D. Narang, P.M. Kerr, J. Baserman, R. Tam, G. Searle, J. Manning-Fox, P.E. MacDonald, P.E. Light, A. Holt and F. Plane.** Univ. of Alberta and Grant MacEwan Univ., Canada.
- S37 **1115.16** Dynamic turnover of L-type calcium channels in rat mesenteric arteries in vivo. **A.K. Srivastava, S.V. Kharade, T.W. Fletcher, S. Rhee and N.J. Rusch.** Univ. of Arkansas for Med. Sci.
- S38 **1115.17** Healing of saccular aneurysms following platinum coil embolization: lack of improved efficacy with vitamin C supplementation. **R. Kadirvel, Y-H. Ding, D. Dai, D. Lewis and D. Kallmes.** Mayo Clin.
- S39 **1115.18** Further studies on the isolation and characterization of heparin contaminants isolated from recalled batches of unfractionated heparin. **J. Fareed, D. Hoppensteadt, W. Jeske, J.M. Walenga, V. Bansal and E. Ramacciotti.** Loyola Univ. Med. Ctr. and Bristol-Myers Squibb, Princeton.
- S40 **1115.19** The N-terminal loop of endothelin: 2 sites to a story. **M.G. Compeer, D.P.L. Suylen, T.M. Hackeng and J.G.R. De Mey.** Maastricht Univ., Netherlands.
- S41 **1115.20** Interdependence of PPAR $\alpha$ /cytochrome P-450 epoxygenase and adenosine receptors in hypoxia-induced angiogenesis. **Y. Rizvi, R. Kasturi, O. Mathew, C. Myung and A. Oyekan.** Texas Southern Univ.
- S42 **1115.21** Genitourinary dysfunctions associated with heart failure in model of chronic volume overload in rats. **M.A. Claudino, F.H. Silva, J. Rojas-Moscoco, F. Priviero, E. Antunes and G. De Nucci.** Univ. São Francisco and Univ. of Campinas, Brazil.

## 1116. CARDIOVASCULAR PHARMACOLOGY— THROMBOSIS

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:30 PM-2:45 PM

- S43 **1116.1** A novel antithrombotic agent targeting the human thromboxane A<sub>2</sub> receptor. **J.P. Murad, E.V.P. Espinosa, H.J. Ting, D. McClure and F.T. Khasawneh.** Western Univ. of Hlth. Sci.
- S44 **1116.2** Transient receptor potential channel 6: role in hemostasis and thrombogenesis. **E.V.P. Espinosa, J.P. Murad, H.J. Ting and F.T. Khasawneh.** Western Univ. of Hlth. Sci.
- S45 **1116.3** Depletion of platelet serotonin with a selective serotonin reuptake inhibitor does not improve survival in a mouse model of thromboembolism. **H.F. Liu, C. Campbell, S. Hegde and A. McNamara.** Theravance, South San Francisco.
- S46 **1116.4** Bivalirudin emulsions demonstrate efficacy of a nanoparticle strategy for inhibition and imaging of thrombosis. **J.W. Myerson, L. He, J.S. Allen, T.A. Williams, D.M. Tollefsen, G.M. Lanza, S.D. Caruthers and S.A. Wickline.** Washington Univ. in Saint Louis.

## 1117. TARGETING MYOCARDIAL FUNCTION

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:30 PM-2:45 PM

- S47 **1117.1** Antioxidants N-acetylcysteine and allopurinol attenuation of postischemic myocardial injury in diabetic rats involve Akt and STAT3 mediated eNOS activation. **T. Wang, X. Mao, S. Qiao, S. Lei, K.F.J. Ng, M.G. Irwin and Z. Xia.** The Univ. of Hong Kong.
- S48 **1117.2** Glutathione dependent and independent salutary effects of NAC on HIV Tat proteinopathy. **F. Chen, W. Lewis, J.M. Hollander, W.A. Baseler and M.S. Finkel.** West Virginia Univ., Emory Univ. Sch. of Med., West Virginia Univ. Sch. of Med. and LA Johnson VA Med. Ctr., Clarksburg, WV.

- S49 **1117.3** Inhibition of protein kinase  $\beta 2$  attenuates NOS uncoupling and myocardial dysfunction in streptozotocin-induced diabetic rats. **S. Lei, H. Li, T. Wang, Y. Liu, X. Mao, Z. Hei, M.G. Irwin and Z. Xia.** Hong Kong Univ. and Sun Yat-sen Univ., China.
- S50 **1117.4** Propofol protects the cardiomyocytes against hypoxia injury through inhibition of ER-dependent apoptotic pathways. **H.C. Lai, T-J. Liu, H-W. Lee, L-C. Wang and Y-C. Yeh.** Taichung Veterans Gen. Hosp. and Nanhua Univ., Taiwan.
- S51 **1117.5** Myocardial cholesterol homeostasis is altered by age and Cav-3 knockdown. **J.M. Schilling, H.N. Fridolfsson, M. Panneerselvam, J.C. Finley, S.E. Kellerhals, I. Niesman, B.P. Head, D.M. Roth and H.H. Patel.** UCSD and VA San Diego Healthcare Syst.
- S52 **1117.6** Physalin promotes positive cardiac inotropism by a PKA-RYR2-dependent pathway. **V.M. Gomes, O.D.L. Pessoa, M.C. Fonteles, C.F. Santos, R.T. Sudo and N.R.F. Nascimento.** Ceará State Univ. and Fed. Univ. of Ceará, Brazil and Fed. Univ. of Rio de Janeiro.

## 1118. PHARMACOLOGY AND WOMEN'S HEALTH

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:30 PM-2:45 PM

- S53 **1118.1** Sex differences in cannabinoid antinociception against inflammatory pain. **R.M. Craft and R. Kandasamy.** Washington State Univ.
- S54 **1118.2** Neuropeptide Y antagonist improves bone density in ovariectomized female rats. **M.A. Tucci, H.A. Benghuzzi and R. McGuire.** Univ. of Mississippi Med. Ctr.
- S55 **1118.3** Ovarian hormones increase mitochondrial biogenesis in cerebrovascular endothelial cells. **M.F. Kemper, S.P. Duckles and D.N. Krause.** Univ. of California, Irvine.
- S56 **1118.4** Formation of polymers insulin in vitro in blood hatching tibolone in menopausal patients. **E.E. del Moral-Laguna, I. Valencia-Hernandez, M.L. Linares-Perez, A. Rivera-Llano, G. Lugo-Martinez, M.E. Ocharan-Hernandez and C.C. Calzada-Mendoza.** Grad. Sch. of Med. - IPN, Secy. of Hlth. and Interdisc. Ctr. of Hlth. Sci., Mexico City.
- S57 **1118.5** Comparison of the dietary supplement protandim and 4-hydroxytamoxifen on pre-malignant human breast cancer cells in 3D culture. **A. Dugan, M. Carroll-Turpin, S. Crooks, S. Zhang, M. Mathis and H.E. Kleiner-Hancock.** LSU Hlth. Sci. Ctr.-Shreveport.
- S58 **1118.6** The effects of nebivolol on the functional and structural changes in suramin-induced preeclampsia-like syndrome in rats. **G. Soydan, S. Guler, E.G. Cekic, A. Saglam Ayhan, M. Sargon and M. Tuncer.** Hacettepe Univ. Med. Sch., Turkey.

## 1119. IMMUNE CELL PHARMACOLOGY

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:30 PM-2:45 PM

- S59 **1119.1** Cell-intrinsic adenosine  $A_{2A}$  receptor signaling is required for T cell homeostasis and tumor surveillance. **C. Cekic, D. Sag and J. Linden.** La Jolla Inst. for Allergy and Immunol.

- S60 **1119.2** The adenosine  $A_{2A}$  receptor agonist regadenoson decreases activation of invariant NKT cells in human sickle cell subjects. **G. Lin, J. Field, D. Neuberg, D. Nathan and J. Linden.** La Jolla Inst. for Allergy & Immunol., Blood Ctr. of Wisconsin, Milwaukee and Dana Farber Cancer Inst.
- S61 **1119.3** Plaque-like  $A_3$  adenosine receptor microdomains are associated with bacteria-tethering nanotubes in human neutrophils. **R. Corriden, T. Self, S.J. Bridson and S.J. Hill.** Univ. of Nottingham.
- S62 **1119.4** 5-Hydroxy-2-(4-hydroxy-3-methoxyphenyl)-3,7-dimethoxy-4H-chromen-4-one (MSF-2) suppresses fMLP-mediated respiratory burst in human neutrophils by inhibiting phosphatidylinositol 3-kinase activity. **C-H. Liao, J-J. Chen, C-H. Liu, C-P. Tseng and Y-J. Day.** Col. of Med., Ghang-Gung Univ., Ta-jen Univ. and Chang-Gung Mem. Hosp., Taiwan.
- S63 **1119.5** The role of eosinophils in *Aspergillus fumigatus* lung infection. **F. Soriani, R.C. Russo, C.R.C. Nogueira, L.P. Sousa, M. Rachid and M.M. Teixeira.** Fed. Univ. of Minas Gerais, Brazil.
- S64 **1119.6** Targeting potassium channels on fibroblast-like synoviocytes for the treatment of pristane-induced arthritis in a rat model. **X. Hu, R. Tajhya, T. Laragione, R. Huq, S. Koshy, F. Khan, P. Gulko and C. Beeton.** Baylor Col. of Med. and Feinstein Inst. for Med. Res., Manhasset, NY.
- S65 **1119.7** Exposure to tributyltin alters the secretion of tumor necrosis factor alpha from human lymphocytes. **K. Hurt and M.M. Whalen.** Tennessee State Univ.
- S66 **1119.8** Diosgenin protects doxorubicin-induced cell apoptosis in macrophages: involvement of MAPK and ATF-3 pathways. **B. Park, D. Park, D-K. Rhee and S. Pyo.** Sungkyunkwan Univ., South Korea.
- S67 **1119.9** Class A scavenger receptors mediate macrophage adhesion to glycosylated collagen and secretion of pro-inflammatory mediators. **D.M. Nikolic, B. He and S.R. Post.** Univ. of Arkansas for Med. Sci.

## 1120. PHARMACOLOGY OF IMMUNITY

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:30 PM-2:45 PM

- S68 **1120.1** Serotonin 5-HT $2A$  receptor activation potently inhibits TNF- $\alpha$  mediated inflammation in vivo, and blocks the development of asthma. **F.J. Nau, B. Yu, J. Miller, T. Ahlert, S. Cormier and C.D. Nichols.** LSU Hlth. Sci. Ctr., New Orleans.
- S69 **1120.2** Investigation of hypersensitivity to pegylated particles for use in drug delivery. **K. Simmons, E. Nejati, R.A. Johnson, R. Pearce, R. Albrecht and S. Mecozzi.** Sch. of Pharm. and Sch. of Vet. Med., Univ. of Wisconsin-Madison.
- S70 **1120.3** Salivary gland transcriptome analysis of the wild living and captive spotted hyena. **K. Osei-Boadi, A. Linde, E. Verreynne and T. Melgarejo.** Kansas State Univ. and Agr. and Vet. Consultant, Gaborone, Botswana.
- S71 **1120.4** Oral administration of interferon- $\tau$  reduces adiposity in Zucker diabetic fatty rats. **C.D. Tekwe, J. Lei, K. Yao, X. Li, R. Rezaei, S. Dahanayaka, C.J. Meininger, R.J. Carroll, F.W. Bazer and G. Wu.** Texas A&M Univ. and Texas A&M Hlth. Sci. Ctr.
- S72 **1120.5** Immune-modulator metallo-peptide effect on an in vivo model of rheumatoid arthritis. **L. Rodríguez-Fragoso, C.A. Arjona-Canul and J. Reyes-Esparza.** Autonomous Univ. del Estado de Morelos, Mexico.

- S73 **1120.6** Protective effect of anti-TLR3 monoclonal antibody in poly(I:C)/D-galactosamine-induced mouse sepsis model. **C. Li, V. Guzman, I. Lee and Y. Liang.** Allergan Inc., Irvine.
- S74 **1120.7** Effects of Korean red ginseng on cyclophosphamide-induced immunosuppression: comparative effects of 6-year and 4-year old Korean red ginseng. **S.H. Hyun.** Ginseng Res., Daejeon, South Korea.
- S75 **1120.8** Impact of rosiglitazone and metformin on serum pro-inflammatory molecules and adipocytokines in rats with chronic fructose diet. **S. Sigríst-Flores, J.P. Pardo, M. Murguía-Romero, R. Villalobos-Molina and R. Jimenez-Flores.** FESI-UNAM, Tlalnepanitla, Mexico and UNAM, Mexico City.
- S76 **1120.9** Macrophage pro-angiogenic miRNA, miR-27b, is under NF- $\kappa$ B transcription regulation. **H. Pan, B. Clarke and S.A. Wickline.** Washington Univ. Sch. of Med.
- S77 **1120.10** ET-1 induces COX-2/PGE2 expression via an ETA/B/PKC $\delta$ /c-Src/PI3K/Akt-dependent pathway in murine osteoblast-like MC3T3-E1 cells. **Y-y. Li and C-M. Yang.** Chang Gung Univ., Taiwan.
- S78 **1120.11** Lipopolysaccharide induces ICAM-1 expression in human pulmonary alveolar epithelial cells through a TLR4/Myd88/TRAFF6/NADPH oxidase-dependent pathway. **R-L. Cho and C-M. Yang.** Chang Gung Univ., Taiwan.

## 1121. REGENERATIVE PHARMACOLOGY

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:30 PM-2:45 PM

- S79 **1121.1** Wnt signaling mediates de-differentiation of endothelial cells during neovascularization. **E. Kohler, J. Baruah, D.T. Azar, R. Chang, A.B. Malik and K.K. Wary.** Univ. of Illinois at Chicago.
- S80 **1121.2** Interplay of epoxides and heme oxygenase system suppress adipogenic regulators in mesenchymal stem cell-derived adipocytes. **L. Vanella and N.G. Abraham.** Univ. of Catania, Italy and Univ. of Toledo.
- S81 **1121.3** Cytochrome P450 derived epoxyeicosatrienoic acid retard adipogenesis in mesenchymal stem cells by heme oxygenase-AKT signaling. **D.H. Kim, N. Puri and M.L. Schwartzman.** Univ. of Toledo and New York Med. Col.
- S82 **1121.4** Delayed onset of proteinuria by selected renal cells in a canine model of early stage CKD. **K.I. Guthrie, M. Brands, E. Rivera, C. Genheimer, N. Sangha, M. Bravo, M. Jayo, D. Jain, T.A. Bertram, J.W. Ludlow, S. Presnell and R. Kelley.** Tengion Inc., Winston-Salem, Georgia Hlth. Sci. Univ., Integra, Brooklyn Park, MN, JayoPATH, Winston-Salem and Organovo Inc., San Diego.
- S83 **1121.5** Deficiencies in Toll like receptors 4 impair the functional recovery in a mouse model of spinal cord trauma. **D. Impellizzeri, E. Mazzon, A. Ahmad, E. Esposito and S. Cuzzocrea.** Univ. of Messina and IRCCS Neurol. Ctr. Bonino-Pulejo, Messina.
- S84 **1121.6** Biodistribution of mesenchymal stem cells in the treatment of experimental caustic esophageal injury. **B. Caliskan, M. Kantarcioglu, A. Guven, O. Karacali, A.U. Ural and I. Surer.** Gulhane Military Med. Acad., Turkey.

- S85 **1121.7** The fast skeletal troponin activator, CK-2017357, improves resistance to fatigue in healthy, conscious rats. **A.R. Kennedy, N. Heald, A. Pakdel, J. Ryans, T. Musch, D. Poole, S. Hageman, S. Copp, F. Malik and J. Jasper.** Cytokinetics Inc., South San Francisco and Kansas State Univ.
- S86 **1121.8** Brassinosteroid enhances C57BL/6J mice treadmill endurance. **D. Esposito, M. Tuazon, G.C. Henderson, S. Komarnytsky and I. Raskin.** Rutgers Univ. and North Carolina State Univ., Kannapolis.
- S87 **1121.9** Taste and smell receptors depend upon growth factor secretion to maintain normal taste and smell function. **R.I. Henkin.** The Taste and Smell Clin., Washington, DC.

## 1122. PHARMACOPROTEOMICS

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:30 PM-2:45 PM

- S88 **1122.1** Site-specific arginine dicarbonyl modifications of serum albumin are reduced in metformin-controlled T2DM patients. **O.R. Kinsky, M.J. Kimzey, S.F. Allred, H.N. Yassine, G. Tsaprailis, C. Stump, D. Billheimer, T.J. Monks and S.S. Lau.** Univ. of Arizona.
- S89 **1122.2** Discovery of early life plasma protein signatures for asthma development. **H. Xu, T. Radabaugh, Z. Lu, D. Billheimer, D. Vercelli, M. Halonen and S.S. Lau.** Univ. of Arizona.
- S90 **1122.3** Identification of biomarkers for GNE myopathy. **M.C. Malicdan, K. Momma, I. Nishino and S. Noguchi.** NHGRI/NIH, Natl. Inst. of Neurosci., Tokyo and Natl. Defense Med. Col., Japan.
- S91 **1122.4** The evaluation of bone proteome of palm vitamin E-supplementation in ovariectomised rats. **N.P. Okechukwu, N. Mohamed, I.N. Soelaiman, A.N. Shuid and N. Muhammad.** Univ. Kebangsaan Malaysia.
- S92 **1122.5** Characterization and identification of red diamond back rattlesnake venom proteins. **A.N. Joshi, S. Krishna, W.C. Grunwald, Jr. and D.R. Cool.** Wright State Univ. and Central State Univ., OH.
- S93 **1122.6** Structure-based design of inhibitory peptide for end binding proteins. **U. Saqib, M. Geyer, R. Minshall, A.B. Malik and Y. Komarova.** Univ. of Illinois at Chicago.

## 1123. OPIOID/CANNABINOID THERAPEUTICS

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:30 PM-2:45 PM

- S94 **1123.1** Interrogating therapeutic manipulation of the endocannabinoid system in human colon. **H.F. Vase, J.E. Drew, R. Ross, F. Carey, R. Steele, D. Bunton and A. Farquharson.** Univ. of Aberdeen, Ninewells Hosp. and Med. Sch., Dundee and Bioptra Ltd., Glasgow, U.K.
- S95 **1123.2** Roles of MOP and NOP receptors in regulating buprenorphine-induced physiological responses in monkeys. **C.M. Cremeans, E. Gruley, D.J. Kyle and M-C. Ko.** Univ. of Michigan and Purdue Pharma LP, Stamford, CT.
- S96 **1123.3** Pharmacological characterization of NOP receptor agonists as abuse-free and constipation-free analgesics in monkeys. **K.A. Wladischkin, R.C. Dysko, G.T. Collins, Y-A. Ko, G. Winger and M-C. Ko.** Univ. of Michigan.

- S97 **1123.4** Opioid receptor activation alters beta-adrenergic receptor function in heart failure. **J.E.J. Schultz, A.B. Natter, C. Dunn and C.S. Bolte.** Univ. of Cincinnati and Univ. of Toledo.
- S98 **1123.5** Morphine decreases neuronal excitability in mouse enteric neurons via alterations in Na<sup>+</sup> channel kinetics. **T.H. Smith, W.L. Dewey and H.I. Akbarali.** Virginia Commonwealth Univ.
- S99 **1123.6** Beta-arrestin2 contributes to the development of opioid-induced constipation. **K.M. Raehal and L.M. Bohn.** The Scripps Res. Inst.

## 1124. NATURAL PRODUCTS

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:30 PM-2:45 PM

- S100 **1124.1** The mechanism of the marine thromboxane B<sub>2</sub> inhibitor manzamine A: possible involvement of rat brain microglia p90 ribosomal S6 kinase 1. **J.A. Clifford, J. Lach, M.L. Hall and A.M. Mayer.** Midwestern Univ., IL.
- S101 **1124.2** Anti-inflammatory activities of *Cassia alata* extract in complete Freund's adjuvant arthritis in rats. **A.T. Lewis and A.S.A. Levy.** Univ. of West Indies, Jamaica.
- S102 **1124.3** Regulation of 3-methylindole metabolism by nuclear receptors. **M.A. Gray and E.J. Squires.** Univ. of Guelph, Canada.

- S103 **1124.4** Assessment of safety and embryotoxicity of (-)-epigallocatechin-3-gallate. **L. Rodríguez-Fragoso, A.I. Gonsaga-Morales and J. Reyes Esparza.** Autonomous Univ. of State of Morelos, Mexico.
- S104 **1124.5** Acute and repeated dose toxicity studies of methanol extract of *Bauhinia variegata* leaves. **Y.A. Kulkarni and S. Warriar.** SPP-Sch. of Pharm. & Technol. Mgmt. and SVKM's NMIMS Univ., Mumbai.
- S105 **1124.6** Investigation of hypoglycemic activity of four extracts of *Petiveria alliacea* (guinea hen weed) in normoglycemic experimental rat models. **S-L.F. Christie and A.S.A. Levy.** Univ. of West Indies, Jamaica.
- S106 **1124.7** Flavonoids and fibrates modulate ApoE4-induced processing of amyloid precursor protein in rat neuronal cells. **V.R. Davra and K.E. Benzeroual.** Long Island Univ.
- S107 **1124.8** Peripheral mechanisms involved in the pressor response to L-proline into the supraoptic nucleus. **S.L. Azevedo, C. Busnardo and F.M.A. Côrrea.** Univ. of São Paulo, Ribeirão Preto.
- S108 **1124.9** Inhibition of the estrogen-mediated cardiac vagal control accounts for the baroreflex depressant effect of chronic nicotine in female rats. **M.M. El-Mas, H.M. El-Gowell, M.A. Fouda and S.M. El-gowilly.** Fac. of Pharm., Alexandria Univ.

## Physiology

### 1125. HISTORY OF PHYSIOLOGY

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S109 **I 1125.1** Inquisitive doctor, reluctant patient: the story of Alexis St. Martin's gastric fistula and America's first physiologist, Dr. William Beaumont, who discovered gastric juice and the physiology of digestion (1822-1833; video shown by permission of the Macki **J.B. Dean.** Univ. of South Florida.
- S110 **II 1125.2** Zuntz revisited: contributions to exercise physiology. **C.M. Tipton.** Univ. of Arizona.

### 1126. TRANSLATIONAL PHYSIOLOGY

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S111 **I 1126.1** Effect of severe burn and disuse on metabolism and overall activity levels in rats. **L. Baer and C.E. Wade.** Univ. of Texas Hlth. Sci. Ctr.-Houston.
- S112 **II 1126.2** Enhanced maturation of induced pluripotent stem cell-derived neurons by astrocyte-conditioned medium: roles of differential regulation of Ca<sup>2+</sup> channel and GABAA receptor activities. **D.J. Rushton, V.B. Mattis, C.N. Svendsen, J. Arjomand, N.D. Allen and P.J. Kemp.** Sch. of Biosci., Cardiff Univ., Cedars-Sinai Regen. Med. Inst. and CHDI Fndn., Princeton.

- S113 **I 1126.3** Changes in the circulating 1,25(OH)<sub>2</sub>D-to-25(OH)D ratio correlate with IFN-gamma alterations. **T. Barker and R.H. Trawick.** The Orthoped. Spec. Hosp., Murray, UT.
- S114 **II 1126.4** Fetal endothelial colony forming cells assist vasculogenesis in the pregnant uterus. **P. Sipos, W. Rens, H. Schlecht, X. Fan, M. Wareing, P. Baker, S.T. Davidge and I. Crocker.** Univ. of Manchester Univ. of Cambridge and Univ. of Alberta.
- S115 **I 1126.5** Effects of menopausal hormone therapy on vascular reactive molecules in platelets. **E.A. Lieser, V.M. Miller and M. Jayachandran.** Mayo Clin.
- S116 **II 1126.6** The effects on thrombin generation following resuscitation with lactated ringers and fresh frozen plasma. **N.S. Pawelczyk, M. Huby, L.A. Baer, J.R. Salisbury, N. Matijevic, W. Wang, B.A. Cotton, J.B. Holcomb and C.E. Wade.** Univ. of Texas Hlth. Sci. Ctr. at Houston.
- S117 **I 1126.7** From Bohr-Haldane effect on Hb-O<sub>2</sub> binding to electrical regeneration in CHD. **A.R. Delgado-Almeida.** Univ. of Carabobo, FL.
- S118 **II 1126.8** β3 Integrin/PDGF receptor synergistic signaling mediates cardiac fibrosis in a mouse model of pressure overload hypertrophy. **S. Balasubramanian, H. Kasiganesan, L. Quinones, A. Bradshaw and D. Kuppuswamy.** Med. Univ. of South Carolina.
- S119 **I 1126.9** Crystalloid versus colloid resuscitation in a lethal rat model of trauma/hemorrhagic shock. **M. Huby, J. Salisbury, L. Baer, N. Pawelczyk, N. Matijevic, Y-W. Wang, J. Holcomb and C. Wade.** Univ. of Texas Hlth. Sci. Ctr. at Houston.

S120 II **1126.10** Comparative metabolic physiology of cynomolgus (*Macaca fascicularis*) and rhesus (*Macaca mulatta*): the nature of their naturally occurring diabetes and metabolic syndrome. **B.C. Hansen, J. Wang, X. Wang, Y. Fang, C. Wang, J. Newcomb, E. Linden, P.B. Higgins, F. Gregoire and Y.J. Wang.** Univ. of South Florida and Crown Biosci., Taicang, China and Kannapolis, NC.

## 1127. TARGETED PROTEOMIC ANALYSES OF HEART FAILURE (POSTERS)

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

S121 I **1127.1** Mechanical circulatory unloading promotes proteins synthesis and maintains leucine oxidation. **M. Kajimoto, C.M. O'Kelly Priddy, D.R. Ledee, B. Bouchard, N. Isern, A.K. Olson, C. Des Rosiers and M.A. Portman.** Univ. of Washington, Seattle Children's Hosp., Univ. of Montreal, Montreal Heart Inst. and Pacific Northwest Natl. Labs.

S122 II **1127.2** Mitochondrial protein synthesis rates measured by proteome dynamics. **K. Chandra Shekar, E.R. Dabkowski, L. Ling, R.F. Ribeiro, Jr., B. Willard, W.C. Stanley and T. Kasumov.** Univ. of Maryland Baltimore and Cleveland Clin.

S123 I **1127.3** Mitochondrial mechanism of right ventricular failure. **N. Qipshidze, N. Tyagi, N. Metreveli and S.C. Tyagi.** Univ. of Louisville.

S124 II **1127.4** Overexpression of phospholipid hydroperoxide glutathione peroxidase (MPHGPx) attenuates cardiac mitochondrial proteomic loss and reverses protein import detriments observed with type 1 diabetes mellitus. **W.A. Baseler, E.R. Dabkowski, R. Jagannathan, D. Thapa, C.E. Nichols, D.L. Shepherd, T.L. Croston, D.M. Schnell and J.M. Hollander.** West Virginia Univ.

S125 I **1127.5** Proteomic analyses on mitochondria in rats model of heart failure. **T. Liu, L. Chen, E. Kim and A. Knowlton.** Univ. of California, Davis, St. Mary's Hosp. of Daejeon Catholic Univ., South Korea.

S126 II **1127.6** Stress induced increase in protein O-linked-N-acetylglucosamine levels is CaMKII dependent. **L. Zou, C. Zou and J.C. Chatham.** Univ. of Alabama at Birmingham.

S127 I **1127.7** Reactive aldehydes formed from peroxidation of n-6 and n-3 PUFAs have differential effects on mitochondrial function in heart. **E.J. Anderson, H-B. Kwak, T.A. Mattox, L. Katunga and K. Thayne.** East Carolina Univ. and Inha Univ., South Korea.

S128 II **1127.8** Alternatively spliced Bnip3 isoform promotes cell survival by recruiting BCL-2 to the IP3-receptor. **J.W. Gordon, Y. Hai, H. Gang and L. Kirshenbaum.** Univ. of Manitoba.

S129 I **1127.9** Cardiac linker histones are differentially regulated following hypertrophic stimuli. **M.S. Parvatiyar, S. Franklin, H. Chen, Y. Wang and T.M. Vondriska.** David Geffen Sch. of Med. at UCLA.

S130 II **1127.10** Chemical proteomics-based analysis of off-target binding profiles for rosiglitazone and pioglitazone: clues for assessing potential of cardiotoxicity. **B.R. Hoffmann, M. El Mansy, D. Sem and A. Greene.** Med. Col. of Wisconsin, Marquette Univ. and Sch. of Pharm., Concordia Univ., WI.

S131 I **1127.11** Assessment of Nova Biomedical StatStrip® glucose meters and test strips in rodent glucose studies. **R.G. Peterson and R. Brockway.** PreClinOmics Inc., Indianapolis and Data Sci. Intl., St. Paul.

S132 II **1127.12** Manipulation of O-linked- $\beta$ -N-acetylglucosamine levels in HL-1 cardiomyocytes. **H.M. Medford, K.E. Hall and S.A. Marsh.** Washington State Univ.

S133 I **1127.13** Leukocyte O-GlcNAcylation: a novel tool for the early detection of type 2 diabetes mellitus. **C. Springhorn and M.F. Essop.** Stellenbosch Univ., South Africa.

S134 II **1127.14** Decreased caveolin-3 and increased GlcNAcylation in cardiac myocyte caveolae during diabetes mellitus. **J.C. Finley, M.W. Kidd, B.T. Scott, D.M. Roth, W.H. Dillmann and H.H. Patel.** UCSD and VA San Diego Healthcare Syst.

## 1128. LEPTIN: METABOLIC, CARDIOVASCULAR AND IMMUNE CONTROL. DOES IT ALL COME FROM THE BRAIN? (POSTERS)

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

S135 I **1128.1** Effect and mechanism of action of mucosal leptin on glucose absorption and Na<sup>+</sup>/K<sup>+</sup> ATPase in Caco-2 cells. **O.M. El-Zein and S.I. Kreydiyyeh.** American Univ. of Beirut.

S136 II **1128.2** Neonatal growth restriction enhances central leptin sensitivity in adult mice. **V. Peotta, T. Cushman, B. Dexter, G. Aldape, G. Hermann and R. Roghair.** Univ. of Iowa.

S137 I **1128.3** Ganglionic blockade does not impair the chronic CNS-mediated antidiabetic action of leptin in streptozotocin-induced diabetic rats. **A.A. da Silva, J.M. do Carmo, J.H. Dubinion and J.E. Hall.** Univ. of Mississippi Med. Ctr.

S138 II **1128.4** Leptin activates rat carotid body type I cells and brainstem astroglial cells. **N. Marina, V. Kasymov, V. Mohamed-Ali, S. Kasparov and A.V. Gourine.** Univ. Col. London and Univ. of Bristol.

S139 I **1128.5** Activation of leptin receptors in the NTS contributes to the elevated blood pressure in obesity via inhibiting NTS melanocortin signaling. **S-i. Sekizawa and C. Chen.** Univ. of California, Davis.

S140 II **1128.6** Increasing leptin sensitivity increases blood pressure in mice on a TH2 responsive background only. **E.J. Belin de Chantemele.** Georgia Hlth. Sci. Univ.

S141 I **1128.7** Systemic leptin alters response of nucleus tractus solitarius neurons that innervate rostral ventrolateral medulla to peripheral chemoreceptors. **J. Ciriello, J.M. Moreau, S.A. Messinger, W. Iqbal and M.J. Mighels.** Univ. of Western Ontario.



## 1129. ENDOTHELIAL CELL BIOLOGY

## Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S142 I **1129.1** Role of histone deacetylases in regulation of NF-E2-related factor 2, kruppel-like factor 2, and cell cycle in vascular endothelial cells in response to disturbed flow. **J.-J. Chiu, D.-Y. Lee and S. Chien.** Natl. Hlth. Res. Insts., Taiwan and UCSD.
- S143 II **1129.2** Peptide quantum dot conjugates detect integrin  $\alpha_v\beta_3$ . **R.L. Orndorff, N. Hong, K.J. Yu, K. Debolt, V.R. Muzykantov, S. Huang, A.B. Fisher and S. Chatterjee.** Univ. of Pennsylvania.
- S144 I **1129.3** Rate of desensitization of coronary vasoconstriction induced by polymers of angiotensin II is determined by the polymer molecular weight. **D. Torres-Tirado and R. Rubio.** Autonomous Univ. of San Luis Potosi, Mexico.
- S145 II **1129.4** G-protein coupled receptor 30 in the human endothelium: new roles for a novel estrogen receptor. **S. Chakrabarti and S.T. Davidge.** Univ. of Alberta.
- S146 I **1129.5** Reduction of contractions to phenylephrine by L-NAME in the carotid artery of mice with endothelial overexpression of endothelin-1. **O. Baretella, F.Y.L. Li, S.K. Chung and P.M. Vanhoutte.** Univ. of Hong Kong.
- S147 II **1129.6** The endothelial cells of ductus arteriosus have a unique gene profile to control vascular morphology. **N. Liu, T. Yokota, S. Maekawa, U. Yokoyama, T. Kato and S. Minamisawa.** Waseda Univ. and Yokohama City Univ., Japan.
- S148 I **1129.7** Measurement of the binding strength of endothelial progenitor cells to vascular endothelial cells in shear. **A. Prisco and A. Greene.** Med. Col. of Wisconsin.
- S149 II **1129.8** Role of superoxide anion in coronary endothelial dysfunction in type 2 diabetic mice. **Y.-F. Cho, M. Pangare and A. Makino.** Univ. of Illinois at Chicago.
- S150 I **1129.9** Hypoxia increases endothelial cell reactive oxygen species production and reduces thioredoxin 2 levels. **S.E. Adesina, K.M. Porter, C.M. Hart and R.L. Sutliff.** Emory Univ./Atlanta VA Med. Ctr.
- S151 II **1129.10** Endothelial cell responses to laminar flow: changes in gene expression, protein, and glycocalyx. **M.A. Meledeo, J.A. Bynum, J.L. Sondeen and P.D. Bowman.** U.S. Army Inst. of Surg. Res., Fort Sam Houston.
- S152 I **1129.11** Functional consequences of ROS-induced ROS release in vascular endothelium. **C.M. Roos, B. Zhang and J.D. Miller.** Mayo Clin.
- S153 II **1129.12** Whole body C-cbl associated protein deleted mice display impaired endothelium dependent dilation and nitric oxide bioavailability. **G.D. Henson, J.P. McCullagh, A.J. Donato and L.A. Lesniewski.** Univ. of Utah and VA Med. Ctr.
- S154 I **1129.13** Dynamics of focal adhesion kinase and paxillin in lamellipodial protrusion of migrating endothelial cells. **Y.-L. Hu, S. Lu, Y. Wang and S. Chien.** UCSD and Univ. of Illinois at Urbana-Champaign.
- S155 II **1129.14** Matrix metalloproteinase-1 mediated upregulation of VEGFR 2 in endothelial cells. **T. Alsaigh, R. Mazor and G. Schmid-Schonbein.** UCSD.
- S156 I **1129.15** Resveratrol protects against diabetes-induced endothelial dysfunction in high-fat diet fed mice. **D.-E. Li and L.-M. Hung.** Chang Gung Univ., Taiwan.
- S157 II **1129.16** Endogenous  $H_2S$  opposes vasoconstriction in conjunction with NO in rat aorta. **D.A. Paredes, O. Jackson-Weaver, X. DeLeon and N. Kanagy.** Univ. of New Mexico.
- S158 I **1129.17** Gliovascular and cytokine interactions modulate brain endothelial barrier in vitro. **V.C. Ganta, W.E. Cromer, S.R. Wells, A. Erdreich-Epstein, P.-O. Couraud, I.A. Romero, B. Weksler, J.M. Mathis, A. Minagar and J.S. Alexander.** LSU Hlth., Shreveport, Texas A&M Hlth. Sci. Ctr., Temple, Keck Sch. of Med., Childrens Hosp. Los Angeles, Inst. Cochin, Paris The Open Univ., U.K. and Weill Cornell Med. Col.
- S159 II **1129.18** Hypoxia stimulates pulmonary artery endothelial proliferation via 5-lipoxygenase. **K.M. Porter and R.L. Sutliff.** Emory Univ. and Atlanta VA Med. Ctr.
- S160 I **1129.19** Cytokines, glucose and angiotensin II and the expression of connexin 37, 40 and 43 in cultured microvascular endothelial cells. **B. Braam, W. Zhuang and W.A. Cupples.** Univ. of Alberta and Simon Fraser Univ., Canada.
- S161 II **1129.20** PDE6s are heterogeneously distributed in native endothelium of mesenteric arteries from mice. **A. Blanchette, F. Toussaint, C. Charbel, P. Comtois and J. Ledoux.** Heart Inst. of Montreal and Univ. of Montreal.
- S162 I **1129.21** Vascular eNOS is reduced in conjunction with increased calpain activity in dystrophin-deficient human endothelial cells. **J.-L. Li, G.-L. Shen and G.D. Thomas.** Cedars-Sinai Med. Ctr.
- S163 II **1129.22** CaMKII regulates intracellular calcium stores of native endothelial cells from mesenteric arteries. **F. Toussaint, C. Charbel, A. Blanchette, L. Villeneuve and J. Ledoux.** Montreal Heart Inst. and Univ. of Montreal.
- S164 I **1129.23** Evidence for a role of endothelial cell-derived PLFG in paracrine communication. **L. Xiang and P.G. Lloyd.** Oklahoma State Univ.
- S165 II **1129.24** Increasing pressure in newborn carotid arteries promotes endothelial cell maturation. **K.R. Heberlein, S. Flavahan, M. Mozayan, I. Lindgren and N.A. Flavahan.** Johns Hopkins Med. Instns.
- S166 I **1129.25** Endothelin-1 contributes to endothelial responses in newborn arteries. **K.R. Heberlein, S. Flavahan and N.A. Flavahan.** Johns Hopkins Med. Instns.
- S167 II **1129.26** Oral administration of L-leucine reduces nitric oxide synthesis by endothelial cells of rats. **C.D. Tekwe, J. Lei, K. Yao, X. Li, R. Rezaei, S. Dahanayaka, C.J. Meininger, R.J. Carroll, F.W. Bazer and G. Wu.** Texas A&M Univ. and Texas A&M Hlth. Sci. Ctr.
- S168 I **1129.27** Activation of protease-activated receptor-3 signals independently to phosphorylate endothelial nitric oxide synthase in human endothelial cells. **L.C. Tillery, T. Epperson, J. Mantey and E. Motley.** Meharry Med. Col.
- S169 II **1129.28** Effect of pulsatile shear stress on endothelial cell activation. **S.K. Shanmugavelayudam, D.A. Rubenstein and W. Yin.** Oklahoma State Univ.
- S170 I **1129.29** Pulsed electrical fields cause activation of tyrosin kinase-related cellular signaling in endothelial cells leading to transcription processes and angiogenesis. **S. Dissing, K. Tritsaris and A.J. Hansen.** Panum Inst. and Novo Nordisk A/S, Copenhagen.
- S171 II **1129.30** Stimulation of cyclooxygenase-2 pathway in human coronary artery endothelial cells by histamine involves ERK and p38 activation but not early growth response factor-1. **X. Tan, V.V. Raveendran, H.H. Krishnan and K.N. Dileepan.** Univ. of Kansas Med. Ctr.

S172 I 1129.31 AMP-activated protein kinase activation inhibits human endothelial cell proliferation. **W. Durante, X-m. Liu, Y. Yu, B. Yates and K.J. Peyton.** Univ. of Missouri-Columbia.

### 1130. LUNG PHYSIOLOGY: ENDOTHELIAL CELL BIOLOGY AND FLUID BALANCE

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

S173 I 1130.1 Temporal changes in connexin 43 expression in pulmonary microvessels of LPS-treated rat lungs. **K. Kandasamy and K. Parthasarathi.** Univ. of Tennessee Hlth. Sci. Ctr., Memphis.

S174 II 1130.2 Lack of PEDF promotes a proinflammatory phenotype in lung endothelial cells. **E.S. Shin, C.M. Sorenson and N. Sheibani.** Univ. of Wisconsin-Madison.

S175 I 1130.3 Pulmonary endothelial barrier disruption via bicarbonate stimulation of endogenous soluble adenylyl cyclase, AC10. **S. Sayner, R. Kunstadt and J. Nix.** Univ. of South Alabama.

S176 II 1130.4 The influence of PKC $\delta$  activity on RhoA interaction with its effector proteins. **H. Chichger, H. Duong and E.O. Harrington.** Brown Univ.

S177 I 1130.5 Cation channel TRPC6 activation of TLR4 in endothelial cells mediates sepsis-induced acute lung injury. **M. Tauseef, N. Knezevic, K. Chava, D. Schraufnagel, M. Smith, S. Vogel, A. Dietrich, L. Birnbaumer, A.B. Malik and D. Mehta.** Univ. of Illinois at Chicago, Walter Straub Inst. for Pharmacol. and Toxicol., Munich and NIEHS/NIH, Research Triangle Park.

S178 II 1130.6 The serine-threonine calcium/calmodulin-activated phosphatase calcineurin is involved in regulation of store-operated calcium entry. **A.A. Vasauskas, X. Wang, H. Chen, S. Wu and D.L. Cioffi.** Univ. of South Alabama.

S179 I 1130.7 Membrane localization of FK506-binding proteins FKBP51 and FKBP52, immunophilins that are part of the endothelial store-operated calcium entry heterocomplex. **P.I. Kadeba, J.G. Scammell and D.L. Cioffi.** Univ. of South Alabama.

S180 II 1130.8 Role of the TRPC4 proline rich region in regulation of the endothelial store-operated calcium entry. **X. Wang, H. Chen, S. Wu and D.L. Cioffi.** Univ. of South Alabama.

S181 I 1130.9 Loss of cell-surface sialic acids activates calcium entry in pulmonary endothelial cells. **E.A. Cioffi, E.S. Crockett and D.L. Cioffi.** Univ. of South Alabama.

S182 II 1130.10 S-Nitrosylation of caveolin-1 Cys156 stimulates Src-dependent caveolin-1 Tyr14 phosphorylation required for caveolae-mediated endocytosis in endothelial cells. **F.R. Bakhshi, Z. Chen, A. Shajahan, Y. Hussain, M. Bonini and R.D. Minshall.** Univ. of Illinois at Chicago.

S183 I 1130.11 Hydrogen peroxide mediates hypoxic induction of arginase II in human microvascular pulmonary endothelial cells. **L.G. Chicoine, L.D. Nelin and Z. Han.** The Ohio State Univ. and Nationwide Children's Hosp.

S184 II 1130.12 Mitochondrial DNA damage-associated molecular patterns are released in response to oxidant stress in rat pulmonary artery endothelial cells. **J.K. Hill, S. Mulekar, V.M. Pastukh and M.N. Gillespie.** Univ. of South Alabama.

S185 I 1130.13 Flow-mediated dilation is attenuated in young patients with cystic fibrosis. **R.A. Harris, S. Poore, B. Berry, D. Eidson, J.S. Pollock and K.T. McKie.** Georgia Hlth. Sci. Univ.

S186 II 1130.14 NF $\kappa$ B signaling and inducible nitric oxide synthase activity during pulmonary ischemia-reperfusion increase co-localization of fibrinogen/fibrin and platelets at sites of vascular leakage in rabbit lung. **J.T. Dixon, E. Gozal, L.R. Sachleben, Jr., D. Lominadze, C.L. Juniel and A.M. Roberts.** Univ. of Louisville.

S187 I 1130.15 The effect of  $\beta_2$  adrenergic-receptor stimulation on lung fluid balance in heart failure. **B.J. Taylor, M. Ceridon, E. Snyder, T. Olson and B.D. Johnson.** Mayo Clin. and Univ. of Arizona.

### 1131. NITRIC OXIDE/CARBON MONOXIDE/ VASOACTIVE MOLECULES

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

S188 I 1131.1 Toll-like receptor 2 is elevated in rat corpus cavernosum in response to nitric oxide deficiency. **J. Davis, K. Nunes and R.C. Webb.** Georgia Hlth. Sci. Univ.

S189 II 1131.2 Role of membrane permeability and extracellular diffusion in nitric oxide transport to the red blood cells. **P. Deonikar and M. Kavdia.** Wayne State Univ.

S190 I 1131.3 Acupuncture stimulates eNOS translocation and NO production along meridians. **R.G. Duran, A.H. Korayem, W.N. Duran and D.D. Kim.** UMDNJ-New Jersey Med. Sch.

S191 II 1131.4 Role of NO in the organization of ciliated cells in the lateral brain ventricle. **A-D.N. Fowajuh, N. Peunova and G. Enikolopov.** Univ. of Maryland Eastern Shore and Cold Spring Harbor Lab., NY.

S192 I 1131.5 Impact of high-fructose consumption on the canine cardiovascular system. **E. Kertowidjojo, K. Qanud, S. Kandhi, M. Wolin and T.H. Hintze.** New York Med. Col.

S193 II 1131.6 Hydrogen sulphide influences the excitability of neurons in the paraventricular nucleus of the hypothalamus. **C.S. Khademullah and A.V. Ferguson.** Queen's Univ., Canada.

S194 I 1131.7 Complex interplay between pannexin 1 cysteine residues and channel regulation. **A.W. Lohman, J.L. Weaver, M. Billaud, D.A. Bayliss and B.E. Isakson.** Univ. of Virginia.

S195 II 1131.8 sGC in SMC acts as nitrite reductase leading to NO formation. **K.J. Madrasi, N. Tsoukias and M. Joshi.** Florida Intl. Univ.

S196 I 1131.9 BH $_4$  improves postprandial FMD in older adults. **C. McCarthy, L. Bass, S. Greer and R. Harris.** Georgia Hlth. Sci. Univ.

S197 II 1131.10 Acute inhibition but not chronic deficiency of G protein-coupled estrogen receptor reduces bioactivity of nitric oxide. **M.R. Meyer, A.S. Field, M. Barton and E.R. Prossnitz.** Univ. of New Mexico Hlth. Sci. Ctr. and Univ. of Zurich.

- S198 I 1131.11 Enhanced tetrahydrobiopterin contributes to sodium restriction-induced improvements in large elastic artery compliance in older adults with elevated systolic blood pressure. **M.L. Racine, C.J. Geolfos, A.E. DeVan, P.E. Gates, M. Chonchol, D.R. Seals and K.L. Jablonski.** Univ. of Colorado Boulder, Peninsula Med. Sch., Univ. of Exeter, U.K. and Univ. of Colorado Denver, Aurora.
- S199 II 1131.12 Hydrogen sulfide improves the renal function in a combined state of hypertension and diabetes. **H.A. Rathore, F. ud Din, M.H. Abdullah, M. Zubaid, N.A. Abdullah and E.J. Johns.** Sch. of Pharmaceut. Sci., Univ. Sains Malaysia, Univ. of Malaya, Malaysia and University Col. Cork, Ireland.
- S200 I 1131.13 HIF/prolyl-4-hydroxylase domain on tubular and vascular renal function following nitric oxide synthase inhibition. **M. Roberts and A. Oyekan.** Texas Southern Univ.
- S201 II 1131.14 Effects of acute systemic inhibition of nitric oxide synthase on plasma levels of pro- and anti-inflammatory cytokines in anesthetized mice. **P. Singh, A. Castillo, M.T. Islam and D.S.A. Majid.** Tulane Univ. Sch. of Med.
- S202 I 1131.15 Role of NO and superoxide in hyperhomocysteinemia-induced cardiac metabolic dysfunction in pregnant cystathionine beta-synthase heterozygote mice. **S. Song, E. Kertowidjojo, C. Ojaimi, S. Kandhi, M. Wolin and T.H. Hintze.** New York Med. Col.

## 1132. SHOCK

## Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S203 I 1132.1 Trypsin and MMP-9 levels and activity increase in plasma, peritoneal space, and vital organs during hemorrhagic shock. **A.E. Altshuler, A.H. Penn, J. Yang, G-R. Kim and G.W. Schmid-Schonbein.** UCSD.
- S204 II 1132.2 Bufodienolides in pig plasma and urine. **D.N. Darlington and D.S. Gann.** U.S. Army Inst. of Surg. Res., Fort Sam Houston and Univ. of Maryland Baltimore.
- S205 I 1132.3 Continuous use of intrathoracic pressure regulation device improved cardiac output in porcine peritonitis. **R.D. Goldfarb, J.D. Jaffe, M.C. Torjman, L. Mitrev, P. Jasti, C. Knob, A. Metzger, K. Lurie, J.E. Parrillo and R.P. Dellinger.** Cooper Med. Sch. of Rowan Univ., NJ and Adv. Circulatory Sys., Roseville, MN.
- S206 II 1132.4 Early myocardial contractility depression in female endotoxemic rats. **R.P.M. Goncalves, J.E.S. Santos, K.L. Guarido and J. Assreuy.** Fed. Univ. of Santa Catarina, Brazil.
- S207 I 1132.5 Plasma arginase promotes acute lung injury in a rat model of trauma/hemorrhage and resuscitation. **F.K. Johnson, W. Durante, R.A. Johnson and R.M. Stewart.** Lincoln Mem. Univ.-DeBusk Col. of Osteo. Med., Univ. of Missouri-Columbia and Univ. of Texas Hlth. Sci. Ctr. at San Antonio.
- S208 II 1132.6 Hemoperitonium increases carbon monoxide and reduces platelet aggregation in trauma patients. **R.A. Johnson, F.K. Johnson, W. Durante and R.M. Stewart.** Lincoln Mem. Univ.-Debusk Col. of Osteo. Med., Univ. of Missouri-Columbia and Univ. of Texas Hlth. Sci. Ctr. at San Antonio.

- S209 I 1132.7 Proteolytically-derived inflammatory peptides from the bowel may circulate systemically in shock. **E.B. Kistler, T. Alsaigh, M. Chang, M. Richter and G.W. Schmid-Schönbein.** UCSD.
- S210 II 1132.8 Hemodynamic response after hypovolemic shock and resuscitation with low-volume 6% hetastarch and high-volume lactated Ringer's solution. **F.A. Nunez, V. Kislukin, T.L. Smith, M.F. Callahan, L. Burnett and M.E. VanDyke.** Wake Forest Sch. of Med., Transonic Syst., Ithaca and KeraNetics LLC, Winston-Salem.
- S211 I 1132.9 Variations in the density of blood during hemorrhage. **F.A. Nunez, V. Kislukin, N. Thurmalla, N. Krivitski, M.F. Callahan and T.L. Smith.** Wake Forest Sch. of Med. and Transonic Syst., Ithaca, NY.
- S212 II 1132.10 Determination of actively circulating volume by injection of normal saline. **F.A. Nunez, V. Kislukin, N. Thurmalla, N. Krivitski, T.L. Smith and M.F. Callahan.** Wake Forest Sch. of Med. and Transonic Syst., Ithaca, NY.
- S213 I 1132.11 Correlation between HbNO and NOx in septic shocked rats. **T.F. Rosales-Hernandez, J.E. Mendieta-Wejebe, M.C. Rosales-Hernandez, R.D. Kross and C. Villanueva.** Higher Sch. of Med.-IPN, Mexico City and Kross Link Labs., Bellmore, NY.
- S214 II 1132.12 Angiotensin 1-7 contributes to disrupted nitric oxide control of vasopressin response to hemorrhage during acute alcohol intoxication. **A.M. Whitaker and P.E. Molina.** LSU Hlth. Sci. Ctr., New Orleans.

## 1133. EXTRACELLULAR MATRIX AND CARDIAC REMODELING

## Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S215 I 1133.1 N-acetylcysteine ameliorates infarction-induced myocardial fibrosis. **T-M. Lee and C-C. Chen.** Chi-Mei Med. Ctr., Tainan and Chia-yi Christian Hosp., Taiwan.
- S216 II 1133.2 Mechanisms of myocardial alterations induced by chronic high-salt intake. **I.A. Katayama, E.P.B. Dopona and J.C. Heimann.** Univ. of São Paulo.
- S217 I 1133.3 Pentoxifylline reduces myocardial oxidative stress induced by exposure to tobacco smoke. **P.S. Azevedo, B. Polegato, P. Portugal, D. Batista, B. Lustosa, B. Rafacho, F. Oliveira, A. Mascoli, M. Roscani, A.A. Fernandes, L. Zornoff, S. Paiva, L. Matsubara, E. Pereira and M. Minicucci.** Botucatu Med. Sch., São Paulo State Univ.
- S218 II 1133.4 Rap 1a small GTPase alters extracellular matrix deposition in response to TGF- $\beta$ 1. **S.C. Jeyaraj, N.T. Unger, J.A. Stewart and M.A. Chotani.** Nationwide Children's Hosp., Columbus and Mississippi State Univ.
- S219 I 1133.5 The role of inflammation and adaptive immunity in aortic stiffening. **J. Wu, S. Thabet, W. Chen, A.E. Goldstein, M. Madhur, B. Hudson and D.G. Harrison.** Vanderbilt Univ. and Emory Univ.
- S220 II 1133.6 The role of green tea in experimental myocardial infarction. **B. Lustosa, D. Batista, B. Polegato, M. Minicucci, E.T. Pereira, K. Okoshi, L.S. Matsubara, L. Zornoff, S. Paiva, A. Gonçalves and P. Azevedo.** Botucatu Med. Sch. São Paulo State Univ.

- S221 I 1133.7 Anti-inflammatory effects of ACE inhibition persist following withdrawal of treatment. **T.M. Hale, D. Tu, W. Shahid and L.A. Biber.** Univ. of Arizona, Phoenix.
- S222 II 1133.8 The role of green tea and oxidative stress in heart remodeling induced by tobacco smoke exposure. **E.J. Pereira, M. Minicucci, B. Polegato, P. Portugal, D. Batista, P. Modesto, A.A. Fernandes, B. Rafacho, L.S. Matsubara, L. Zornoff, S. Paiva, M. Roscani and P. Azevedo.** Botucatu Med. Sch. and Botucatu, Biosci. Inst., São Paulo State Univ.

### 1134. GENE EXPRESSION AND CARDIOVASCULAR FUNCTION

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S223 I 1134.1 Intravenous delivery of AAV9 encoding urocortin 2 increases cardiac function in normal mice. **N.C. Lai, H.K. Hammond, T. Tang, T. Guo, R. Tang, J. Parikh and M. Gao.** VA San Diego Healthcare Syst.
- S224 II 1134.2 B(a)P exposure in utero result in oxidative stress-induced high blood pressure in LEH rat offspring. **G.E. Jules, S. Pratap, A. Ramesh and D.B. Hood.** Meharry Med. Col.
- S225 I 1134.3 Efficacy of intracoronary administration of Ad5IGF-1 and Ad5FGF-2 to treat acute myocardial infarction in a porcine model of coronary artery occlusion and reperfusion. **W. Shi, L.S. Schmarkey, R. Jiang, C.C. Bone, S. Katzmark, R.L. Engler, G.M. Rubanyi and J. Vinten-Johansen.** Emory Univ., UCSD and Cardium Therapeutics Inc., San Diego.
- S226 II 1134.4 Intracoronary versus intravenous delivery of adeno-associated virus for cardiac gene transfer in mice. **H. Fang, N.C. Lai, E. Tang, D.M. Roth, M.H. Gao and H.K. Hammond.** VA San Diego Healthcare Syst.
- S227 I 1134.5 The identification of gene clusters that correlate with vascular adaptations after physical deconditioning and exercise training in humans. **G. Lammers, N.T.L. van Duijnhoven, J.G. Hoenderop, A.M.H. Horstman, A. de Haan, T.W.J. Janssen, M. de Graaf, E.M. Pardoel, E.T.P. Verwiel, D.H.J. Thijssen and M.T.E. Hopman.** Radboud Univ. Nijmegen Med. Ctr., Netherlands, VU Univ. Amsterdam, Amsterdam Rehabil. Res. Ctr. Reade and Liverpool John Moores Univ., U.K.
- S228 II 1134.6 Association of mitogen activated protein kinase genetic polymorphism with carotid intima medial thickness in women enrolled in the Kronos Early Estrogen Prevention Study. **V.M. Miller, T.M. Petterson, E.N. Jeavons, J.A. Heit, S.M. Harman and M. de Andrade.** Mayo Clin. and Kronos Longevity Res. Inst., Phoenix.
- S229 I 1134.7 Regulation of lipoma preferred partner in the heart. **S. Boateng and C. Hooper.** Univ. of Reading, U.K.
- S230 II 1134.8 Mutations of *HOMEZ* gene in congenital heart diseases. **C. Xuan, K-G. Jia, B-B. Wang, X-Y. Bai, G. Gao, Q. Yang, X-C. Liu, X. Ma and G-W. He.** TEDA Intl. Cardiovas. Hosp., Med. Col., Nankai Univ., China, Natl. Res. Inst. for Family Planning, Beijing, Chinese Univ. of Hong Kong and Oregon Hlth. & Sci. Univ.

- S231 I 1134.9 Tissue-specific expression of angiotensin-converting enzyme 2 from two promoter regions is unaffected by elevated levels of renin and angiotensinogen. **V.K. Nguyen, K.B. Pedersen, H. Xia and E. Lazartigues.** Tulane Univ. and LSU Hlth. Sci. Ctr., New Orleans.
- S232 II 1134.10 Secretin regulates the expression of the renin-angiotensin system in rat cardiac fibroblasts. **S. Afroze, D. Nizamutdinov, H. Feng, F. Gerilechaogetu, K. Jensen, M.K. Munshi, H. Golden, D. Dostal, G. Alpini and S. Glaser.** Texas A&M Hlth. Sci. Ctr. and Central Texas Veterans Hlth. Care Syst., Temple.
- S233 I 1134.11 Short-term consumption of a Western diet induces pathological hypertrophy in young mouse hearts. **H.M. Medford and S.A. Marsh.** Washington State Univ.
- S234 II 1134.12 Renal ischemia/reperfusion induced cardiac hypertrophy in mice: contribution of apoptotic process. **M. Trentin-Sonoda, R. Cirino-Silva and M.S. Carneiro-Ramos.** Fed. Univ. of ABC, Brazil.
- S235 I 1134.13 Global gene expression profile in renal ischemia/reperfusion induced cardiac hypertrophy. **K.K. Nakama and M.S. Carneiro-Ramos.** Fed. Univ. of ABC, Brazil.
- S236 II 1134.14 Impact of high-fructose consumption on gene expression and the cardiovascular system through NO-superoxide interaction. **E. Kertowidjojo, S. Song, C. Ojaimi and T.H. Hintze.** New York Med. Col.
- S237 I 1134.15 In vivo screening of chromatin remodelers in zebrafish reveals proteins governing cardiac growth. **E. Monte, K. Mouillesseaux, T. Kimball, T.M. Vondriska, J-N. Chen and S. Franklin.** UCLA.
- S238 II 1134.16 Impact of hyperhomocysteinemia on cardiac gene expression in pregnant rats. **S. Song, C. Ojaimi, E. Kertowidjojo, S.H. Zhang, H. Huang, S. Kandhi, M. Wolin and T.H. Hintze.** New York Med. Col.
- S239 I 1134.17 DNA methylation status of cytokine biosynthesis genes during hyperhomocysteinemia in cystathionine beta-synthase heterozygote mice. **C. Ojaimi, S. Song, E. Kertowidjojo and T.H. Hintze.** New York Med. Col.
- S240 II 1134.18 Role of PI3K/Akt in the biphasic inotropic effects of ethanol on the heart. **V. Cousins, K. Sankavaram, M. El-Rubaiee, J.S. Allard, B. Kinfemichael and G.E. Haddad.** Howard Univ.
- S241 I 1134.19 MnSOD reduction causes mtDNA damage in HAEC under oscillatory shear stress. **K. Quigley, K. Fang, N. Jen, R. Li and T. Hsiai.** Univ. of Southern California.

### 1135. GENETIC MODELS OF CARDIOVASCULAR FUNCTION

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S242 I 1135.1 Ossabaw miniature swine models with mutant versus non-mutant AMP kinase alleles for study of electrocardiographic properties during myocardial ischemia. **A. Chawla, S. Spencer, M.L. McKenney, K.A. Schultz, J.P. Byrd, M. Alloosh, K. Mather and M. Sturek.** Indiana Univ. Sch. of Med.
- S243 II 1135.2 Protective effect of fasting in hearts and arteries of *Ppar $\alpha$ <sup>-/-</sup>* mice. **N. Silswal, T. Green, M. Badr, M.J. Wacker and J. Andresen.** Univ. of Missouri-Kansas City.

- S244 I 1135.3 Reversible cardiac remodeling after renin-angiotensin system stimulation in CYP1A1-Ren2 transgenic rats. **B.J. Janssen, B. Heijnen, L. Pelkmans, J. Danser, I. Garrelds, J. Mullins, J.G.R. De Mey and H. Struijker-Boudier.** Maastricht Univ. and Erasmus Univ., Netherlands and Univ. of Edinburgh.
- S245 II 1135.4 Abnormal heart rate control in SCN5A-[Delta]KPKQ mice. **M.A. Wu, V. Bari, L. Calvillo, L. Crotti, P.J. Schwartz, A. Porta and N. Montano.** Univ. of Milan and Univ. of Pavia.
- S246 I 1135.5 Differential cardioprotection by ischemic preconditioning mediated by rat chromosome 6 is nitric oxide-dependent. **D. Stowe, D. Nabor, Q. Chen, J. Lazar and M. Riess.** Med. Col. of Wisconsin and VA Med. Ctr.
- S247 II 1135.6 Cardiac amyloidosis and its suppression in a Huntington's disease model in the *Drosophila* heart. **G.C. Melkani, R. Bodmer, K. Ocorr and S.I. Bernstein.** San Diego State Univ. and Sanford-Burnham Inst. for Med. Res.
- 1136. MYOCARDIAL ISCHEMIA/MYOCARDIAL METABOLISM**
- Poster**
- WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION
- Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)
- S248 I 1136.1 Thyroid hormone preserves myocytes in the border zone of myocardial infarction. **Y. Chen, S. Youmans, N.Y. Weltman, X. Li, D. Crause and A.M. Gerdes.** New York Inst. of Technol., Univ. of South Dakota and Johns Hopkins Univ.
- S249 II 1136.2 Anti-arrhythmic effect of remote ischemic preconditioning is accompanied by changes in the salvage kinases in the rat heart non-ischemic area. **B.Z. Simkhovich, J. Dow and R.A. Kloner.** Good Samaritan Hosp., Los Angeles and Univ. of Southern California Keck Sch. of Med.
- S250 I 1136.3 The role of microRNA in anesthetic-induced cardiac preconditioning. **J. Olson, Y. Yan, X. Bai, A. Kriegel, S. Canfield, M. Liang and Z.J. Bosnjak.** Med. Col. of Wisconsin.
- S251 II 1136.4 Effects of commonly used Chinese herbal medicines and electroacupuncture on experimental myocardial infarct size. **J.S. Dow, J. Painovich, S.L. Hale, J.C. Longhurst, S. Tjen-A-Looi and R.A. Kloner.** Good Samaritan Hosp., Los Angeles, Univ. of California, Irvine and Keck Sch. of Med. of Univ. of Southern California.
- S252 I 1136.5 Novel rapid-multiple-short-cycle preconditioning stimuli induces robust cardioprotective signaling mechanisms and protects the heart against in vivo ischemia reperfusion injury: an effective approach with clinical justification. **J.L. Zweier, F. Yang, Y. Nishijima, C-A. Chen, C. Yang, S. Varadharaj and M.A.H. Talukder.** Davis Heart and Lung Inst., Columbus, OH.
- S253 II 1136.6 Sodium nitrite administered immediately before reperfusion reduces in vivo myocardial infarction and improves postischemic cardiac function: significance of critical dose response and safety margin of nitrite in cardioprotection. **J.L. Zweier, J-K. Chae and M.A.H. Talukder.** Davis Heart and Lung Inst., Columbus, OH and Chonbuk Natl. Univ. Med. Sch., South Korea.
- S254 I 1136.7 In cardiomyocytes LPS-induced activation of I $\kappa$ B $\alpha$  and COX-2 expression are mediated in part by the hexosamine biosynthesis pathway. **X.T. Lu, L. Zou and J.C. Chatham.** Univ. of Alabama at Birmingham.
- S255 II 1136.8 Detrimental effects of antiretroviral treatment on contractile function of the rat heart. **K.M.S.E. Reyskens and M.F. Essop.** Stellenbosch Univ., South Africa.
- S256 I 1136.9 Effect of Cd36 on cardiac ischemic tolerance and adrenergic signaling in spontaneously hypertensive rats. **J. Neckar, J. Silhavy, F. Papousek, M. Klevstig, D. Manakov, J. Novotny, O. Novakova, F. Novak, M. Pravenec and F. Kolar.** Inst. of Physiol., Acad. of Sci. of Czech Republic and Charles Univ. in Prague.
- S257 II 1136.10 Stepwise ischemic preconditioning mitigates prolonged ischemia/reperfusion injury. **K. Yamakawa, W. Zhou and A. Mahajan.** UCLA.
- S258 I 1136.11 The metabolic mechanisms involved in the heart protection from myocardial infarction induced by diabetes. **C. Malfitano, M. Carbonaro, A. de Souza Junior, T.C. Alba- Loureiro, L.E. Souza, D. Figueroa, K. Silva, R. Curi and M.C. Irigoyen.** Heart Inst., São Paulo, Univ. of São Paulo and Paulista Sch. of Med., Fed. Univ. of São Paulo.
- S259 II 1136.12 Protective mechanism of PPAR-delta-HIF1 signaling in the ischemic diabetic heart. **G.K. Nanayakkara, J. Wyble, J. Quindry and R.H. Amin.** Auburn Univ.
- S260 I 1136.13 CD4<sup>+</sup> T cells regulate cardiac ischemia/reperfusion injury. **M.Y. Zuidema, J. Li, S. Lee, G.A. Meininger, M.A. Hill, K.C. Dellsperger and C. Zhang.** Univ. of Missouri-Columbia Sch. of Med.
- S261 II 1136.14 Benfotiamine: a novel cardioprotective agent that blunts hyperglycemia-induced cardiac dysfunction. **R.F. Mapanga and M.F. Essop.** Stellenbosch Univ., South Africa.
- S262 I 1136.15 Fibroblast growth factor 8 inhibits apoptosis mediated by PTEN and Akt pathway in the infarcted myocardium. **D. Singla and L. Abdelli.** Univ. of Central Florida.
- S263 II 1136.16 Apocynin exerts cardioprotection in ischemia/reperfusion by inhibiting superoxide release from NADPH oxidase. **K.D. Bartol, T. Habtamu, J. Tolson, D. Koko, B. Diaz, R. Murphy, Q. Chen and L.H. Young.** Philadelphia Col. of Osteo. Med.
- S264 I 1136.17 Estrous cycle phase does not influence myocardial infarction but may alter arrhythmogenicity in isolated rat hearts. **C.R. Frasier, M.D. Rosenbaum, R.C. Sloan, B. Hayes and D.A. Brown.** East Carolina Univ.
- S265 II 1136.18 Triacsin C, a fatty acyl CoA synthetase inhibitor, improves cardiac performance following global ischemia. **M.T. Weis, J. Tolson, Q. Chen and L.H. Young.** Texas Tech Univ. Hlth. Sci. Ctr., Amarillo and Philadelphia Col. of Osteo. Med.
- S266 I 1136.19 Effect of melatonin and its combination with therapeutic exercise on doxorubicin-induced cardiac toxicity. **T. Lkhagvasuren, S. Lee, J-H. Hong and Y. Hong.** Inje Univ., South Korea.
- S267 II 1136.20 Late preconditioning induced by transgenic cardiac overexpression of  $\alpha$ 1A adrenergic receptors in rats. **X. Zhao, J. Park, D. Ho, S. Gao, L. Yan, H. Ge, S. Iismaa, L. Lin, B. Tian, D.E. Vatner, R. Graham and S.F. Vatner.** UMDNJ, Newark and Victor Change Cardiac Res. Inst., Darlinghurst, Australia.
- S268 I 1136.21 Metabolic profiles of the second and third windows of ischemic preconditioning. **C.A. Bravo, R.K. Kudej, S.F. Vatner, D.E. Vatner and L. Yan.** UMDNJ, Newark and Tufts Univ., North Grafton.

### 1137. FREE RADICAL SIGNALING, OXIDANT STRESS, AND INJURY

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S269 I **1137.1** Vitamin E attenuates *P. aeruginosa*-mediated injury in pulmonary endothelial cells. **N. Anjum, K.E. Iles, M.G. Traber, J. Creighton, S. Matalon and J-F. Pittet.** Univ. of Alabama at Birmingham and Oregon State Univ.
- S270 II **1137.2** MJ33, an inhibitor of the phospholipase A<sub>2</sub> activity of peroxiredoxin 6, reduces reactive oxygen species production in a model of endotoxin-induced lung inflammation. **S. Chatterjee, S.I. Feinstein, C. Dodia, N. Hong, I. Lee, M. Madesh and A.B. Fisher.** Univ. of Pennsylvania and Temple Univ. Sch. of Med.
- S271 I **1137.3** Effects of coffee consumption on NASH-induced oxidative stress in rat heart. **H-Y. Cheng, S-C. Tsai, W-C. Huang, A-L. Yang and C-C. Chan.** Taipei Phys. Educ. Col., Taipei Veterans Gen. Hosp. and Natl. Yang-Ming Univ., Taiwan.
- S272 II **1137.4** Evaluation of lung damage related to extra-vehicular activity during space exploration using a novel murine and cell model of repeated double-hit low-level radiation and hyperoxia exposure. **M. Christofidou-Solomidou, R.A. Pietrofesa, F. Dukes, S. Tyagi, P. Solomides, E. Arguiri and C.C. Solomides.** Univ. of Pennsylvania and Jefferson Univ. Hosp.
- S273 I **1137.5** Tetrahydrobiopterin attenuates extracorporeal shock wave lithotripsy-induced blood nitric oxide level reduction in the renal vein. **B.L. Deiling, E. James, K-A. Perkins, Q. Chen and L.H. Young.** Philadelphia Col. of Osteo. Med.
- S274 II **1137.6** Elevated reactive oxygen species and increased mononuclear NADPH oxidase expression in type 2 diabetes patients. **S.H. Deo, M.C. Zimmerman and P.J. Fadel.** Univ. of Missouri-Columbia, and Univ. of Nebraska Med. Ctr.
- S275 I **1137.7** Differential regulation of oxidant generation and [Ca<sup>2+</sup>]<sub>i</sub> mobilization by adenosine A1 and A3 receptors in brain astrocytes. **D. Gebremedhin, J. Jacobs, D. Zhang, N. Rau and D.R. Harder.** Med. Col. of Wisconsin.
- S276 II **1137.8** Sickie mouse red cells activate endothelium by heme-mediated peroxide generation and promote red cell and leukocyte adhesion. **D.K. Kaul, J. Shah, S. Suzuka and M.E. Fabry.** Albert Einstein Col. of Med.
- S277 I **1137.9** Opening of mitochondrial BK(Ca) channels at reoxygenation protects ventricular myocytes against injury via redox signaling. **F. Kolar and G.H. Borchert.** Inst. of Physiol., Acad of Sci. of Czech Republic, Prague.
- S278 II **1137.10** Effect of molsidomine and tempol on ischemic tolerance of chronically hypoxic rat hearts. **P. Mandikova, P. Micova, K. Kozichova, L. Dabrowska, F. Kolar and J. Neckar.** Inst. of Physiol., Acad of Sci. of Czech Republic and Charles Univ. in Prague and Natl. Inst. of Publ. Hlth., Prague.
- S279 I **1137.11** Mitochondrial DNA fragmentation impairs endothelial function in Zucker lean rats. **Y.F. Pung, C. Kolz, I. Shokolenko, G.L. Wilson and W.M. Chilian.** Northeast Ohio Med. Univ. and Univ. of South Alabama.

- S280 II **1137.12** Gamma-tocopherol nebulization attenuates acute lung injury with burn and smoke inhalation in the ovine model. **L.E. Sousse, Y. Yamamoto, P. Enkhbaatar, E.R. Kraft, C.L. Wright, A. Taylor, R.A. Cox, H.K. Hawkins, L.D. Traber, M.G. Traber, C. Szabo, D.N. Herndon and D.L. Traber.** Univ. of Texas Med. Branch, Oregon State Univ. and Shriners Hosps. for Children, Galveston.
- S281 I **1137.13** Oxidative stress contributes to the cigarette smoke extract-induced adverse functional effects of rat cardiac stem cells. **W.K. Sumanasekera, D. Tran, G. Rokosh, T. Sumanasekera and H.T. Tran.** Sullivan Univ. Col. of Pharm. and Univ. of Louisville.
- S282 II **1137.14** Role of protein disulfide isomerase during vascular repair after injury. **L.Y. Tanaka, H.A. Araújo, A.A. Csordas, G.K. Hironaka, C.K. Takimura and F.R.M. Laurindo.** Heart Inst. - Hosp. Clins., Fac. of Med., Univ. of São Paulo.
- S283 I **1137.15** Novel magnetic field system: application to micropropagation of *Phalaenopsis* Gallant Beau 'George Vazquez'. **P.T. Van, J.A. Teixeira da Silva and M. Tanaka.** Kagawa Univ., Japan.
- S284 II **1137.16** A differential effect of FGF-2 on resistance to doxorubicin-induced necrotic versus apoptotic-like damage in neonatal rat cardiomyocyte cultures. **J. Wang, M. Bock and P.A. Cattini.** Univ. of Manitoba.
- S285 I **1137.17** The modulation of NF-kappaB-p65 with glutathionylation in 15-deoxy-D12,14 -prostaglandin J2-treated endothelial cells. **B-S. Wung.** Natl. Chiayi Univ., Taiwan.
- S286 II **1137.18** Role of mitochondria in hyperoxia adaptation. **H. Zhao and G.G. Haddad.** UCSD and The Rady Children's Hosp.

### 1138. CARDIOVASCULAR RESPONSES TO EXERCISE

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S287 I **1138.1** Voluntary physical activity modulates hypoxia response of sickle cell disease SAD mice. **C. Martin, E. Aufradet and V. Pialoux.** Univ. of Lyon.
- S288 II **1138.2** Physical activity blunts oxidative stress response to exercise in sickle cell trait carriers. **V. Pialoux, E.N. Chirico, C. Faes, E. Aufradet, L. Féasson, L. Messonnier and C. Martin.** Univ. Lyon 1, Univ. of Saint-Etienne and Univ. of Savoie, France.
- S289 I **1138.3** Racial difference in central stiffness and arterial structure following aerobic exercise training. **S. Ranadive, H. Yan, A.D. Lane, P. Sun, R. Kappus, M.D. Cook and B. Fernhall.** Univ. of Illinois at Urbana-Champaign.
- S290 II **1138.4** Impact of endothelial nitric oxide synthase gene polymorphisms on hemodynamic after a bout of maximal dynamic exercise. **B.M. Silva, F.S. Pereira, F.J. Neves, N.G. Rocha, A.R. Sales, R.F. Medeiros, F.T. Pereira and A.C. Nóbrega.** Fluminense Fed. Univ., Brazil.
- S291 I **1138.5** Functional study of tumor suppressor p53 gene variation: effect on cardiovascular adaptation to exercise training. **B. Kim, P. Hart, M. Kang, S. Roth, M.D. Brown, J.M. Hagberg and J-Y. Park.** Temple Univ., Middle Tennessee State Univ. and Univ. of Maryland College Park.
- S292 II **1138.6** Maternal exercise during pregnancy alters vascular smooth muscle relaxation in offspring. **M. Bahls, R.D. Sheldon, P. Taheripour, K.A. Clifford, K.B. Foust, R.A. Cabot and S.C. Newcomer.** Purdue Univ.

- S293 I 1138.7 Uterine artery vasoconstriction during exercise in rat pregnancy. **K.P. O'Hagan, C. Lashley, D.A. Supik, J.T. Atkinson and R.J. Murphy.** Midwestern Univ., IL.
- S294 II 1138.8 Acute oral ingestion of ascorbic acid improves muscle blood flow and oxygen consumption during exercise in older healthy humans. **J.C. Richards, A.R. Crecelius, B.S. Kirby, L.J. Garcia, D.G. Larson, G.J. Luckasen and F.A. Dinunno.** Colorado State Univ. and Med. Ctr. of Rockies, Loveland, CO.
- S295 I 1138.9  $\alpha$ -Adrenergic vasoconstriction contributes to the blunted skeletal muscle contraction-induced rapid vasodilation with aging. **D.P. Casey, B.G. Walker, E.A. Mohamed, S.K. Roberts and M.J. Joyner.** Mayo Clin.
- S296 II 1138.10 Reduced large elastic artery stiffness in older exercising adults is associated with suppressed nuclear factor kappa B signaling. **K.L. Jablonski, A.J. Donato, B.S. Fleenor, M.J. Russell, A.E. Walker and D.R. Seals.** Univ. of Colorado Boulder.
- S297 I 1138.11 Effects of lifelong endurance exercise on cardiovascular response to orthostatic stress in the elderly athletes. **N. Fujimoto, G. Carrick-Ranson, P.S. Bhella, J.L. Hastings, S. Shibata, D. Palmer and L.D. Benjamin.** Texas Hlth. Presbyterian Hosp. Dallas and Univ. of Texas Southwestern Med. Ctr.
- S298 II 1138.12 Physical training promotes different cardiac autonomic adaptations after premature and physiological ovarian failure in aged rats. **G.C.S.V. Tezini, D.P.M. Dias and H.C.D. Souza.** Sch. of Med. of Ribeirão Preto, Univ. of São Paulo.
- S299 I 1138.13 Regulation of the pressor reflex response during progressive handgrip exercise in heart failure. **Z. Barrett O'Keefe, M.A.H. Witman, R.S. Richardson and D.W. Wray.** Univ. of Utah and VA Med. Ctr.
- S300 II 1138.14 Exercise alone limits reductions in intimal smooth muscle K<sup>+</sup> current in a swine model of coronary artery disease. **D.L. Tharp, J.R. Ivey and D.K. Bowles.** Univ. of Missouri-Columbia.
- S301 I 1138.15 Effects of acute exercise on circulating endothelial progenitor cells and endothelial function in patients with increased cardiometabolic risk. **N.G. Rocha, A.R.K. Sales, M.S. Silva, R.L. Miranda, S.B. Carvalho, J.R.F. Silva, B.M. Silva, A.A. Santos and A.C.L. Nóbrega.** Fluminense Fed. Univ., Brazil.
- S302 II 1138.16 Effect of aerobic training on the deposition of collagen fibers and glomerular proteoglycans in hypertensive rats. **Á.M. Batista, Jr., T.P. Alves, L.J. El Chaar, T.C. Souza-Oliveira, N.B. Rabechi, C.J. Piva, M.T. Jordão, K.A. Viegas, L.C. Michelini and S. Lacchini.** Univ. of São Paulo.
- S303 I 1138.17 Low-intensity interval exercise training normalizes coronary blood flow-O<sub>2</sub> demand coupling and improves cardiac efficiency in miniature swine with LV hypertrophy. **C.A. Emter.** Univ. of Missouri-Columbia.
- S304 II 1138.18 The role of exercise on oxidative stress and inflammation in macrophages involved in atherosclerosis. **E.N. Chirico, D. Patsouris, A. Geloën, J. Rieusset, V. Pialoux and E. Canet-Soulas.** INSERM U1060, Univ. Lyon 1, Oullins and Univ. Lyon 1, Villeurbanne.
- S305 I 1138.19 Reductions in nitric oxide production within the nucleus tractus solitarius contributes to exercise pressor reflex overactivity in hypertension. **M.N. Murphy, M. Mizuno, R. Downey and S.A. Smith.** Univ. of Texas Southwestern Med. Ctr.
- S306 II 1138.20 Glutathione protects against exercise-induced oxidative stress in mature db/db mice hearts. **S. Ghosh, S. Halder, J. Beam and R. Bahniwal.** Univ. of British Columbia-Okanagan.
- S307 I 1138.21 Aerobic exercise training partially reverses inward hypertrophic coronary arteriole remodeling in type 2 diabetic db/db mice. **A.J. Trask, M.A. Delbin, P.S. Katz, A. Zanesco and P.A. Lucchesi.** Nationwide Children's Hosp., The Ohio State Univ. Col. of Med. and Univ. Estadual Paulista, Brazil.
- S308 II 1138.22 Blunted exercise-induced vasodilation in familial hypercholesterolemic swine does not involve enhanced ET-1-mediated vasoconstriction. **S.B. Bender, V.J. de Beer, D.L. Tharp, D.K. Bowles, D.J. Duncker, M.H. Laughlin and D. Merkus.** Univ. of Missouri-Columbia and Erasmus Med. Ctr. Rotterdam.
- S309 I 1138.23 Expression of T-cadherin in a hereditary hypercholesterolemic swine model. **A.A. Arce-Esquivel, J.R. Turk and M.H. Laughlin.** Univ. of Missouri-Columbia.
- S310 II 1138.24 Exercise training improves coronary microvascular arteriolar function in familial hypercholesterolemia porcine model via Nrf2. **S. Lee, Y. Park, M.Y. Zuidema, M.H. Laughlin, D.K. Bowles, C. Baines, M. Hannink, M.A. Hill, K.C. Dellsperger and C. Zhang.** Univ. of Missouri-Columbia and Texas Tech Univ.
- S311 I 1138.25 Reduced NO bioavailability hampers exercise-induced vasodilation in familial hypercholesterolemic swine. **V.J. de Beer, D. Merkus, S.B. Bender, D.L. Tharp, J.R. Ivey, D.K. Bowles, D.J. Duncker and M.H. Laughlin.** Erasmus Med. Ctr., Rotterdam and Univ. of Missouri-Columbia.
- S312 II 1138.26 Postexercise histamine-receptor activation contributes to VEGF expression in human skeletal muscle. **S.A. Romero, A.D. Hocker, S.M. Ratchford, H.C. Dreyer and J.R. Halliwill.** Univ. of Oregon.
- S313 I 1138.27 Mechanisms of skeletal muscle contraction-induced rapid vasodilation in humans: role of vascular hyperpolarization. **B.S. Kirby, A.R. Crecelius, J.C. Richards, L.J. Garcia, G.J. Luckasen, D.G. Larson and F.A. Dinunno.** Colorado State Univ. and Med. Ctr. of Rockies Fndn., Loveland, CO.
- S314 II 1138.28 Mechanism of reactive dilation in soleus feed arteries. **E.J. Gray, M.R. Carter and J.L. Jasperse.** Pepperdine Univ.
- S315 I 1138.29 Evidence of the regulatory potential of human skeletal muscle feed arteries. **S.J. Ives, R.H. Andtbacka, R.D. Noyes, A.J. Donato, S.Y. Park, J. Gifford, L.A. Lesniewski, J.P. McCullagh and R.S. Richardson.** Univ. of Utah and Huntsman Cancer Hosp.
- S316 II 1138.30 Comparison of aerobic capacity and heart rate variability between elite and college soccer players. **K-T. Lee, C-T. Su and A-L. Yang.** Taipei Phys. Educ. Col. and Fu Jen Catholic Univ., Taiwan.
- S317 I 1138.31 Effects of prior endurance exercise on postprandial lipemia-induced changes in circulating angiogenic cytokines in young men. **R.Q. Landers-Ramos, N.T. Jenkins, E.E. Spangenburg, J.M. Hagberg and S.J. Prior.** Univ. of Maryland College Park, Univ. of Maryland Sch. of Med. and Baltimore VA GRECC.
- S318 II 1138.32 Differential effects on regional pulse wave velocity and augmentation index following maximal exercise in healthy young men. **K.J. New, A. Morgan, T. Harris, L. Fall, J. Brugniaux and D.M. Bailey.** Univ. of Glamorgan, U.K.

- S319 I **1138.33** Lifelong exercise improves cardiac baroreflex function but not dynamic cerebral autoregulation in older adults. **V.L. Aengevaeren, K. Armstrong, D. Palmer, B. Levine and R. Zhang.** Texas Hlth. Presbyterian Hosp. Dallas, Univ. of Texas Southwestern Med. Ctr. and Radboud Univ. Nijmegen Med. Ctr., Netherlands.
- S320 II **1138.34** Effects of one set moderate strength exercise on cardiovascular parameters. **F.N. Macedo, V.U. Melo, M.N.S. Santana, K.M. Oliveira, L.R. Oliveira, M.R.V. Santos, D. Badauê-Passos, A.S. Barreto and V.J. Santana-Filho.** Fed. Univ. of Sergipe, Brazil.
- S321 I **1138.35** Effects of exercise training on NASH-induced oxidative stress in heart of rats. **W-C. Huang, C-C. Chan, S-K. Hung, A-L. Yang and S-C. Tsai.** Taipei Phys. Educ. Col., Natl. Yang-Ming Univ. and Taipei Veterans Gen. Hosp., Taiwan.
- S322 II **1138.36** Acute exercise increases prostate tumor blood flow in rats. **D.J. McCullough, J.N. Stabley, R.T. Davis III, D.W. Siemann and B.J. Behnke.** Univ. of Florida.
- S323 I **1138.37** Effects of physical exercise and high fructose diet on cardiac autonomic control in rats. **D. Farah, J.P. Nunes, A.C.C. Bechara, R. Yokota, M. Sartori, M.C. Irigoyen, K. De Angelis, P. Fiorino and V. Farah.** Mackenzie Univ., Fed. Univ. of São Paulo, Heart Inst.-INCOR, São Paulo and Univ. Nove de Julho, Brazil.
- S324 II **1138.38** Effect of a cold pressor test on the cardiovascular responses to static handgrip exercise and peak force production. **D. Kimmerly and R. Chisholm-Drane.** Sch. of Hlth. and Human Performance, Dalhousie Univ., Canada.
- S325 I **1138.39** Impact of cholinergically-mediated vasodilation on blood pressure at the onset of exercise in humans. **L.C. Vianna, P.J. Fadel, N.H. Secher and J.P. Fisher.** Univ. of Missouri-Columbia, Univ. of Copenhagen and Univ. of Birmingham Sch. of Sport & Exer. Sci.
- S326 II **1138.40** Effects of continuous positive airway pressure on time to fatigue and hemodynamics during sustained heavy exercise in healthy subjects. **P.P.S. Soares, T.R. Gonçalves, R.B. Barros and P.T.V. Farinatti.** Fluminense Fed. Univ., Niterói, Brazil and Rio de Janeiro State Univ.
- S327 I **1138.41** Posterior cerebral artery blood flow response to visual stimulation during exercise. **Y. Yamaguchi, T. Ikemura, H. Kashima and N. Hayashi.** Grad. Sch. of Human Envrn. Studies, Kyushu Univ., Japan.
- S328 II **1138.42** Voluntary exercise induces chromatin remodeling in the heart. **H.M. Medford, K.E. Hall, E.J. Cox, K. Porter and S.A. Marsh.** Washington State Univ.
- S329 I **1138.43** Vascular hyperpolarization contributes to onset and steady-state exercise hyperemia in humans. **A.R. Crecelius, B.S. Kirby, J.C. Richards, L.J. Garcia, G.J. Luckasen, D.G. Larson and F.A. Dinunno.** Colorado State Univ. and Poudre Valley Hlth. Syst.
- S330 II **1138.44** Role of BK<sub>Ca</sub> in endothelium-dependent dilation of soleus feed arteries. **N.L. Rawicki, E.J. Gray, M.R. Carter and J.L. Jasperse.** Pepperdine Univ.
- S331 I **1138.45** Nitric oxide synthase inhibition blunts the kinetics of vasodilation during dynamic forearm exercise. **E.A. Mohamed, M.J. Joyner, B.G. Walker and D.P. Casey.** Mayo Clin.
- S332 II **1138.46** Nifedipine does not open intrapulmonary arteriovenous anastomoses in healthy human subjects during exercise breathing 100% O<sub>2</sub>. **J. Elliott, S. Laurie and A. Lovering.** Univ. of Oregon.
- S333 I **1138.47** Real-time continuous monitoring of myocardial blood flow response to dynamic exercise with laser Doppler flowmetry in conscious rats and mice. **H. Tsuchimochi, T. Sonobe and M. Shirai.** Natl. Cerebral and Cardiovasc. Ctr. Res. Inst., Suita, Japan.
- S334 II **1138.48** Middle cerebral artery blood velocity during running: interactions of heart and stride impact rates. **E. Wasson, C. Harper, A. Subudhi, S. Schneider, N. Maestas, D. Gutierrez, R. Roach and E. Greene.** Univ. of New Mexico, Univ. of Colorado Denver, Aurora and New Mexico Highlands Univ.
- S335 I **1138.49** A useful, innovative, and visual method to quantify fitness and heart failure. **J.E. Hansen, X-G. Sun and W.W. Stringer.** Harbor-UCLA Med. Ctr.
- S336 II **1138.50** Effect of a simulated functional magnetic resonance imaging scanner on resting and exercise-induced changes in cardiovascular function. **A. Kates, H. Van Gestel and D. Kimmerly.** Sch. of Hlth. and Human Performance, Dalhousie Univ., Canada.
- S337 I **1138.51** Peripheral delta opioid receptors attenuate the exercise pressor reflex in decerebrate rats. **A.K. Leal, K. Yamauchi, A.J. Stone and M.P. Kaufman.** Penn State Col. of Med.

### 1139. CARDIAC MUSCLE PHYSIOLOGY

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S338 I **1139.1** Carbonic anhydrase XIV bound to and increases the AE3-mediated Cl<sup>-</sup>/HCO<sub>3</sub><sup>-</sup> exchange activity in the hypertrophic heart. **B.V. Alvarez and L.A. Vargas.** CONICET, Fac. of Med. Sci., Natl. Univ. of La Plata, Argentina.
- S339 II **1139.2** Junctophilin 2 is reduced in the border zone 3 hours after a myocardial infarction in sheep heart. **C. Ingalls, C. Baumann, N. Gahlot, W. Santamore, J.H. Gorman and R.C. Gorman.** Georgia State Univ., Temple Univ. and Univ. of Pennsylvania.
- S340 I **1139.3** β-Adrenergic receptor-stimulated cardiac myocyte apoptosis and myocardial remodeling are modulated by exogenous ubiquitin. **C.R. Daniels, C.R. Foster, S. Yakoob, M. Singh and K. Singh.** East Tennessee State Univ. and JHQ VA Med. Ctr., Mountain Home, TN.
- S341 II **1139.4** Ghrelin ameliorates doxorubicin-induced cardiomyopathy and cardiac fibrosis. **P.M. Siu, X.M. Pei, I.F. Benzie and M. Ying.** Hong Kong Polytech Univ.
- S342 I **1139.5** NOS1-dependent S-nitrosylation of cardiac calcium-handling proteins (RyR2, SERCA, and L-type Ca<sup>2+</sup> channel) modulates basal contractility and adrenergic inotropism. **A.Z. Vielma, G. Eller, D.R. González and M.P. Boric.** Pontifical Catholic Univ. of Chile and Univ. of Talca, Chile.
- S343 II **1139.6** Modulation of the ubiquitin proteasome system in thyroid hormone-induced cardiac hypertrophy. **C.A. Lino and M.L.M. Barreto-Chaves.** Univ. of São Paulo.
- S344 I **1139.7** α-Dystrobrevin functions to reinforce the interaction between dystrophin and the membrane, loss of α-dystrobrevin results in significant loss of cardiac reserve. **D. Townsend, J. Dean and K. Sharpe.** Univ. of Minnesota, Minneapolis.



- S345 II 1139.8 Role of AT2 receptor in the cardioprotective response induced by thyroid hormone. **M.L.M. Barreto-Chaves, D.A. Gomes and F.M. Tavares.** Univ. of São Paulo.
- S346 I 1139.9 Role of AMPK in the cardiomyocyte hypertrophy induced by thyroid hormone. **A.P.C. Takano, G.P. Diniz and M.L.M. Barreto-Chaves.** Univ. of São Paulo.
- S347 II 1139.10 Pregnancy induces cardiac hypertrophy with hypercontractile ventricular myocytes. **K. Kennard, L. Foster-Bey, D. Yanessa and B.A. Bailey.** Ursinus Col., PA.
- S348 I 1139.11 Intermittent dobutamine administration mimicked exercise-induced cardiac phenotype and protected against left ventricular acute pressure overload. **D. Gonçalves, T. Henriques-Coelho, H. Fonseca, R. Ferreira, A.I. Padrão, C. Santa, S. Vieira, F. Amado, A. Leite-Moreira and J. Alberto Duarte.** Univ. of Porto and Univ. of Aveiro, Portugal.
- S349 II 1139.12 Treatment of male mice with estrogen for the study of contractile dysfunction. **G. Kararigas, V. Bitó, B.T. Nguyen, H. Jarry, K.R. Sipido and V. Regitz-Zagrosek.** Charité Univ. Hosp., Berlin, Univ. of Leuven, Belgium, Goettingen Univ. Hosp. and Hanoi Univ. of Agr.

#### 1140. SMOOTH MUSCLE PHYSIOLOGY AND PHARMACOLOGY

##### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S350 I 1140.1 Conditional inactivation of the splicing regulator Tra2 $\beta$  shifts myosin phosphatase isoforms and enhances smooth muscle sensitivity to cGMP-mediated relaxation. **B. Bhetwal, K. Fu, Y. Mende, B. Perrino, B. Wirth and S. Fisher.** Univ. of Nevada Reno, Case Western Reserve Univ., Univ of Cologne and Univ of Maryland Baltimore.
- S351 II 1140.2 Bisphenol A decreases BK channel expression in rat aorta via genomic mechanisms. **S. Asano, I.S. Fancher and G.M. Dick.** West Virginia Univ.
- S352 I 1140.3 Impaired cavernosal relaxation in angiotensin-II infused mice is improved by deletion of Toll like receptor 4. **K.P. Nunes, G.F. Bonfim, M.H. Carvalho and R.C. Webb.** Georgia Hlth. Sci. Univ. and Univ. of São Paulo.
- S353 II 1140.4 Reduced functionality of renin-angiotensin-aldosterone system in young rats exposed to high-salt diet. **S. Crestani, A. Garparotto Junior, M.C.A. Marques, J.C. Sullivan, R.C. Webb and J.E. da Silva Santos.** Georgia Hlth. Sci. Univ. and Fed. Univ. of Parana and Fed. Univ. of Santa Catarina, Brazil.
- S354 I 1140.5 *Arctium lappa* improves penile erection in penile smooth muscle. **X. Lee, H.Y. Kim, J.H. Kho, O.J. Kwon, D.G. Kang and H.S. Lee.** Wonkwang Univ., South Korea.
- S355 II 1140.6 Substance P-induced increase in brain-derived neurotrophic factor expression and secretion by intestinal smooth muscle is mediated by a rise in intracellular Ca<sup>2+</sup>. **M.A. Alqudah, S. Mahavadi, K. Srinivasa and J.R. Grider.** Virginia Commonwealth Univ. and JUST, Jordan.
- S356 I 1140.7 Involvement of vascular Kv7 potassium channels in the pathogenesis of cerebral vasospasm. **B.K. Mani and K.L. Byron.** Loyola Univ. Chicago Med. Ctr.

- S357 II 1140.8 Dicer-deletion in the detrusor reduces contractility and expression of L-type Ca<sup>2+</sup> channels. **M. Karbalaei Sadegh, M. Ekman, C. Rippe, B. Uvelius, K. Swärd and S. Albinsson.** Lund Univ., Sweden.
- S358 I 1140.9 Reduced detrusor contractility in cavin-1 deficient mice. **M. Karbalaei Sadegh, B. Uvelius, M. Ekman, K. Swärd and C. Rippe.** Lund Univ., Sweden.
- S359 II 1140.10 Inhibition of phosphodiesterases relaxes urinary bladder smooth muscle via activation of the large conductance voltage- and Ca<sup>2+</sup>-activated K<sup>+</sup> channels. **W. Xin, Q. Cheng, R.P. Soder and G.V. Petkov.** Univ. of South Carolina.
- S360 I 1140.11 Mechanisms related to the thyroid hormone-induced vasorelaxation: contribution of reactive oxygen species and purinergic signaling. **C.R.F. Basso and M.L.M. Barreto-Chaves.** Univ. of São Paulo.

#### 1141. MECHANICAL MUSCLE DAMAGE (POSTERS)

##### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S361 I 1141.1 Titin is not the weak link in the Z-disk streaming induced by plyometric exercise. **F. Macaluso, A.W. Isaacs and K.H. Myburgh.** Stellenbosch Univ., South Africa.
- S362 II 1141.2 Biochemical diversity of human skeletal muscle. **T.F. Tirrell, M. Cook, J.A. Carr, A.J. Choi, E. Lin, M.C. Esparza, S.R. Ward and R.L. Lieber.** UCSD and Univ. of Minnesota, Minneapolis.
- S363 I 1141.3 Dysferlin maintains the integrity of transverse tubules and the junctional sarcoplasmic reticulum following contraction-induced injury. **J.A. Roche, W.G. Resneck, A.L. Mueller and R.J. Bloch.** Univ. of Maryland Sch. of Med.
- S364 II 1141.4 In vivo studies of motor nerve re-growth following skeletal muscle damage by lengthening contractions. **A. Vasilaki, A. Kayani, T. Pearson, A. McArdle and M. Jackson.** Univ. of Liverpool.
- S365 I 1141.5 Differences in alcohol versus aqueous extracts of North American ginseng in protecting against eccentric exercise-induced muscle damage in rats. **M. Estaki and E.G. Noble.** Univ. of Western Ontario Sch. of Kinesiol.
- S366 II 1141.6 Rate of force recovery immediately following lengthening contractions for various mouse models of muscular dystrophy. **E.P. Rader, R. Han, J.R. Levy, D. Bansal and K.P. Campbell.** Univ. of Iowa and Loyola Univ. Med. Ctr.
- S367 I 1141.7 Contractile properties of mice deficient in dystrophin and the NADPH subunit p47<sup>phox</sup>. **J.A. Engle, E.P. Rader and K.P. Campbell.** Univ. of Iowa.

#### 1142. EXERCISE RESPONSES AND TRAINING

##### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S368 I 1142.1 Age effects on aerobic exercise-induced reductions in pain sensitivity in female Sprague-Dawley rats. **C.J. Dykstra-Aiello and K.A. Carlberg.** Eastern Washington Univ.

- S369 II 1142.2 Human skeletal muscle microvascular blood volume: effects of aging, feeding and exercise training. **B. Phillips, K. Varadhan, P. Atherton, M. Rennie, K. Smith and J. Williams.** Univ. of Nottingham and Southern Derbyshire Acute Hosps. NHS Trust, U.K.
- S370 I 1142.3 The effect of resistance exercise combined with cholesterol intake on serum lipid profile in elderly men and women. **V.C.W. Chen, C.W. Lee, T.V. Lee and S.E. Reichman.** Texas A&M Univ.
- S371 II 1142.4 Monitoring exercise intensity during long-term endurance exercise training in aging rats. **M. Hoffman, T. Akins, G.P. Barton, S. McKiernan, J. Aiken and G. Diffie.** Univ. of Wisconsin-Madison and Univ. of Alberta.
- S372 I 1142.5 Acute aerobic exercise increases AdipoR1 and RAGE proteins and decreases HSP60 protein in skeletal muscle of physically inactive older adults. **M.M. Markofski, K.L. Timmerman, P.T. Reidy, J.M. Dickinson, D.K. Walker, J.Z. Timmerman, B.B. Rasmussen and E. Volpi.** Univ. of Texas Med. Branch.
- S373 II 1142.6 Effect of exercise on the mitochondrial profile of testicular tumors in aged Fischer 344 rats. **A.E. Welter, L.M-D. Nguyen, B.J. Behnke, J.M. Dominguez II and P.J. Adihetty.** Univ. of Florida.
- S374 I 1142.7 Voluntary exercise reduces cachexia and improves muscle function in mice carrying mammary gland tumors. **N. Ivarsson, H. Rundqvist, A. Östman and H. Westerblad.** Karolinska Inst.
- S375 II 1142.8 Anemia-declined functional capacity is associated with impaired erythrocyte rheological function in patients with heart failure. **C-L. Chiang, S-L. Chou, S-Y. Chang and J-S. Wang.** Natl. Taiwan Sport Univ., Chang Gung Univ. and Indust. Technol. Res. Inst., Tao Yuan, Taiwan.
- S376 I 1142.9 Exercise periodic breathing impairs functional capacity by reducing the ventilatory-hemodynamic efficiency in patients with heart failure. **T-C. Fu, H-C. Lin and J-S. Wang.** Chang Gung Univ., Chang Gung Mem. Hosp., Keelung and Indust. Technol. Res. Inst., Tao Yuan, Taiwan.
- S377 II 1142.10 Aerobic interval training improves hemodynamic response to exercise by enhancing erythrocyte rheological function in patients with heart failure. **S-L. Chou, R-R. Chen and J-S. Wang.** Chang Gung Univ., Taiwan and Indust. Technol. Res. Inst., Hsinchu, Taiwan.
- S378 I 1142.11 Hemodynamic and autonomic benefits of exercise training in myocardial infarction persists after 30 days of detraining. **C. Barboza, L.Y. Rocha, D.S. Dias, R.R. de Souza, E.C. Caperuto, K. De Angelis, M.C. Irigoyen and B. Rodrigues.** São Judas Tadeu Univ., Nove de Julho Univ., Brazil and Heart Inst., São Paulo.
- S379 II 1142.12 Mathematical model of mixed venous SO<sub>2</sub> transients at onset of exercise in discrete capillary networks. **G.M. Fraser, D. Goldman, J. Kowalchuk and C.G. Ellis.** Sch. of Kinesiol., Univ. of Western Ontario.
- S380 I 1142.13 Effects of endurance exercise training, metformin, and their combination on adipose tissue cytokine secretion in a rat model of type 2 diabetes. **N.T. Jenkins, J. Padilla, J.S. Martin, R.S. Rector, J.P. Thyfault, F.W. Booth and M.H. Laughlin.** Univ. of Missouri-Columbia and Harry S Truman VA Mem. Hosp.
- S381 II 1142.14 Can diabetes prevention program increase resting leg blood flow and antegrade shear rate in patients with metabolic syndrome? **R.E. Johansson, J.K. Limberg, P.E. McBride and W.G. Schrage.** Sch. of Med. and Publ. Hlth., Univ. of Wisconsin-Madison.
- S382 I 1142.15 A novel role for adipose tissue in exercise-induced improvements in glucose homeostasis. **K.I. Stanford, R.J.W. Middelbeek, D. An, K.L. Townsend, K.R. Markan, K.M. Hitchcox, K. Hellbach, M.F. Hirshman and L.J. Goodyear.** Joslin Diabetes Ctr.
- S383 II 1142.16 Impact of short-term aerobic and resistance training on acute post-exercise blood glucose in type 1 diabetic rodents. **M.W. McDonald, K.E. Hall and C.W.J. Melling.** Univ. of Western Ontario Sch. of Kinesiol. and Sch. of Hlth. and Rehabil. Sci.
- S384 I 1142.17 Heterogeneity in total body fat changes after aerobic exercise training is similar in women with lower and higher amounts of body fat. **B. Sawyer, D. Bhammar, S. Angadi, D. Ryan, J. Ryder and G. Gaesser.** Arizona State Univ.
- S385 II 1142.18 Physical training modulates adiposity and protects mice from obesity and glucose intolerance. **T.S. Higa, A.V. Spinola, M.H. Fonseca-Alaniz and F.S. Evangelista.** Sch. of Phys. Educ. and Sport, Med. Sch. and Sch. of Arts, Sci. and Humanities, Univ. of São Paulo.
- S386 I 1142.19 Caloric restriction, aerobic exercise or a combination improves metabolic profiles following diet-induced obesity. **E.L. Glynn, J. An, L-P. Wang, O.R. Ilkayeva, R.D. Stevens, J.R. Bain, M.J. Muehlbauer, T.R. Koves, S.A. Summers, D.M. Muoio and C.B. Newgard.** Duke Univ. Med. Ctr. and Duke-NUS Med. Ctr., Singapore.
- S387 II 1142.20 Acetylcholine and insulin-mediated vasodilation in feed arteries and arterioles of rat skeletal muscle of different fiber type composition. **J. Padilla, N.T. Jenkins, J.S. Martin, J.M. Crissey, S.B. Bender, R.S. Rector, J.P. Thyfault and M.H. Laughlin.** Univ. of Missouri-Columbia.
- S388 I 1142.21 Combined effect of flow-mediated shear stress and resveratrol on Sirt1/PGC-1 $\alpha$  pathway in vascular endothelial cells. **J.S. Kim, B. Kim and J-Y. Park.** Temple Univ.
- S389 II 1142.22 Aerobic interval training improves muscular oxygen utilization and depresses vascular endothelial shedding in sedentary males. **H-H. Tsai, J-D. Chen and J-S. Wang.** Chang Gung Univ., Taiwan and Indust. Technol. Res. Inst., Hsinchu, Taiwan.
- S390 I 1142.23 Hypoxic exercise training improves cardiac and muscular hemodynamics by modulating circulating progenitor cells in sedentary men. **J-S. Wang and M-Y. Lee.** Chang Gung Univ., Taiwan.
- S391 II 1142.24 Hypoxic exercise training affects thrombin generation by modulating platelet-derived procoagulant microparticles under shear flow. **Y-C. Chen, Y-W. Chen and J-S. Wang.** Chang Gung Univ., Taiwan.
- S392 I 1142.25 Chronic administration of a thrombospondin-1 mimetic: upsetting exercise capacity and the angiogenic balance in skeletal muscle. **G.N. Audet, S.A. Olenich, J.C. Stricker, K.A. Roberts and I.M. Olfert.** West Virginia Univ. Sch. of Med. and West Virginia Wesleyan Col.
- S393 II 1142.26 Genetics shift the angio-adaptive balance in skeletal muscle of mice selected for high running capacity. **G.N. Audet, T.H. Meek, T. Garland, Jr. and I.M. Olfert.** West Virginia Univ. Sch. of Med. and Univ. of California, Riverside.
- S394 I 1142.27 Upregulation of endogenous antioxidant defenses by Nrf2 activation does not blunt exercise-induced mitochondrial biogenesis in rats. **D. Reuland, L. Biela, F. Peelor, J. Drake, B. Miller and K. Hamilton.** Colorado State Univ.

- S395 II 1142.28 Control of muscle  $VO_2$  kinetics: a role for metabolic rate? **R.C.I. Wüst, J.R. McDonald, B.S. Ferguson, Y. Sun, M.J. Rogatzki, J. Spires, J.M. Kowalchuk, L.B. Gladden and H.B. Rossiter.** Univ. of Leeds, Auburn Univ., Case Western Reserve Univ. and Univ. of Western Ontario.
- S396 I 1142.29 The effects of play-based physical activity on metabolic signatures in adolescents. **M.E. Gulas and S. Collier.** Appalachian State Univ.
- S397 II 1142.30 Mild exercise elicits de novo synthesis of hippocampal dihydrotestosterone and enhanced neurogenesis in adult male rats. **M. Okamoto, Y. Hojo, K. Inoue, T. Matsui, M.C. Lee, S. Kawato and H. Soya.** Univ. of Tsukuba, Japan Soc. for Promotion of Sci., Chiyoda-ku and Univ. of Tokyo.
- S398 I 1142.31 Effects of physical training on neuronal hypothalamic activation induced by exercise. **H.P. Santiago, L.H.R. Leite, P.M. Lima, G.V. Rodovalho, R.E. Szawka and C.C. Coimbra.** Fed. Univ. of Minas Gerais and Fed. Univ. of Juiz de Fora, Brazil.
- S399 II 1142.32 Central NO-signaling is important to PVN activation, improving heat dissipation and exercise performance. **P.M. Lima, H.P. Santiago and C.C. Coimbra.** Fed. Univ. of Minas Gerais, Brazil.
- S400 I 1142.33 Involuntary exercise is a better stimulus than voluntary exercise to increase GDNF protein content in adult rat spinal cord. **M.J. McCullough, A.M. Gyorkos and J.M. Spitsbergen.** Western Michigan Univ.
- S401 II 1142.34 Exercise-induced cardioprotection is dependent on enhanced glutathione reductase activity. **C.R. Frasier, R.C. Sloan, B. Hayes and D.A. Brown.** East Carolina Univ.
- S402 I 1142.35 Exercise blood pressures are lower after aquatic compared to land treadmill training. **S.F. Crouse, B.S. Lambert, N.P. Greene, T.W. Constanzo and S.E. Martin.** Texas A&M Univ. and Univ. of Virginia.
- S403 II 1142.36 Racial differences in blood pressure after exercise in young individuals. **H. Yan, S.M. Ranadive, P. Sun, A.D. Lane, R.M. Kappus, C.A. Fahs, L. Rossow and B. Fernhall.** Univ. of Illinois at Urbana-Champaign, East China Normal Univ. and Univ. of Oklahoma.
- S404 I 1142.37 Role of estrogen therapy associated with physical training on oxidative stress profile in ovariectomized rats. **S. de Brito, J.O. Brito, N. Bernardes, D.S. Dias, S. Llesuy, M-C. Irigoyen and K. De Angelis.** Nove de Julho Univ., Brazil, Buenos Aires Univ. and Univ. of São Paulo.
- S405 II 1142.38 Maternal continuous versus intermittent exercise and the fetal heart. **L.E. May, R.R. Suminski and K.M. Gustafson.** Kansas City Univ. of Med. and Biosci. and Univ. of Kansas Med. Ctr.
- S406 I 1142.39 Influence of daily ethanol injection on compensatory hypertrophy in the rat. **J.M. Blank, H.M. Fugle, C.J. Malcolm, D. Mendoza, E.K. Schaller and E.J. Van Houten.** California Poly State Univ., San Luis Obispo and Allan Hancock Col., CA.
- S407 II 1142.40 Exercise-induced angiogenesis, fiber size and muscle mass are reduced in skeletal myofiber-specific VEGF gene-deleted mice. **H. Delavar, K. Tang, P.D. Wagner and E.C. Breen.** UCSD.
- S408 I 1142.41 Effects of physical exercise and taurine supplementation on cardio-metabolic risk factors in high caloric-fed rats. **C. de Moraes, T.C. Rosini and E.C. de Freitas.** Sch. of Phys. Educ. and Sport, Univ. of São Paulo.
- S409 II 1142.42 Effect of exercise order on endocrine and metabolic responses to concurrent exercise. **N.W. Aguirre, J.G. Tan, D.R. Coats, B.A. Spiering, L.E. Brown, J.W. Coburn, D.A. Rubin and D.A. Judelson.** California State Univ., Fullerton and U.S. Army Res. Inst. of Environ. Med., Natick, MA.
- S410 I 1142.43 Growth hormone response to the strenuous training in professional skiers has longer recovery time than expected. **S. Kõks, E. Unt, V. Tillmann, K. Fischer, M. Alaver, T. Kiudma and A. Terasmaa.** Univ. of Tartu, Estonia and Estonian Ski Assn., Tallinn.
- S411 II 1142.44 The repeated-bout effect is compromised in the tibialis anterior muscles of mdx mice. **T.A. McBride and R. Reynolds.** California State Univ., Bakersfield.
- S412 I 1142.45 Previous day's exercise does not affect indicators of physiological stress measured during practice in male collegiate soccer players. **V.M. Dautermann and K.M.S. Johnson.** Beloit Col., WI.
- S413 II 1142.46 Exercise training-induced mitochondrial biogenesis is impaired in skeletal muscle-specific LKB1 knockout mice. **D.M. Hallowell, C.B. Tanner, M.R. Nuttall, S.K. Anderson, J.M. Bradshaw, S.R. Madsen and D.M. Thomson.** Brigham Young Univ.
- S414 I 1142.47 Endurance exercise training enhances regional femoral and tibial bone blood flow during exercise. **J.N. Stabley, R.T. Davis III, N.C. Moningka, B.J. Behnke and M.D. Delp.** Univ. of Florida.
- S415 II 1142.48 Bone metabolic markers and BMD after 10 weeks upper-body resistance training in premenopausal women. **L. Quezada, M.T.C. Liang, B. Sokmen and T.W. Spalding.** California State Polytech Univ., Pomona and Sonoma State Univ.
- S416 I 1142.49 Prevalence of fracture and low bone mineral density in competitive road cyclists. **S. Metghalchi, J. Medelli, F. Campion, M. Karlsson, A. Nevill, B. Leslie and Z. Cordero-MacIntyre.** Loma Linda Univ., Univ. Hosp., Amiens, France, Lund Univ., Sweden, Univ. of Wolverhampton, U.K. and Univ. of Waterloo, Canada.
- S417 II 1142.50 Sex differences in bone mineral density after resistance training in growing rats. **W. Joo, H. Singh, C.P. Ahles, W. Colazas, L. Lee, Y. Lee, S.V. Jaque and K.D. Sumida.** Schmid Col. of Sci., Chapman Univ. and California State Univ., Northridge.
- S418 I 1142.51 MCP-1<sup>-/-</sup> mice show blunted inflammatory cytokine response and improved recovery following exercise-induced muscle damage. **B.T. Gordon, J. McClellan, E.A. Murphy, M.D. Carmichael and J.M. Davis.** Univ. of South Carolina.
- S419 II 1142.52 Achilles tendon ablation induces scleraxis expression and neotendon formation in the plantaris tendon. **M.D. Flood, A.C. Phan, J.P. Gumucio and C.L. Mendias.** Univ. of Michigan.
- S420 I 1142.53 Back pain in school children associated with backpack use. **K.E. Anderson.** UCSD Med. Ctr.
- S421 II 1142.54 The truth behind pre-exercise drinks: males versus females. **J.M. Anderson, B. Buryanek, D. Larson and A. Bunker.** Morningside Col., IA.
- S422 I 1142.55 The effects of consuming egg-based versus bagel-based breakfasts combined with resistance training on body composition and muscular strength. **L.M. Hernandez, K. Hobb, Z. Clayton, M. Shelechi, A. Barber, Y. Petrisko, S. Hooshmand and M. Kern.** San Diego State Univ.

- S423 II 1142.56 The effect of cotton and dry wicking materials on temperature, exertion, and feeling during exercise. **K. Norkett and R. Vick.** Elon Univ., NC.
- S424 I 1142.57 Diaphragm contractile function differs among murine strains. **S. Stasko and M.B. Reid.** Univ. of Kentucky.
- S425 II 1142.58 Air displacement plethysmography weakly predicts changes in percent body fat in comparison to dual X-ray absorptiometry after aerobic exercise training in women. **D. Bhammar, B. Sawyer, S. Angadi, J. Ryder, D. Ryan and G. Gaesser.** Arizona State Univ.
- S426 I 1142.59 Mouthpiece use reduces post-exercise serum cortisol levels. **W.D. Dudgeon, T.P. Scheett, L.A. Buchanan, A.E. Strickland and D.P. Garner.** The Citadel and Col. of Charleston.
- S427 II 1142.60 Inter-participant variability in circulating cortisol and nuclear hsp90 concentrations following short-term aerobic activity. **K. Biette, M.E. Anderson, A.M. Petlow and P.J.M. Murphy.** Seattle Univ.

### 1143. BONE-MUSCLE CROSSTALK (POSTERS)

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S428 I 1143.1 Multiple-staged regulation of myogenic differentiation by prostaglandin E2. **C. Mo, S. Romero-Suarez, O. Igwe and M. Brotto.** Univ. of Missouri-Kansas City.
- S429 II 1143.2 Wnt3a a potent modulator of myogenic differentiation and muscle cell function. **S. Romero-Suarez and M. Brotto.** Sch. of Nursing, Univ. of Missouri-Kansas City.
- S430 I 1143.3 Cellular mechanisms of tendon-muscle crosstalk. **E. Abreu, S. Romero-Suarez, L. Brotto, C. Mo and M. Brotto.** Univ. of Missouri-Kansas City Schs. of Nursing, Pharm. and Med.
- S431 II 1143.4 Direct hypertrophic effects of fibroblast growth factor 23 on cardiomyocytes. **T.M. Green, L.A. Wetmore, V. Tchikrizov, C.D. Touchberry, J.R. Stubbs, L.F. Bonewald and M.J. Wacker.** William Jewell Col., MO, Sch. of Med. and Sch. of Dent., Univ. of Missouri-Kansas City and Univ. of Kansas Med. Ctr.
- S432 I 1143.5 Bad to bone: homocysteine. **N. Tyagi, N. Narayanan, S. Givvmani and S.C. Tyagi.** Univ. of Louisville.
- S433 II 1143.6 Presence of VDR and CYP27B1 in mouse C2C12 cells and skeletal muscle reveal the action of 25(OH)D3 on suppression of myoblast proliferation. **R. Srikuea, X. Zhang, J.J. McCarthy, K.A. Esser and O-K. Park-Sarge.** Col. of Med., Univ. of Kentucky.
- S434 I 1143.7 Aging, inflammation and skeletal muscle. **T.A. White, Y. Zhu, N. Giorgadze, T. Tchkonja, J.L. Kirkland and N.K. LeBrasseur.** Mayo Clin.
- S435 II 1143.8 Extensive type II muscle fiber atrophy in elderly women undergoing acute hip surgery after falling. **T. Snijders, L.B. Verdijk, M. Poeze and L.J.C. van Loon.** Sch. for Nutr. and Toxicol. Res., Maastricht Univ. Med. Ctr., Netherlands.

- S436 I 1143.9 Skeletal muscle OGT and OGA expression: associations with hormone replacement therapy, physical activity and muscle area in postmenopausal women. **M.H.M. Toivonen, E. Pöllänen, M. Ahtiainen, H. Suominen, D. Taaffe, S. Cheng, T. Takala, U. Kujala, M. Tammi, S. Sipilä and V. Kovanen.** Univ. of Jyväskylä, Finland, Univ. of Newcastle, Australia, Univ. of Oulu, Finland and Univ. of Eastern Finland.
- S437 II 1143.10 Prolonged endurance exercise decreases fiber loss and fiber atrophy in aged male rats. **G.P. Barton, S. McKiernan, T. Akins, M. Hoffman, E. Aiken, J. Martin-Koob, J. Aiken and G. Diffie.** Univ. of Wisconsin-Madison and Univ. of Alberta.
- S438 I 1143.11 Satellite cells are not prerequisite for skeletal muscle regrowth following unloading-induced atrophy. **J.R. Jackson, C.S. Fry, J.D. Lee, J. Mula, R.A. Erfani, T.J. Kirby, M.F. Ubele, B.A. Lawson, K.S. Campbell, J.J. McCarthy, C.A. Peterson and E.E. Dupont-Versteegden.** Col. of Hlth. Sci. and Col. of Med., Univ. of Kentucky.
- S439 II 1143.12 Anti-inflammatory muscle macrophage phenotype is predictive of resistance training gain in older individuals. **J.D. Lee, R.A. Erfani, M.S. Campbell, J. Mula and C.A. Peterson.** Univ. of Kentucky Col. of Hlth. Sci.

### 1144. METABOLISM IN MUSCLE

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S440 I 1144.1 Regulation of skeletal muscle oxidative phenotype by classical NF- $\kappa$ B signalling. **A. Remels, H. Gosker, A. Schols and R. Langen.** Maastricht Univ. Med. Ctr., Netherlands.
- S441 II 1144.2 TNF- $\alpha$ -induced loss of IKK- $\alpha$  in skeletal muscle: implications for skeletal muscle oxidative phenotype. **A. Remels, R. Langen, A. Schols and H. Gosker.** Maastricht Univ. Med. Ctr., Netherlands.
- S442 I 1144.3 Hypoxia-induced muscle atrophy involves direct and indirect signaling towards protein turnover regulation. **C.C. De Theye, S.E. Koehler, W.H. Lamers, A.M.W.J. Schols and R.J.C. Langen.** Maastricht Univ., Netherlands.
- S443 II 1144.4 Effects of an oral supplementation of omega-3 polyunsaturated fatty acids on the muscle mass, function, and metabolism under hypoxia. **H. Dubouchaud, M. Le Guen, V. Chaté, G. Pieroni, T. Coste and C. Pison.** Univ. Joseph Fourier, Grenoble and Univ. of the Mediterranean, Marseille.
- S444 I 1144.5 Cachexia and loss of skeletal muscle mass in a murine model of pulmonary hypertension. **B. Ahn, G.S. Frye and L. Ferreira.** Univ. of Florida.
- S445 II 1144.6 The response of genes implicated in muscle oxidative metabolism and oxidative stress to acute exercise in COPD. **I. Slot, B. van den Borst, V. Hellwig, M. Kelders, A. Schols and H. Gosker.** Maastricht Univ. Med. Ctr., Netherlands.
- S446 I 1144.7 Loss of skeletal muscle oxidative phenotype and endurance in mild-to-moderate COPD. **I. Slot, B. van den Borst, V. Hellwig, M. Kelders, A. Schols and H. Gosker.** Maastricht Univ. Med. Ctr., Netherlands.
- S447 II 1144.8 Doxorubicin impairs skeletal muscle mitochondrial respiratory capacity in skeletal muscle. **L.A.A. Gilliam, K.H. Fisher-Wellman, C-T. Lin, J.M. Maples and P.D. Neuffer.** East Carolina Univ.

- S448 I 1144.9 Mitochondrial glutathione depletion reveals a novel role for pyruvate dehydrogenase as a key H<sub>2</sub>O<sub>2</sub> emitting source. **K.H. Fisher-Wellman, C-T. Lin, L.A.A. Gilliam, B.L. Cathey and P.D. Neuffer.** East Carolina Univ. and East Carolina Diabetes and Obesity Inst.
- S449 II 1144.10 Reversal of age-related mitochondrial dysfunction in vivo by treatment with the mitochondrially targeted therapeutic SS-31. **M.P. Siegel, S.E. Kruse, G. Knowels, H.H. Szeto, P.S. Rabinovitch and D.J. Marcinek.** Univ. of Washington and Weill Cornell Med. Col.
- S450 I 1144.11 Low intensity exercise attenuates acute lipid loading-induced alterations in mitochondrial function in rat skeletal muscle. **C-T. Lin, K.H. Fisher-Wellman, C.G.R. Perry, R. Kozy, D.S. Lark, L.A.A. Gilliam, C.D. Smith and D.P. Neuffer.** East Carolina Univ.
- S451 II 1144.12 Iron deficiency causes a shift in AMP-activated protein kinase catalytic subunit composition in rat skeletal muscle. **J.F. Merrill, S.D. Hepworth, S. Willie, W.W. Winder, D.M. Thomson and C.R. Hancock.** Brigham Young Univ.
- S452 I 1144.13 Effect of bepridil in postfatigue tension of slow fibers of skeletal muscle. **D. Vázquez-Rivera, R. Montoya-Pérez, X. Trujillo, M. Huerta, E. Sánchez-Duarte, C. Cortés-Rojo, V. Meza-Carmen and A. Saavedra-Molina.** Univ. Michoacana de San Nicolás de Hidalgo and Univ. of Colima, Mexico.
- S453 II 1144.14 Mitochondrial function, but not glucose uptake, is disrupted in skeletal muscle from *Bmal1*<sup>-/-</sup> mice. **M.L. Garcia-Cazarin, M. Lefta, K.A. Esser and F.H. Andrade.** Univ. of Kentucky.
- S454 I 1144.15 Glucocorticoids attenuate calcineurin signaling and PGC-1 $\alpha$  expression in muscle during diabetes and kidney disease. **R. Price, B. Zheng and J. Gooch.** Emory Univ. and Atlanta VA Med. Ctr., Decatur.
- S455 II 1144.16 Gene profiling of muscle-specific VEGF-deficient mice: linking angiogenesis to metabolism? **S.A. Olenich, G.N. Audet, V. Szeszel-Federowicz, D.C. Chen and I.M. Olfert.** West Virginia Univ.
- S456 I 1144.17 Muscle contraction uncouples interactions between skeletal muscle ATGL and lipid droplet protein PLIN2. **R.E.K. MacPherson, P.C. Turnbull, R. Vandenboom, B.D. Roy and S.J. Peters.** Brock Univ., Canada.
- S457 II 1144.18 The manner of metabolism is different between the atrium and the ventricle. **D. Shimura, Q. Jiao, K. Kashikura, K. Endo, T. Soga, N. Goda and S. Minamisawa.** Waseda Univ. and Keio Univ., Japan.

## 1145. EXERCISE METABOLISM AND LOCOMOTION

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S458 I 1145.1 Does arm swing provide mechanical and metabolic benefits during human running? **C.J. Arellano, N.E. Look and R. Kram.** Univ. of Colorado Boulder.
- S459 II 1145.2 The effects of varying caffeine levels in a carbohydrate-containing sports drink on the metabolism and performance of triathletes. **C.P. Borgard, C. O'Hara, T.C. LaGuire and S.K. Reaves.** California Poly State Univ., San Luis Obispo.

## 1146. RESPIRATORY RESPONSES TO EXERCISE

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S460 I 1146.1 Contribution of group III and IV muscle afferents to ventilatory control during submaximal exercise in heart failure. **T.P. Olson, M.J. Joyner, J.H. Eisenach, T.B. Curry and B.D. Johnson.** Mayo Clin.
- S461 II 1146.2 Intrapulmonary shunting is an important contributor to exercise-induced arterial hypoxemia. **M.L. Bates, D.F. Pegelow, E.T. Farrell, K. Baker, E. Brodell and M.W. Eldridge.** Univ. of Wisconsin-Madison.
- S462 I 1146.3 Aerobic interval training ameliorates exertional dyspnea by improving the ventilatory-hemodynamic efficiency in patients with systolic heart failure. **S-C. Huang and J-S. Wang.** Chang Gung Univ. and Grad. Inst. of Rehabil. Sci., Taoyuan, Taiwan.
- S463 II 1146.4 Arterial PCO<sub>2</sub> can be accurately estimated using end-tidal PCO<sub>2</sub> during rest and exercise in obese subjects. **V. Bernhardt, A.M. Straub, K.M. Lavin, S. Lorenzo, T.G. Babb and G.S. Zavorsky.** Texas Hlth. Presbyterian Hosp. Dallas, Univ. of Texas Southwestern Med. Ctr., Marywood Univ., PA and The Commonwealth Med. Col., PA.

## 1147. CONTROL OF BREATHING: RESPIRATORY MOTONEURONS AND MUSCLES

### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S464 I 1147.1 Role of bone marrow-derived mesenchymal stem cells in recovery following cervical spinal hemisection. **C.B. Mantilla, W-Z. Zhan, L. Restrepo, A. Arias and G.C. Sieck.** Mayo Clin.
- S465 II 1147.2 Impact of TrkB signaling on recovery of phrenic activity after cervical spinal cord injury in rats. **G.C. Sieck, W-Z. Zhan and C.B. Mantilla.** Mayo Clin.
- S466 I 1147.3 Cervical interneuron bursting during hypoxia in anesthetized rats. **M.S. Sandhu, E.J. Gonzalez-Rothi, K-Z. Lee, N. Maling, M.A. Lane, P.J. Reier, D.M. Baekey, J.C. Sanchez and D.D. Fuller.** Univ. of Florida and Univ. of Miami.
- S467 II 1147.4 Incorporation of realistic intracellular calcium dynamics into a hypoglossal motoneuron computational model. **K.G. Horn and I.C. Solomon.** Stony Brook Univ.
- S468 I 1147.5 Gap-junction coupling in a computational model of the hypoglossal motor nucleus. **H. Memelli, K.G. Horn, L.D. Wittie and I.C. Solomon.** Stony Brook Univ.
- S469 II 1147.6 Nitric oxide activates hypoglossal motoneurons by cGMP-dependent inhibition of task channels and cGMP-independent activation of HCN channels. **I.C. Wenker, X. Chen, H. Liu, R. Horner and D.K. Mulkey.** Univ. of Connecticut and Univ. of Toronto.
- S470 I 1147.7 Genioglossus motor unit properties in a rat model of sleep apnea. **K.D. O'Halloran, A. Bradford, J.F.X. Jones and D. Edge.** University Col. Cork, Royal Col. of Surgeons in Ireland and Sch. of Med. and Med. Sci., University Col. Dublin.

- S471 II 1147.8 Increased pentobarbital insensitivity in hypoglossal (XII) motoneurons during late pregnancy is consistent with increased epsilon subunit expression in GABAA receptors. **S.M. Turner and S.M. Johnson.** Univ. of Wisconsin-Madison.
- S472 I 1147.9 State dependent modulation of breathing in rats during urethane anesthesia. **S. Pagliardini, J.J. Greer and C.T. Dickson.** Univ. of Alberta.
- S473 II 1147.10 Respiratory load compensation responses of external intercostal muscle in conscious rats. **P. Jaiswal and P.W. Davenport.** Univ. of Florida.
- S474 I 1147.11 Effects of spinal cord section on inspiratory pressure generation during high frequency spinal cord stimulation. **K.E. Kowalski and A.F. DiMarco.** Case Western Reserve Univ. and MetroHlth. Med. Ctr.

### 1148. RESPIRATORY PATTERN VARIABILITY: INSIGHTS INTO RESPIRATORY CONTROL MECHANISMS IN HEALTH AND DISEASE (POSTERS)

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S475 I 1148.1 Electrophysiological properties of RVLM pre-sympathetic and CVLM neurons involved with the sympatho-inhibitory component of the baroreflex in rats submitted to chronic intermittent hypoxia. **D.J.A. Moraes, D.B. Zoccal and B.H. Machado.** Sch. of Med. of Ribeirão Preto, Univ. of São Paulo.
- S476 II 1148.2 Neonatal gender contributes to respiratory pattern variability re-establishing stable rhythmogenesis following hypoxia. **A.J. Garcia, T. Malashchenko, N. Rotem-Kohavi and J-M. Ramirez.** Seattle Children's Res. Inst. and Univ. of Washington.
- S477 I 1148.3 Ventilatory long-term facilitation following acute intermittent or continuous hypoxaemia in awake humans: the role of carotid chemoreceptors and ventilatory drift to sustained hypercapnia. **H.S. Griffin, K. Pugh, P. Kumar and G.M. Balanos.** Univ. of Birmingham, U.K.
- S478 II 1148.4 Inactivity-induced phrenic motor facilitation is associated with decreased phrenic burst-to-burst variability. **C. Borchert, K.A. Strey, N. Baertsch and T.L. Baker-Herman.** Univ. of Wisconsin-Madison.
- S479 I 1148.5 Cardio-respiratory coupling is negligible in a rodent septic-model. **Y-H. Hsieh, F.J. Jacono and T.E. Dick.** Univ. Hosps. of Cleveland, Louis Stokes VA Med. Ctr. and Case Western Reserve Univ.
- S480 II 1148.6 Changes in central respiratory patterns and activity following acute lung injury in the in situ rat preparation. **A.R. Zaylor, D. Nethery, Y-H. Hsieh, T.E. Dick and F.J. Jacono.** Case Western Reserve Univ. and Louis Stokes VA Med. Ctr.
- S481 I 1148.7 Cystic fibrosis mice display different breathing patterns than non-CF mice. **C.K. Campanaro, R.J. Darrah, T.E. Dick, M.L. Drumm and F.J. Jacono.** Case Western Reserve Univ.
- S482 II 1148.8 Ventilatory pattern variability is associated with long-term recovery following cardiac arrest and resuscitation in rats. **K. Xu, Y. Kuang, T.E. Dick and F.J. Jacono.** Case Western Reserve Univ and Louis Stokes VA Med. Ctr.

- S483 I 1148.9 Influence of different classes of anesthetics on burst-to-burst variability of basal phrenic nerve discharge in adult in vivo rat. **T. Rahim, A. Kiridly, I.M. Reid and I.C. Solomon.** Stony Brook Univ.
- S484 II 1148.10 Quantification of burst-to-burst variability of basal phrenic nerve discharge in adult in vivo rat. **A. Kiridly, T. Rahim, I.M. Reid and I.C. Solomon.** Stony Brook Univ.
- S485 I 1148.11 A stochastic and integrative model of breathing with temporal scaling characteristics. **B.F. BuSha and S. Frone.** The Col. of New Jersey.
- S486 II 1148.12 Cardio-pulmonary coupling I: ejection fraction effects on initiator signals of next breathing. **X. Sun.** Natl. Ctr. of Cardiovasc. Dis., Beijing and LA BioMed at Harbor-UCLA Med. Ctr.
- S487 I 1148.13 Cardio-pulmonary coupling II: reduced stroke volume effects on time phase signals' combination at integrative site in CNS. **X. Sun.** Natl. Ctr. of Cardiovasc. Dis., Beijing and LA BioMed. at Harbor-UCLA Med. Ctr.

### 1149. ANABOLIC RESISTANCE TO EXERCISE WITH AGING OR DISEASE (POSTERS)

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S488 I 1149.1 Endurance, resistance, and combined training increase mixed muscle protein synthesis independently of age. **B.A. Irving, I.R. Lanza, G.C. Henderson, A. Weymiller, Y. Sun and K.S. Nair.** Mayo Clin.
- S489 II 1149.2 The effect of treadmill exercise on the regulation of protein synthesis during IL-6 induced cancer cachexia. **M. Puppa, J. White, S. Sato and J. Carson.** Univ. of South Carolina.
- S490 I 1149.3 The effects of aging and muscle contraction on AMPK activity. **S.E. Hardman, D.E. Hall, A.J. Mitchell, K.M. Black, R.A. Compton and D.M. Thomson.** Brigham Young Univ.

### 1150. ALTITUDE AND HYPOXIA

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S491 I 1150.1 Recombinant erythropoietin administration reduces exercise-induced decline in regional cerebral oxygenation at 4500 m. **S.R. Muza, J.E. Jones, C.S. Fulco, B.A. Beidleman and J.E. Staab.** U.S. Army Res. Inst. of Envrn. Med., Natick, MA.
- S492 II 1150.2 Effects of non-steroid anti-inflammatory drugs on the human hypoxic ventilatory response and acclimatization. **E.M. Ellis, R. Zarnndt, B. Ho, S. Hopkins and F.L. Powell.** UCSD, Sanford-Burnham Med. Inst. and White Mt. Res. Sta., Univ. of California, Bishop.
- S493 I 1150.3 Blood pressure stabilization as a therapeutic approach to reverse high altitude induced loss of physical capacity. **T. Schroeder, G. Hanna, D. Irwin, K. Hamilton, S. Shan, Y. Zhao and D. Radiloff.** Duke Univ. Med. Ctr., Univ. of Colorado Denver, Aurora and Colorado State Univ.

- S494 II 1150.4 Effect of hypohydration and altitude exposure on skin blood flow responses to local heating. **J. Castellani, M. Alinovi and N. Charkoudian.** U.S. Army Res. Inst. of Environ. Med., Natick, MA.
- S495 I 1150.5 Sympathetic inhibition attenuates hypoxia-induced insulin resistance. **G.L. Peltonen, R.L. Scalzo, M.M. Schweder, S.E. Szallar, S.E. Binns, L.M. Wood, A.L. Klochak, T. Schroeder, D.C. Irwin, K.L. Hamilton and C. Bell.** Colorado State Univ., Duke Univ. Sch. of Med. and Univ. of Colorado Anschutz Med. Campus.
- S496 II 1150.6 Chronic hypoxia decreases fasting glucose and improves glucose tolerance in obese rats. **F.C. Villafuerte, J.L. Macarlupu, P. Rojas, C. Anza and J.L. Gamboa.** Univ. Peruana Cayetano Heredia, Peru and Vanderbilt Univ. Med. Ctr.
- S497 I 1150.7 Prolyl hydroxylase inhibition attenuates mast cell degranulation during systemic hypoxia via upregulation of heme oxygenase-1. **J.G. Wood, M. Moncure, J.H. Thomas, N.B. Holloway and N.C. Gonzalez.** Univ. of Kansas Med. Ctr.
- S498 II 1150.8 Epinephrine opens intrapulmonary arteriovenous anastomoses in healthy humans at rest. **S. Laurie, J.E. Elliott and A.T. Lovering.** Univ. of Oregon.
- S499 I 1150.9 Volatile organic compounds in exhaled breath condensate as a biomarker of high altitude pulmonary edema. **J.A. Figueroa, R. Allen, C. Davis, W. Walby, A. Aksenov, W. Zhao, J. Mansoor, W. Lewis and E. Schelegle.** Univ. of California Davis, Davis and Sacramento and Univ. of Pacific.
- S500 II 1150.10 Genome-wide P-element screen for hypoxia tolerance genes in *Drosophila melanogaster*. **G.G. Haddad and P. Azad.** UCSD.
- 1151. TRANSCRIPTOMES, GENE EXPRESSION, REGULATORY RNA AND PROTEOMICS**
- Poster**
- WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION  
*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)
- S501 I 1151.1 A novel transcription mechanism activated by ethanol: induction of Slc7a11 expression via inhibiting the DNA-binding activity of repressor OCT1 in mouse hepatic stellate cells. **X. Lin, H. Yang, H. Zhang, L. Zhou and Z. Guo.** Meharry Med. Col.
- S502 II 1151.2 Heparan sulfate 6-O-sulfation is dynamically regulated in idiopathic pulmonary fibrosis. **J. Lu, J.A. Lasky and X. Yue.** LSU Hlth. Sci. Ctr., New Orleans and Tulane Univ.
- S503 I 1151.3 Induction of Klf15 by glucocorticoids in the lung regulates downstream transcriptional effects on mitochondrial function and metabolism. **A.N. Gerber, S. Sasse, S. Haldar and M. Jain.** Natl. Jewish Hlth. and Case Western Reserve Univ.
- S504 II 1151.4 Overexpression of mir181a protects against Ang II-induced osteopontin expression in VSMC. **E.R.W. Remus, A. Lyle, M. Weber, C.D. Searles and W.R. Taylor.** Emory Univ.
- S505 I 1151.5 microRNA-126 regulates cardiac angiogenesis induced by aerobic exercise training. **N.D. da Silva Junior, T. Fernandes, U. Soci, I. Phillips and E. Oliveira.** Univ. of São Paulo and Keck Grad. Inst., Claremont, CA.
- S506 II 1151.6 On the diagnostic ability of microRNA for pancreatic cancer. **G.D. Swanson.** California State Univ., Chico.
- S507 I 1151.7 Shear-responsive miR-155 regulates endothelial cell phenotype and function. **M. Weber, S. Kim, N. Patterson and C.D. Searles.** Emory Univ. and Atlanta VA Med. Ctr.
- S508 II 1151.8 Coordinated microRNA/gene networks central to nutrient responsiveness in the 0.9G baboon fetal kidney. **L.A. Cox, J.P. Glenn, K.P. Lange and M.J. Nijland.** Texas Biomed. Res. Inst. and Univ. of Texas Hlth. Sci. Ctr., San Antonio.
- S509 I 1151.9 microRNA-143 regulates the expression of pref-1 in adipocyte. **S.H. Kim and Y.-J. Kim.** Kyung Hee Univ., South Korea.
- S510 II 1151.10 Screening of siRNA to identify the genes associated with vascular collapse when exposed to *Yersinia pestis*. **A.V. Hoke, A. Gautam, A. Filippov, K. Amemiya, R. Hammamieh and M. Jett.** U.S. Army Ctr. for Environ. Hlth. Res., Fort Detrick, Walter Reed Army Inst. of Res., Silver Spring and U.S. Army Med. Res. Inst. of Infect. Dis., Fort Detrick.
- S511 I 1151.11 Knockdown of Vmat2 in mouse right striatum and physical activity. **E.E. Schmitt, D.P. Ferguson and J.T. Lightfoot.** Texas A&M Univ.
- S512 II 1151.12 Differential expression of candidate genes associated with voluntary physical activity levels in inbred mice. **M. Dawes, D.P. Ferguson and T. Lightfoot.** Texas A&M Univ.
- S513 I 1151.13 Receptors for advanced glycation end-products are transcriptionally inhibited by FoxA2 in diverse pulmonary cell types. **A.W. Farmer and P.R. Reynolds.** Brigham Young Univ.
- S514 II 1151.14 65-Gene based risk score predicts recurrence and survival in hepatocellular carcinoma. **S.M. Kim and J.-S. Lee.** Chonbuk Natl. Univ., South Korea and Univ. of Texas MD Anderson Cancer Ctr.
- S515 I 1151.15 Controlling proteome degradation in *Daphnia pulex*. **C.J. Kemp and D. Kültz.** Univ. of California, Davis.
- S516 II 1151.16 <sup>1</sup>H/<sup>13</sup>C NMR metabolomics in a neonatal rat brain slice model of early and late mild hypothermia treatments of asphyxia. **J. Liu, L. Litt, J.G. Pelton, M. Segal, M.J.S. Kelly, M. Kim and T.L. James.** UCSF, Lawrence and Univ. of California, Berkeley.
- S517 I 1151.17 Significantly increased plasma levels of unbound-VEGF in overweight/obese women. **K.L. Makey, L. Miele, E. Chinchar, I. Pei, J. Robinson, M. Loftin, D. Waddell, M. Huang and J.-W. Gu.** Univ. of Mississippi Med. Ctr. and Univ. of Mississippi.
- 1152. REGULATION OF EPITHELIAL TRANSPORT PROTEINS, ION AND WATER CHANNELS, AND MODULATORY FACTORS III**
- Poster**
- WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION  
*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)
- S518 I 1152.1 Acute angiotensin II effects on NCC are dependent on WNK4. **B. Ko, L. Hansen, A. Mistry, R. Mallick and R. Hoover.** Univ. of Chicago, Emory Univ. and Atlanta VA Hosp., Decatur.

- S519 II 1152.2 Characterization of phosphorylation of NCC at serine 124. **L.L. Rosenbaek, M.A. Rasmussen, N. MacAulay and R.A. Fenton.** Aarhus Univ., Denmark and Univ. of Copenhagen.
- S520 I 1152.3 Sorting protein-related receptor SorLA is involved in regulation of renal Na<sup>+</sup>-K<sup>+</sup>-2Cl<sup>-</sup> cotransporter through interaction with an isoform of calcineurin phosphatase. **A. Borschewski, T. Willnow, C. Dathe, A. Paliege, N. Ferreri, S. Bachmann and K. Mutig.** Charité Med. Univ. Berlin, Max Delbrück Ctr. for Molec. Med., Berlin and New York Med. Col.
- S521 II 1152.4 Interaction of NKCC2 with SNARE proteins in the thick ascending limb. **P.S. Caceres and P.A. Ortiz.** Henry Ford Hosp. and Wayne State Univ.
- S522 I 1152.5 Isolation and characterization of lipid rafts containing the kidney-specific Na<sup>(+)</sup>K<sup>(+)</sup>2Cl<sup>(-)</sup> cotransporter. **C. Dathe, A. Daigeler, V. Jankowski, H.J. Kaminski, J. Jankowski, M. Föhling, S. Bachmann and A. Paliege.** Charité Med. Univ. Berlin.
- S523 II 1152.6 Alternatively spliced PY cassette exons in WNK1 enhance sensitivity to aldosterone via the E3 ubiquitin ligase Nedd4-2. **A. Roy, S. Khadem, B.F. Donnelly, F. Gong, N.M. Pastor-Soler, Y.P.C. Chang and A.R. Subramanya.** Univ. of Pittsburgh Sch. of Med., Univ. of Maryland Sch. of Med. and VA Pittsburgh Healthcare Syst.
- S524 I 1152.7 Adenylyl cyclase 6 determines AVP-induced membrane abundance and phosphorylation of NKCC2 and NCC. **T. Rieg, R.A. Fenton, T. Tang, S. Uchida, M. Sharik, H.K. Hammond and V. Vallon.** UCSD, VA San Diego Healthcare Syst., Univ. of Aarhus, Denmark and Med. and Dent. Univ., Tokyo.
- S525 II 1152.8 Sexual dimorphism and estrogen regulation of KCNE3 modulates the functional properties of KCNQ1 K<sup>+</sup> channels. **B.J. Harvey, R. Alazamora, F. O'Mahony, V. Bustos, R. Rapetti-Mauss, V. Urbach, P. Cid and F. Sepúlveda.** Royal Col. of Surgeons in Ireland and Ctr. for Sci. Studies, Valdivia, Chile.
- S526 I 1152.9 Zn<sup>2+</sup> has biphasic effects on KCNQ1/KCNE3 K<sup>+</sup> channels. **M.E. Duffey, K. Mongiardo, J. Hallman and J.K. Crane.** Univ. at Buffalo SUNY.
- S527 II 1152.10 Membrane trafficking produces distinct beta-adrenergic signaling for Cl secretion and K secretion in guinea pig distal colonic mucosa. **S. Halm, J. Zhang and D. Halm.** Wright State Univ.
- S528 I 1152.11 Caveolin-1 regulation of mouse lung epithelial progenitor cell differentiation and morphogenesis. **B.P. Wynia, O. Chernaya, V. Shinin and R.D. Minshall.** Univ. of Illinois at Chicago.
- S529 II 1152.12 Human platelet lysates as a serum substitute in renal epithelial cell culture. **G. Gstraunthaler, C. Rauch and E. Feifel.** Innsbruck Med. Univ.
- S530 I 1152.13 Inactivation of glycogen-synthase kinase 3 beta in Madin-Darby canine kidney cells increases epithelial resistance. **F. Jouret, V. Rajendran and M.J. Caplan.** Yale Univ. Sch. of Med.
- S531 II 1152.14 An association between type Iγ Ptlns4p 5-kinase and Exo70 directs E-cadherin clustering and epithelial polarization. **X. Xiong, Q. Xu, Y. Huang, R.D. Singh, R. Anderson, E. Leof, J. Hu and K. Ling.** Mayo Clin. and Univ. of Wisconsin-Madison.
- S532 I 1152.15 cAMP regulates polarization and apoptosis during mammary epithelial acini formation in vitro. **P.I. Nedvetsky, S-H. Kwon, J. Debnath and K.E. Mostov.** UCSF.
- S533 II 1152.16 Molecular interaction of organic cation transporters with the tetraspanin CD63 modulates transporter trafficking and their trafficking-associated regulation. **B. Hirsch, S. Brast, A. Grabner, S. Holle, D. Guckel, E. Schlatter and G. Ciarimboli.** Univ. Clin. Münster, Germany.
- S534 I 1152.17 Anion transporter links to urolithiasis and hepatotoxicity. **D. Markovich, S. McLeay and S. Lee.** Univ. of Queensland, Australia.
- S535 II 1152.18 Regulation of renal organic anion transporter expression and function in ACTH-treated mice. **M.A. Bailey and C.J. Kenyon.** Univ. of Edinburgh.
- S536 I 1152.19 Liver x receptors regulate human organic anion transporter 1 in renal proximal tubule. **S. Kittayaruksakul, S. Soodvilai, N. Asavapanumas and V. Chatsudthipong.** Fac. of Sci., Mahidol Univ., Thailand.
- S537 II 1152.20 Coordinate adenosine A<sub>1</sub> and A<sub>2A</sub> receptors regulation of the Na<sup>+</sup>/H<sup>+</sup> exchanger 3 in ischemia/reperfusion injury. **V. Babich, K. Vadnagara, O.W. Moe and F. Di Sole.** Univ. of Texas Southwestern Med. Ctr.
- S538 I 1152.21 Insulin activates intestinal NHE3 via IRBIT. **P. He, M. Yanda, M. Anitha, S. Srinivasan and C. Yun.** Emory Univ.
- S539 II 1152.22 Blood-brain barrier Na/HCO<sub>3</sub> cotransporters: evidence for a role in ischemia-induced brain Na uptake. **N.Y-y. Yuen, Y-J. Chen, W.F. Boron, J. Praetorius, S.E. Anderson and M.E. O'Donnell.** Univ. of California, Davis, Case Western Reserve Univ. and Aarhus Univ., Denmark.
- S540 I 1152.23 Bicarbonate-dependent chloride transport drives fluid secretion by the human airway epithelial cell line Calu-3. **J. Shan, J. Liao, J. Huang, R. Robert, M.L. Palmer, S.C. Fahrenkrug, S.M. O'Grady and J.W. Hanrahan.** McGill Univ. and Univ. of Minnesota, St. Paul.
- S541 II 1152.24 Translational repression of down-regulated in adenoma by miR-494 in Caco2 cells. **A.N. Anbazhagan, S. Priyamvada, S. Tyagi, D.B. Maher, A. Kumar, A. Borthakur, W.A. Alrefai, J. Kwon and P.K. Dudeja.** Univ. of Illinois at Chicago and Jesse Brown VA Med. Ctr.
- S542 I 1152.25 Real-time visualization of calcium oxalate crystals in *Drosophila*? a gut and renal model of kidney stones. **D.P. Bondeson, T. Hirata, P. Cabrero, E.L. Ritman, J.A.T. Dow and M.F. Romero.** Mayo Clin. and Univ Glasgow.

### 1153. NUCLEAR RECEPTORS IN THE LIVER AND GI TRACT

#### Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S543 I 1153.1 E2F1 is a potential novel regulator of liver fibrosis by targeting Egr-1 through nuclear receptor SHP. **Y. Zhang and L. Wang.** Univ. of Utah.
- S544 II 1153.2 Role of pregnane X receptor in diet-induced obesity. **M.A. Gyamfi, D. Jones and E.M. Awumey.** North Carolina Central Univ.



## 1154. GASTROINTESTINAL NUTRIENT SENSORS

## Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S545 I **1154.1** TRPA1-activated anion secretion is linked with PGE2 receptor EP4 in human and rat colon. **I. Kaji, S-i. Karaki and A. Kuwahara.** Grad. Sch. for Nutr. and Environ. Sci., Univ. of Shizuoka, Japan.
- S546 II **1154.2** Differential stimulation of duodenal HCO<sub>3</sub><sup>-</sup> secretion by luminal fatty acids. **Y. Akiba, T. Inoue, M. Higashiyama, S. Rudenky, K-i. Iwamoto, A. Kuwahara and J.D. Kaunitz.** West Los Angeles VA Med. Ctr. and Univ. Shizuoka, Japan.

## 1155. GASTROINTESTINAL PHYSIOLOGY AND THE MICROBIOME (POSTERS)

## Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S547 I **1155.1** Characterization of bile acid homeostasis in germ-free mice. **F. Selwyn and C.D. Klaassen.** Univ. of Kansas Med. Ctr.
- S548 II **1155.2** Dietary fat-induced taurocholic acid production promotes pathobiont and colitis in IL-10<sup>-/-</sup> mice. **S. Devkota, Y. Wang, V.A. Leone, M. Musch, A. Nadimpalli, D. Antonopoulos, B. Jabri and E. Chang.** Univ. of Chicago and Argonne Natl. Lab.
- S549 I **1155.3** Intestinal epithelial barrier dysfunction induces IL-17 production by  $\gamma\delta$  intraepithelial lymphocytes: a novel mechanism of mucosal tolerance. **K.L. Edelblum and J.R. Turner.** Univ. of Chicago.
- S550 II **1155.4** Feeding of probiotic formulation protects from obesity and diabetes. **H. Yadav and S.G. Rane.** NIDDK/NIH.
- S551 I **1155.5** Community dynamics in the mouse gut microbiota: role of NHE3. **M.A. Engevik, G.E. Shull and R.T. Worrell.** Univ. of Cincinnati.
- S552 II **1155.6** Hibernation alters the gut microbial community in ground squirrels. **H.V. Carey, W.A. Walters and R. Knight.** Univ. of Wisconsin-Madison, Univ. of Colorado Boulder and HHMI.
- S553 I **1155.7** Dynamics of the cecal microbial community of an extreme hibernator, the arctic ground squirrel. **T. Stevenson, L. Buck, B. Quinlan and K. Duddleston.** Univ. of Alaska Anchorage.
- S554 II **1155.8** Diverse gut microbes facilitate ingestion of dietary toxins in herbivores. **M.D. Dearing, K. Kohl, C. Dale and R. Weiss.** Univ. of Utah.

## 1156. HOST RESPONSES TO GASTROINTESTINAL INFECTIONS (POSTERS)

## Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S555 I **1156.1** N-methyl-D-aspartate channels regulate apoptosis in *Helicobacter pylori* infection by ammonia-induced calcium permeation mechanisms. **J.H. Seo, J.G. Fox, R.M. Peek and S.J. Hagen.** Beth Israel Deaconess Med. Ctr., MIT and Vanderbilt Univ. Med. Ctr.
- S556 II **1156.2** Changes in innate immune pathway and proteins of *Caenorhabditis elegans* during *Cronobacter sakazakii* infection. **K. Balamurugan and B.S. Sivamaruthi.** Alagappa Univ., India.
- S557 I **1156.3** Co-culture supernatants of toxigenic *Clostridium difficile* 43285 with specific *Lactobacillus* and *Bifidobacterium* species significantly attenuated IL8 and MIP3 $\alpha$  induction and restored epithelial viability. **D. VijayaKumar and N. Nanthakumar.** Harvard Med. Sch. and Mucosal Immunol. Lab. and Massachusetts Gen. Hosp. for Children.
- S558 II **1156.4** Inflammation causes important changes in stomach tight junction structure and function. **S.J. Hagen, S. Zhang, J.H. Seo and J.G. Fox.** Beth Israel Deaconess Med. Ctr. and MIT.
- S559 I **1156.5** Chitin-binding protein GbpA of *Vibrio cholerae* induces interleukin-8 gene expression in intestinal cells through a TLR2/TLR1/CD14 complex. **N.S. Chatterjee, A. Ghosh, S. Sabui, S. Acharya and K.K. Banerjee.** Natl. Inst. of Cholera & Enteric Dis., Kolkata.
- S560 II **1156.6** A molecular mechanism for suppression of colonic inflammation by gut bacteria. **A. Gurav, N. Singh and V. Ganapathy.** Georgia Hlth. Sci. Univ.

## 1157. MEMBRANE TRAFFICKING AND SECRETION IN DIGESTIVE EPITHELIA

## Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

Presentation time: 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S561 I **1157.1** Genistein diet: effects on jejunum from the R117H cystic fibrosis mice. **S. Polito, M.L. Drumm and L. Al-Nakkash.** Midwestern Univ., AZ and Case Western Reserve Univ.
- S562 II **1157.2** Inhibition of chloride secretion by capsaicin in T84 cells is independent of the transient receptor potential vanilloid type 1. **P.G. Bouyer, X. Tang, C.R. Weber, L. Shen, J.R. Turner and J.B. Matthews.** Univ. of Chicago.
- S563 I **1157.3** Caveolin-1 phosphorylation by Src kinase regulates epithelial restitution by altering store-operated Ca<sup>2+</sup> influx. **J.N. Rao, N. Rathor, R. Zhuang, T. Zou, L. Liu, L. Xiao and J-Y. Wang.** Univ. of Maryland Sch. of Med. and Baltimore VA Med. Ctr.
- S564 II **1157.4** Inhibition of Ca<sup>2+</sup>-regulated exocytosis by levetiracetam in guinea pig antral mucous cells: role of synaptic vesicle protein 2A, SV2A. **S. Harada, C. Shimamoto, H. Matsumura, Y. Kohda, S. Tanaka and T. Nakahari.** Osaka Univ. of Pharmaceut. Sci. and Osaka Med. Col.

## 1158. GI HORMONES, PEPTIDES AND RECEPTORS

## Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S565 I **1158.1** An endogenous activator protein of H<sup>+</sup>,K<sup>+</sup>-ATPase regulates acid secretion in isolated rabbit gastric glands. **J. Nandi, J.M. Zinkievich and T. Ray.** SUNY Upstate Med. Univ.
- S566 II **1158.2** Multiple players vying for one target: regulation of differential signaling fate of corticotropin-releasing factor receptor 1. **S. Mahajan, B. Hasdemir, M. Liao and A. Bhargava.** UCSF.
- S567 I **1158.3** High fat diet differentially regulates olfactory receptors in the duodenum of obesity-prone and obesity-resistant rats. **S. Primeaux, H.D. Braymer and G. Bray.** LSU Hlth. Sci. Ctr., New Orleans and Pennington Biomed. Res. Ctr., Baton Rouge.
- S568 II **1158.4** The absence of LPA<sub>1</sub> results in aberrant intestinal epithelial cell migration. **S.-J. Lee, A. Nusrat, J. Chun and C.C. Yun.** Emory Univ. Sch. of Med. and The Scripps Res. Inst.

## 1159. GROWTH FACTORS, PROLIFERATION, DIFFERENTIATION AND APOPTOSIS

## Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S569 I **1159.1** The ErbB4 receptor tyrosine kinase protects colonocytes from apoptosis in vitro and in vivo. **M.R. Frey and J.K. Bernard.** Children's Hosp. Los Angeles and Univ. of Southern California.

## 1160. GI AND LIVER STEM CELLS

## Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S570 I **1160.1** An in vitro assay for clonogenic, high-throughput analysis of intestinal stem cells. **A.D. Gracz, M.J. Johnston, F. Wang, I.A. Williamson, Y. Wang, J. Balowski, C. Sims, L. Li, N. Allbritton and S.T. Magness.** Univ. of North Carolina at Chapel Hill, Stowers Inst. for Med. Res., Univ. of Kansas, Kansas City and North Carolina State Univ.
- S571 II **1160.2** Notch signaling regulates proliferation and differentiation of the intestinal crypt base columnar stem cell. **L.C. Samuelson, K.L. VanDussen, A.J. Carulli, T.M. Keeley and J. Smith.** Univ. of Michigan.
- S572 I **1160.3** The presumptive gastric corpus stem cell population is CD44-positive and expands during metaplasia via increased ERK-MAPK signaling. **S. Khurana, W.J. Huh, B. Moore, T. Riehl, W.F. Stenson and J.C. Mills.** Washington Univ. in St. Louis.

## 1161. GASTROINTESTINAL CANCER AND METASTASIS

## Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S573 I **1161.1** Cancer stem cells in the age-related progression of colorectal cancer: role of EGFR. **A.P.N. Majumdar, B. Leavell, J. Du, L. Yang and F. Antaki.** VA Med. Ctr., Wayne State Univ.
- S574 II **1161.2** RNA binding protein RBM3 promotes a cancer stem cell phenotype with multidrug resistance. **A. Venugopal, D. Kwatra, S. Stecklein, S. Ramalingam, D. Subramaniam and S. Anant.** Univ. of Kansas Med. Ctr.
- S575 I **1161.3** CCN1 induces death of esophageal adenocarcinoma: trick or TRAIL? **J. Chai, M. Norng, J. Pham, S.-Y. Wu and M.M. Jamal.** VA Long Beach Healthcare Syst. and Univ. of California Irvine Healthcare.
- S576 II **1161.4** Establishment and characterization of novel in vitro models of gastric chief cell and metaplastic lineages. **V.G. Weis, C.P. Petersen, K.T. Nam, R.H. Whitehead and J.R. Goldenring.** Nashville VA Med. Ctr. and Vanderbilt Univ.

## 1162. GASTROINTESTINAL DEVELOPMENT

## Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

*Presentation time:* 12:45 PM-2:00 PM (I); 2:00 PM-3:15 PM (II)

- S577 I **1162.1** Claudin 2 protein expression is increased in human necrotizing enterocolitis. **I.G. De Plaen, P.M. Chou and C.R. Weber.** Children's Mem. Res. Ctr. and Univ. of Chicago.

## 1163. GASTROINTESTINAL MOTILITY

## Poster

WED. 7:30 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILLION

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- S578 I **1163.1** 17 $\beta$ -Estradiol relaxes cholecystokinin and KCl-induced tension in female guinea pig gallbladder strips by inhibiting extracellular Ca<sup>2+</sup> entry. **L. Kline and E. Karpinski.** Univ. of Alberta.
- S579 II **1163.2** Although at rest, the rat esophagus is tensed anisotropically in situ. **M. Lorber.** Georgetown Univ.
- S580 I **1163.3** Decreased expression and phosphorylation of ROK1, ROK2, MLCpS19, MYPT1pT696/pT853, and CPI-17pT38 in gastric antrum smooth muscles of Lep<sup>ob/ob</sup> mice. **B.A. Perrino, B.P. Bhetwal and C. An.** Univ. of Nevada Sch. of Med., Reno.
- S581 II **1163.4** Circulatory estradiol influences gastric emptying, nitrergic relaxation via tetrahydrobiopterin (BH4, a cofactor nNOS dimerization) in a female mouse, model of chronic hypoestrogenemia. **P.R. Gangula, K. Ravella, S. Srinivasan, S. Chakradhari, A. Al-Hendy, A. Hale and K. Channon.** Meharry Med. Col., Emory Univ. and Oxford Univ.

- S582 I      **1163.5** Excitatory nerve stimulation and agonist stimulation induce gastric fundus smooth muscle contraction via stimulus dependent Ca<sup>2+</sup> sensitization pathways, not via myosin light chain phosphorylation. **B.P. Bhetwal, K.M. Sanders and B.A. Perrino.** Univ. of Nevada Sch. of Med., Reno.
- S583 II      **1163.6** Hyperhomocysteinemia decreases intestinal motility leading to constipation. **S. Givvimani, C. Munjal, N. Narayanan, G. Tyagi, N. Metreveli and S.C. Tyagi.** Univ. of Louisville.
- S584 I      **1163.7** Changes in neuromuscular transmission in the VIP<sup>-/-</sup> mouse internal anal sphincter. **C.A. Cobine, S.N. Saxton, R.E. Kaminski, R.A. McDowall, A.M. Duffy and K.D. Keef.** Univ. of Nevada Sch. of Med.

**Late-Breaking Poster Sessions are  
scheduled Wednesday, April 25, 2012  
in the San Diego Convention Center,  
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**See the Late-Breaking Program for details.**

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The purpose of the EB 2012 exhibit program is to further the education of the scientist working in the field of experimental biology. The exhibits are primarily educational in character. The displays emphasize instruments, products, or services, for use in teaching or research; books or other publications in scientific fields of relevance.

## BOOTH NUMBERING SYSTEM

Exhibit space has been arranged in a grid pattern using numerical designations. The designation of each row is indicated by large overhead signs. A floor plan of the exhibit area is shown on the following pages.

## EXHIBIT DAYS AND HOURS

Sunday.....	April 22 .....	9:00 AM – 4:00 PM
Monday .....	April 23 .....	9:00 AM – 4:00 PM
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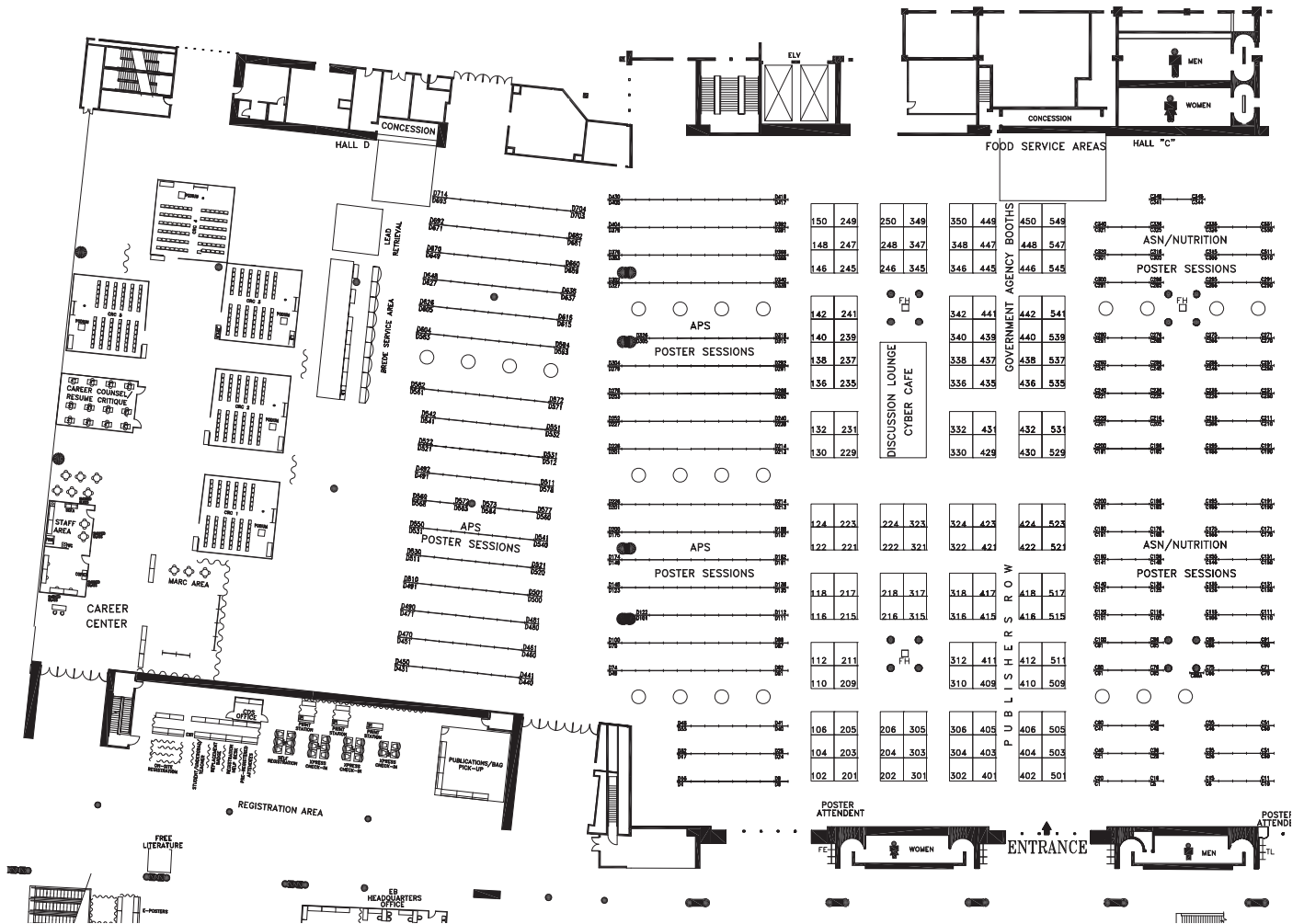
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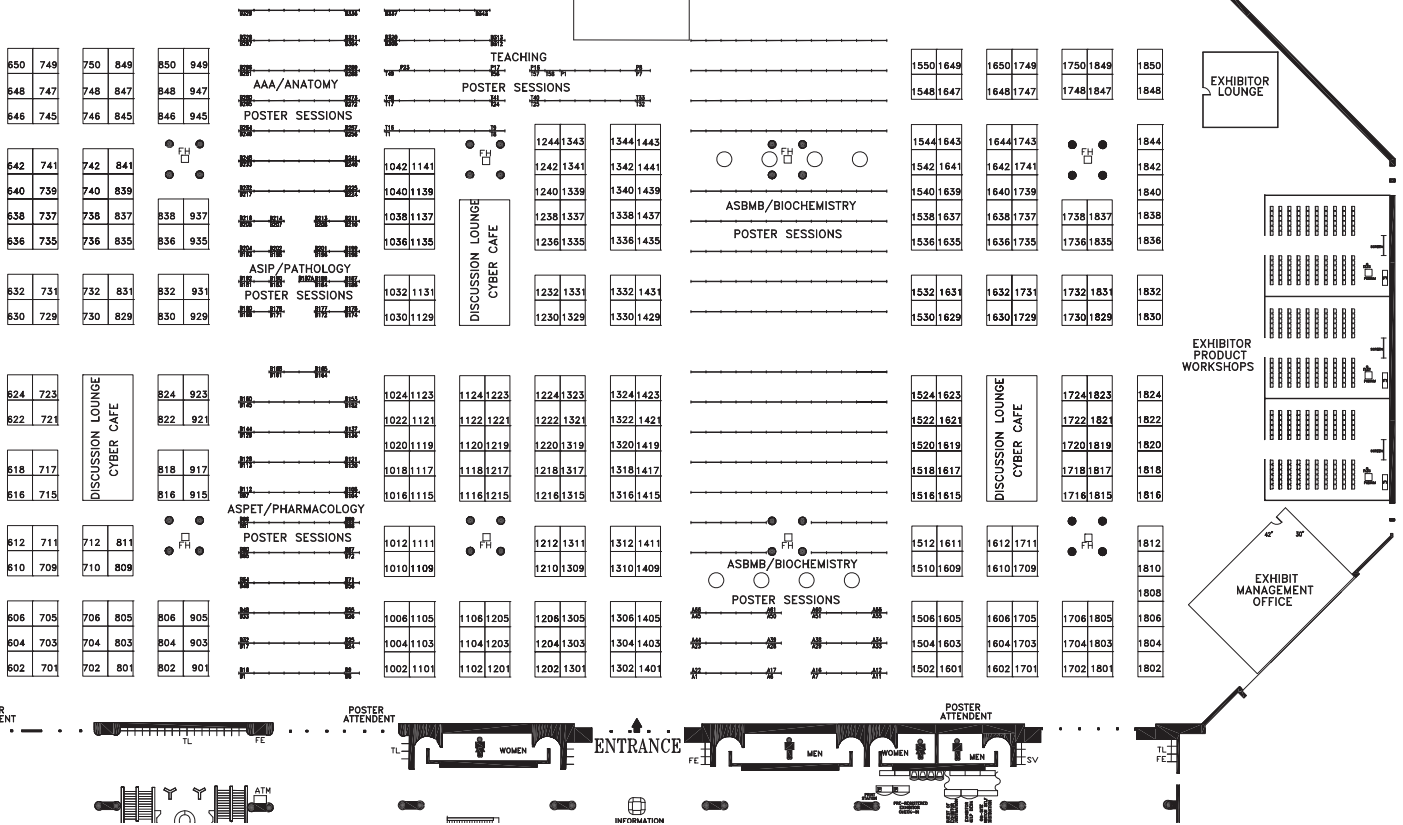
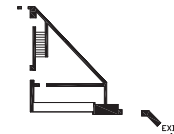
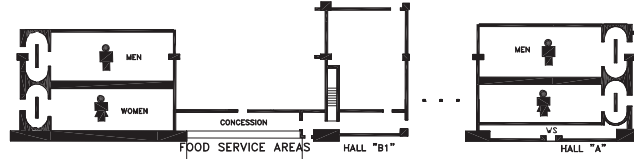
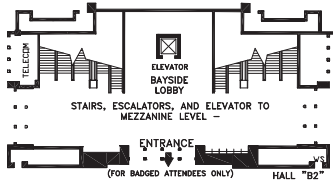
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ZenBio, Inc..... 1332  
Zyagen..... 1736

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PromoCell GmbH..... 541  
ScienCell Research Laboratories..... 832

### CELL BIOLOGY PRODUCTS

ABBIOTEC..... 849  
Abcam Biochemicals..... 923  
AbD Serotec..... 622  
Abgent Inc..... 838  
Accelagen Inc..... 1320  
Acris Antibodies..... 742  
Applied BioPhysics, Inc..... 606  
Aves Labs, Inc..... 715  
BioVision, Inc..... 1544  
Cayman Chemical Company..... 632  
Cedarlane..... 1242  
Cell Applications, Inc..... 836  
Chemglass Life Sciences..... 1518  
Cosmo Bio USA..... 1502  
Drummond Scientific..... 1423  
eBioscience..... 1306  
EMD Millipore..... 1309, 1310,1310  
Flexcell International Corp..... 704  
Fluxion Biosciences..... 146  
Hamilton Company..... 1409  
ibidi, LLC..... 1212  
InvivoGen..... 1602  
Marker Gene Technologies, Inc..... 1318  
MBL International..... 150  
Michelson Prize & Grants..... 246  
Mirus Bio LLC..... 1615  
MS Bioworks..... 841  
NACALAI USA, INC..... 646  
Nikon Instruments Inc..... 929  
Olink Bioscience..... 1504  
OZ Biosciences..... 1337  
PeproTech, Inc..... 721  
PromoCell GmbH..... 541  
R&D Systems, Inc..... 1724  
ScienCell Research Laboratories..... 832  
Seahorse Bioscience, Inc..... 1601  
Sigma Life Science..... 642  
Tokai Hit Co., Ltd..... 1336  
Wako Laboratory Chemicals..... 1730  
ZenBio, Inc..... 1332  
Zyagen..... 1736  
Zymo Research Corp..... 731

**CELL CULTURE CHAMBERS**

Applied BioPhysics, Inc. ....	606
Coy Laboratory Products.....	222
Flexcell International Corp.....	704
ibidi, LLC .....	1212
Physiologic Instruments, Inc. ....	310
Synthecon, Incorporated.....	648
Tokai Hit Co., Ltd.....	1336

**CELL CULTURE MEDIA**

Cedarlane.....	1242
Cell Applications, Inc. ....	836
ibidi, LLC .....	1212
InvivoGen.....	1602
Lonza.....	610
PeproTech, Inc.....	721
PromoCell GmbH.....	541
Rockland Immunochemicals, Inc. ....	1244
ScienCell Research Laboratories.....	832
Sigma Life Science.....	642
ZenBio, Inc.....	1332

**CELL CULTURES**

Cell Applications, Inc. ....	836
GlobalTown Microtech, Inc. ....	822
InvivoGen.....	1602
Mirus Bio LLC.....	1615
NACALAI USA, INC.....	646
Physiologic Instruments, Inc. ....	310
PromoCell GmbH.....	541
R&D Systems, Inc. ....	1724
ScienCell Research Laboratories.....	832
Sigma Life Science.....	642
Synthecon, Incorporated.....	648
ZenBio, Inc.....	1332

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**CELL SEPARATION MEDIA**

Accurate Chemical & Scientific Corp.....	1512
Axis-Shield PoC.....	1510
Cedarlane.....	1242
PromoCell GmbH.....	541

**CENTRIFUGES**

C & A Scientific Co., Inc.....	739
Conquer Scientific .....	1217
NuAire, Inc.....	1022
Sarstedt, Inc.....	710
Tools for Molecular Biology .....	1105

**CHEMICALS**

Abcam Biochemicals.....	923
Alfa Aesar, a Johnson Matthey Co.....	312
LKT Laboratories .....	1116
NACALAI USA, INC.....	646

Sigma Life Science.....	642
Wako Laboratory Chemicals .....	1730
Zymo Research Corp.....	731

**CHROMATOGRAPHS, AFFINITY, MATRICES**

Accelagen Inc. ....	1320
Expedeon.....	1716

**CHROMATOGRAPHS, GAS**

Conquer Scientific .....	1217
Shimadzu Scientific Instruments, Inc. ....	1204

**CHROMATOGRAPHS, LIQUID**

Conquer Scientific .....	1217
MS Bioworks.....	841
Shimadzu Scientific Instruments, Inc. ....	1204

**CHROMATOGRAPHY ADSORBENTS**

Hamilton Company .....	1409
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**CHROMATOGRAPHY SYSTEMS**

GE Healthcare .....	1321, 1322,1322
Shimadzu Scientific Instruments, Inc. ....	1204
Versa Laboratories.....	1221

**CLONE CONSTRUCTS**

GeneCopeia, Inc. ....	1435
Marker Gene Technologies, Inc. ....	1318

**CLONING KITS, PCR-BASED**

Accelagen Inc. ....	1320
AnaSpec, Inc. ....	1606
GenHunter Corporation.....	1223
PromoCell GmbH.....	541

**COLONY COUNTERS**

UVP, LLC.....	1506
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**COLUMN PACKING**

Hamilton Company .....	1409
Wako Laboratory Chemicals .....	1730

**COMPUTER 3-D RECONSTRUCTION**

Aspect Imaging.....	348
Gubener Plastinate GmbH.....	545

**COMPUTER MODELING**

Gubener Plastinate GmbH.....	545
OriginLab Corporation.....	921

**COMPUTER SOFTWARE**

Amirsys .....	421
Buxco Research Systems.....	1002
CLEVER SYS INC .....	1115
GraphPad Software, Inc. ....	515
iWorx Systems, Inc.....	116
Lafayette Instrument Company .....	701
MED Associates, Inc. ....	1121

OriginLab Corporation .....	921
Perimed Inc.....	1240
Primal Pictures Ltd.....	415
Research Diets, Inc.....	816
Silk Scientific, Inc.....	1516
Thomson Reuters.....	1524

**COMPUTERS**

Amirsys .....	421
Buxco Research Systems.....	1002
CLEVER SYS INC .....	1115

**CONTRACT RESEARCH AND DEVELOPMENT**

Accelagen Inc.....	1320
Arbor Assays .....	1437
Biometrology / nanoAnalytics.....	324
Cayman Chemical Company.....	632
Charles River.....	917
CorDynamics.....	1122
Glenbrook Technologies.....	1216
Hilltop Lab Animals, Inc.....	1316
NIH BrIDGs and TRND.....	436
Olink Bioscience .....	1504
Triangle BioSystems International.....	1338
ZenBio, Inc.....	1332
Zyagen.....	1736

**CORTICAL IMPACTOR**

Hatteras Instruments, Inc.....	247
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**CRYOGENIC EQUIPMENT/ACCESSORIES**

Taylor-Wharton .....	317
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**CULTURE APPARATUS**

Coy Laboratory Products.....	222
Flexcell International Corp.....	704
IonOptix .....	136
OZ Biosciences.....	1337

**CULTURE FLASKS OR BOTTLES**

Chemglass Life Sciences.....	1518
Sarstedt, Inc.....	710
Synthecon, Incorporated.....	648

**CULTURE MEDIA**

Cedarlane.....	1242
Cell Applications, Inc.....	836
Mirus Bio LLC .....	1615
Research Products International Corp.....	250
ScienCell Research Laboratories.....	832
Zymo Research Corp.....	731

**CUSTOM ANTIBODY PRODUCTION**

21st Century Biochemicals, Inc.....	1532
ABBIOTEC .....	849
Abcore .....	748
AbD Serotec .....	622
Abgent Inc.....	838

AnaSpec, Inc. ....	1606
Arbor Assays .....	1437
Aves Labs, Inc.....	715
Bio-Synthesis, Inc.....	1706
Charles River.....	917
eBioscience.....	1306
Lampire Biological Laboratories, Inc.....	1629
Phoenix Pharmaceuticals, Inc.....	1317
ProSci Inc.....	1421
RayBiotech .....	1123
SurModics IVD .....	729

**CUSTOM SYNTHESIS**

21st Century Biochemicals, Inc.....	1532
AnaSpec, Inc.....	1606
Aves Labs, Inc.....	715
Bachem Americas Inc.....	1236
Bio-Synthesis, Inc.....	1706
Cayman Chemical Company.....	632
Dualsystems Biotech AG .....	1630
Gene Tools, LLC .....	1124
Integrated DNA Technologies .....	1129
LKT Laboratories .....	1116
Marker Gene Technologies, Inc.....	1318
Phoenix Pharmaceuticals, Inc.....	1317

**CYTOKINES**

Assay Biotechnology, Inc.....	1611
Bio-Rad Laboratories .....	1415
BioVision, Inc.....	1544
Cedarlane.....	1242
eBioscience.....	1306
InvivoGen.....	1602
MBL International .....	150
Neogen Corporation .....	1203
PeproTech, Inc.....	721
Phoenix Pharmaceuticals, Inc.....	1317
PromoCell GmbH.....	541
R&D Systems, Inc.....	1724
RayBiotech .....	1123

**D**

**DATA ACQUISITION EQUIPMENT**

ADIstruments .....	1139
AEI Technologies, Inc.....	241
A-M Systems.....	249
BIOBSERVE .....	737
BIOPAC Systems, Inc.....	336
Buxco Research Systems.....	1002
Cambridge Electronic Design Ltd.....	148
CLEVER SYS INC .....	1115
Data Sciences International.....	221
DMT-USA, Inc.....	140
emka TECHNOLOGIES.....	206
GlobalTown Microtech, Inc.....	822



Grass Technologies / Astro-Med, Inc. ....	1302	ALPCO .....	511
Hatteras Instruments, Inc. ....	247	Arbor Assays .....	1437
Indus Instruments .....	345	Centerchem, Inc. ....	1636
IonOptix .....	136	DiCon/ScopeLED .....	340
iWorx Systems, Inc. ....	116	Kinexus Bioinformatics Corporation .....	1040
Lafayette Instrument Company .....	701	MBL International .....	150
Living Systems Instrumentation .....	245	Mercodia .....	535
Millar Instruments .....	323,1010, 323	Neogen Corporation .....	1203
Mouse Specifics, Inc. ....	1540	Quantimetrix Corporation .....	1222
Physitemp Instruments, Inc. ....	342	Rocky Mountain Diagnostics .....	604
Sable Systems International, Inc. ....	203		
SCIREQ USA Inc. ....	1036	<b>DIGITAL-TO-ANALOG CONVERTERS</b>	
Scisense .....	209	Cambridge Electronic Design Ltd. ....	148
Transonic Systems, Inc. ....	110	Mouse Specifics, Inc. ....	1540
Triangle BioSystems International .....	1338		
TSE Systems, Inc. ....	730	<b>DILUTERS, AUTOMATIC</b>	
		Hamilton Company .....	1409
<b>DATA LOGGERS</b>			
BIOPAC Systems, Inc. ....	336	<b>DISPENSERS, MICROLITER AND INJECTION</b>	
TSE Systems, Inc. ....	730	Art Robbins Instruments .....	1315
		Razel Scientific Instruments .....	1119
<b>DATA PROCESSING SYSTEMS</b>		Tools for Molecular Biology .....	1105
BIOOBSERVE .....	737		
<b>DENSITY GRADIENT MEDIA</b>		<b>DISSECTING INSTRUMENTS</b>	
Cedarlane .....	1242	DiCon/ScopeLED .....	340
Cosmo Bio USA .....	1502	GlobalTown Microtech, Inc. ....	822
		Gubener Plastinate GmbH .....	545
<b>DENSITOMETERS</b>		Living Systems Instrumentation .....	245
Silk Scientific, Inc. ....	1516	NeuroInDx, Inc. ....	837
		Tiemann Surgical Instruments .....	1201
<b>DENSITOMETERS, GEL ELECTROPHORESIS</b>		Tools for Molecular Biology .....	1105
Silk Scientific, Inc. ....	1516		
UVP, LLC .....	1506	<b>DISSECTING MICROSCOPES</b>	
		A-M Systems .....	249
<b>DENSITOMETERS, THIN LAYER CHROMATOGRAPHY</b>		DiCon/ScopeLED .....	340
Silk Scientific, Inc. ....	1516	Living Systems Instrumentation .....	245
		Nikon Instruments Inc. ....	929
<b>DENSITY GRADIENT MEDIA</b>			
Axis-Shield PoC .....	1510	<b>DISSOLVED OXYGEN METER</b>	
		Coy Laboratory Products .....	222
<b>DETECTION SYSTEMS</b>			
ASI/Applied Scientific Instrumentation .....	830	<b>DISSOLVED OXYGEN METER AND SENSOR</b>	
LI-COR Biosciences .....	1109	Coy Laboratory Products .....	222
MED Associates, Inc. ....	1121	Hugo Sachs Elektronik/Harvard Apparatus .....	303
Thorlabs Inc. ....	1230	Innovative Instruments, Inc. ....	717
		iWorx Systems, Inc. ....	116
<b>DETECTORS, LIGHT</b>		Konigsberg Instruments, Inc. ....	1617
Thorlabs Inc. ....	1230	Tools for Molecular Biology .....	1105
<b>DIAGNOSTIC AIDS</b>		<b>DNA AMPLIFICATION EQUIPMENT</b>	
Abbott Animal Health .....	235	Bio-Rad Laboratories .....	1415
IDEXX RADIL .....	1701		
MBL International .....	150	<b>DNA CUSTOM SYNTHESIS</b>	
		AnaSpec, Inc. ....	1606
<b>DIAGNOSTIC TEST KITS</b>		Bio-Synthesis, Inc. ....	1706
Abbott Animal Health .....	235	Integrated DNA Technologies .....	1129
		LC Sciences LLC .....	835

**DNA MICROARRAYS**

LC Sciences LLC .....	835
Marker Gene Technologies, Inc. ....	1318
Sigma Life Science.....	642
SurModics IVD .....	729
Trilink BioTechnologies, Inc.....	1522

**DNA PREPARATION SERVICES**

AnaSpec, Inc. ....	1606
Bertin Corp.....	740
OZ Biosciences.....	1337

**DNA PROBES**

Integrated DNA Technologies .....	1129
Marker Gene Technologies, Inc. ....	1318
Sigma Life Science.....	642
Trilink BioTechnologies, Inc.....	1522

**DNA PURIFICATION KITS**

EMD Millipore .....	1310,1309, 1310
Mbiotech, Inc.....	1631
MO BIO Laboratories, Inc. ....	1439
Norgen Biotek Corporation .....	1220
USB Products From Affymetrix, Inc.....	1702
Wako Laboratory Chemicals .....	1730
Zymo Research Corp.....	731

**DNA SEQUENCERS**

CBS Scientific Company Inc.....	1548
Conquer Scientific .....	1217
Hofer, Inc.....	1319
LI-COR Biosciences.....	1109
Silk Scientific, Inc. ....	1516
Versa Laboratories.....	1221

**DNA SEQUENCING KITS**

CBS Scientific Company Inc.....	1548
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**DNA SEQUENCING SERVICES**

Integrated DNA Technologies .....	1129
LC Sciences LLC .....	835

**DYES AND LABELING REAGENTS**

AbD Serotec .....	622
AnaSpec, Inc. ....	1606
Arbor Assays .....	1437
Assay Biotechnology, Inc.....	1611
Axxora LLC .....	1550
eBioscience.....	1306
Marker Gene Technologies, Inc. ....	1318
Mirus Bio LLC .....	1615
Trilink BioTechnologies, Inc.....	1522
Wako Laboratory Chemicals .....	1730

**E****EDUCATION MATERIALS**

AAPS.....	736
ADInstruments .....	1139
American Association of Anatomists (AAA).....	945
American Heart Association.....	1117
American Society for Investigative Pathology (ASIP) ....	1030
Americans for Medical Progress .....	738
Amirsys .....	421
BIOPAC Systems, Inc. ....	336
Charles River.....	917
Corn Refiners Association .....	636
ELSEVIER, INC. ....	501
FASEB.....	1610
Gubener Plastinate GmbH.....	545
Histochemical Society, The.....	1619
Nestle Nutrition Institute.....	1104
Primal Pictures Ltd.....	415
SAGE .....	417
Science/AAAS.....	1202
The New York Times.....	411
Thorlabs Inc.....	1230
Touch of Life Technologies.....	949

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American Association of Anatomists (AAA).....	945
American Heart Association.....	1117
Army Medical Recruiting.....	439
Histochemical Society, The .....	1619
Nestle Nutrition Institute .....	1104
SAGE .....	417
The New York Times.....	411

**ELECTROCARDIOGRAPHIC SYSTEMS**

Cambridge Electronic Design Ltd.....	148
Data Sciences International .....	221
emka TECHNOLOGIES.....	206
Indus Instruments .....	345
iWorx Systems, Inc.....	116
Konigsberg Instruments, Inc. ....	1617
Mouse Specifics, Inc.....	1540
Scisense .....	209

**ELECTROCHEMICAL INSTRUMENTATION**

Eicom Corporation .....	204
Innovative Instruments, Inc. ....	717
Physiologic Instruments, Inc. ....	310
Versa Laboratories .....	1221

**ELECTRODES**

A-M Systems.....	249
Biometry / nanoAnalytics.....	324
BIOPAC Systems, Inc. ....	336
GlobalTown Microtech, Inc. ....	822
Grass Technologies / Astro-Med, Inc. ....	1302
Hamilton Company .....	1409

Hugo Sachs Elektronik/Harvard Apparatus .....	303	<b>ELECTROPHORESIS GELS PRE-CAST</b>	
Indus Instruments .....	345	Bethyl Laboratories, Inc. ....	1538
Perimed Inc. ....	1240	Bio-Rad Laboratories .....	1415
Physiologic Instruments, Inc. ....	310	CBS Scientific Company Inc. ....	1548
Triangle BioSystems International .....	1338	Cosmo Bio USA .....	1502
<b>ELECTROENCEPHALOGRAPHS</b>		Embi Tec .....	1335
Cambridge Electronic Design Ltd. ....	148	Expedeon .....	1716
Data Sciences International .....	221	GE Healthcare .....	1321, 1322,1322
emka TECHNOLOGIES .....	206	Lonza .....	610
Grass Technologies / Astro-Med, Inc. ....	1302	Protea Biosciences, Inc. ....	1018
iWorx Systems, Inc. ....	116	Quantimetrix Corporation .....	1222
Konigsberg Instruments, Inc. ....	1617	<b>ELECTROPHORESIS MEDIA, GELS</b>	
<b>ELECTROMETERS</b>		GE Healthcare .....	1321, 1322,1322
A-M Systems .....	249	Lonza .....	610
Warner Instruments .....	305	<b>ELECTROPHORESIS MEDIA, MEMBRANE</b>	
<b>ELECTROMYOGRAPHS</b>		Hoefler, Inc. ....	1319
Cambridge Electronic Design Ltd. ....	148	Lonza .....	610
Data Sciences International .....	221	<b>ELECTROPHORESIS, CAPILLARY</b>	
iWorx Systems, Inc. ....	116	Conquer Scientific .....	1217
Konigsberg Instruments, Inc. ....	1617	<b>ELECTROPHYSIOLOGICAL INSTRUMENTS</b>	
<b>ELECTROPHORESIS ACCESSORIES</b>		A-M Systems .....	249
Bethyl Laboratories, Inc. ....	1538	Biometry / nanoAnalytics .....	324
CBS Scientific Company Inc. ....	1548	Cambridge Electronic Design Ltd. ....	148
Embi Tec .....	1335	emka TECHNOLOGIES .....	206
Expedeon .....	1716	Glenbrook Technologies .....	1216
Hoefler, Inc. ....	1319	Grass Technologies / Astro-Med, Inc. ....	1302
Lonza .....	610	Nanon Technologies .....	1135
Mbiotech, Inc. ....	1631	Scisense .....	209
<b>ELECTROPHORESIS CELLS</b>		Sutter Instrument .....	509
Bio-Rad Laboratories .....	1415	Triangle BioSystems International .....	1338
CBS Scientific Company Inc. ....	1548	World Precision Instruments .....	330
Embi Tec .....	1335	<b>ELECTROPORATION</b>	
Expedeon .....	1716	Bio-Rad Laboratories .....	1415
Hoefler, Inc. ....	1319	Mirus Bio LLC .....	1615
Mbiotech, Inc. ....	1631	<b>ELISPOT REAGENTS</b>	
Quantimetrix Corporation .....	1222	Abcam Inc. ....	809
<b>ELECTROPHORESIS EQUIPMENT</b>		eBioscience .....	1306
Bio-Rad Laboratories .....	1415	Phoenix Pharmaceuticals, Inc. ....	1317
CBS Scientific Company Inc. ....	1548	R&D Systems, Inc. ....	1724
Cosmo Bio USA .....	1502	<b>EMPLOYMENT</b>	
Embi Tec .....	1335	Army Medical Recruiting .....	439
Expedeon .....	1716	Science/AAAS .....	1202
GE Healthcare .....	1321, 1322,1322	<b>ENDOTOXINS</b>	
Hoefler, Inc. ....	1319	Charles River .....	917
LI-COR Biosciences .....	1109	InvivoGen .....	1602
Lonza .....	610	Mirus Bio LLC .....	1615
Quantimetrix Corporation .....	1222		
Research Products International Corp. ....	250		
Silk Scientific, Inc. ....	1516		

**ENVIRONMENTAL CHAMBERS**

Coy Laboratory Products.....	222
MED Associates, Inc.....	1121
Tokai Hit Co., Ltd.....	1336

**ENZYME IMMUNOASSAY KITS**

Abcam Inc.....	809
ALPCO.....	511
Assay Biotechnology, Inc.....	1611
Axxora LLC.....	1550
Bachem Americas Inc.....	1236
Bethyl Laboratories, Inc.....	1538
BioVision, Inc.....	1544
Cayman Chemical Company.....	632
Charles River.....	917
Cosmo Bio USA.....	1502
eBioscience.....	1306
MBL International.....	150
Mercodia.....	535
Neogen Corporation.....	1203
Olink Bioscience.....	1504
OZ Biosciences.....	1337
Phoenix Pharmaceuticals, Inc.....	1317
R&D Systems, Inc.....	1724
RayBiotech.....	1123
Rocky Mountain Diagnostics.....	604
ZenBio, Inc.....	1332

**ENZYME REAGENTS**

Abcam Biochemicals.....	923
Alfa Aesar, a Johnson Matthey Co.....	312
Axxora LLC.....	1550
BioVision, Inc.....	1544
Kinexus Bioinformatics Corporation.....	1040
NACALAI USA, INC.....	646
Neogen Corporation.....	1203
New England Biolabs.....	1210

**ENZYME SUBSTRATES AND INHIBITORS**

Abcam Biochemicals.....	923
Bachem Americas Inc.....	1236
Bethyl Laboratories, Inc.....	1538
BioVision, Inc.....	1544
Centerchem, Inc.....	1636
EMD Millipore.....	1310,1309, 1310
Kinexus Bioinformatics Corporation.....	1040
Marker Gene Technologies, Inc.....	1318
MATREYA LLC.....	202
Neogen Corporation.....	1203
Research Products International Corp.....	250
Worthington Biochemical Corporation.....	901

**ENZYMES**

ABBIOTEC.....	849
BioVision, Inc.....	1544
Kinexus Bioinformatics Corporation.....	1040
NACALAI USA, INC.....	646

New England Biolabs.....	1210
Sigma Life Science.....	642
USB Products From Affymetrix, Inc.....	1702
Wako Laboratory Chemicals.....	1730
Worthington Biochemical Corporation.....	901
Zymo Research Corp.....	731

**EVOKED POTENTIAL SYSTEMS**

BIOPAC Systems, Inc.....	336
Cambridge Electronic Design Ltd.....	148

**EXPRESSION CLONES**

Abcore.....	748
GeneCopoeia, Inc.....	1435
Marker Gene Technologies, Inc.....	1318
New England Biolabs.....	1210

**F****FERMENTATION EQUIPMENT**

Chemglass Life Sciences.....	1518
Conquer Scientific.....	1217
GE Healthcare.....	1322,1321, 1322

**FIBER OPTIC ILLUMINATION PRODUCTS**

A-M Systems.....	249
DiCon/ScopeLED.....	340
Warner Instruments.....	305

**FILTER PAPER**

GE Healthcare.....	1321, 1322,1322
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**FILTERS**

EMD Millipore.....	1310,1309, 1310
GE Healthcare.....	1321, 1322,1322
Thorlabs Inc.....	1230
VacuMed, Inc.....	650

**FLOWMETER KITS**

AEI Technologies, Inc.....	241
DMT-USA, Inc.....	140
Transonic Systems, Inc.....	110

**FLUORESCCEIN REAGENTS**

eBioscience.....	1306
SurModics IVD.....	729

**FLUORESCENCE FILTER SETS**

DiCon/ScopeLED.....	340
IonOptix.....	136
Nikon Instruments Inc.....	929
Thorlabs Inc.....	1230

**FLUORESCENCE IMAGE ANALYSIS EQUIPMENT**

ASI/Applied Scientific Instrumentation.....	830
DiCon/ScopeLED.....	340
ibidi, LLC.....	1212

IonOptix .....	136	<b>FREEZERS</b>	
LI-COR Biosciences.....	1109	Conquer Scientific .....	1217
Sutter Instrument .....	509	NuAire, Inc.....	1022
Thorlabs Inc.....	1230		
UVP, LLC.....	1506	<b>FUTURE MEETINGS</b>	
<b>FLUORESCENCE IMMUNOASSAY SYSTEM</b>		American Society for Pharmacology and Experimental Therapeutics (ASPET).....	801
Assay Biotechnology, Inc.....	1611	FASEB.....	1610
DiCon/ScopeLED.....	340		
eBioscience.....	1306		
LI-COR Biosciences.....	1109		
Olink Bioscience .....	1504		
Phoenix Pharmaceuticals, Inc.....	1317		
<b>FLUORESCENCE REAGENTS</b>			
Abcam Biochemicals.....	923		
AbD Serotec .....	622		
Advanced Targeting Systems .....	315		
AnaSpec, Inc. ....	1606		
Axxora LLC .....	1550		
Charles River.....	917		
eBioscience.....	1306		
LI-COR Biosciences.....	1109		
Lonza.....	610		
Marker Gene Technologies, Inc. ....	1318		
MBL International.....	150		
New England Biolabs.....	1210		
SurModics IVD .....	729		
Wako Laboratory Chemicals .....	1730		
<b>FLUORESCENT ANTIBODY</b>			
ABBIOTEC .....	849		
AbD Serotec .....	622		
Advanced Targeting Systems .....	315		
AnaSpec, Inc. ....	1606		
Arbor Assays .....	1437		
Assay Biotechnology, Inc.....	1611		
Aves Labs, Inc. ....	715		
Axxora LLC .....	1550		
Bethyl Laboratories, Inc. ....	1538		
Cedarlane.....	1242		
DiCon/ScopeLED.....	340		
eBioscience.....	1306		
EMD Millipore.....	1309, 1310,1310		
Epitomics, Inc.....	1441		
InvivoGen.....	1602		
Jackson ImmunoResearch Laboratories, Inc.....	1530		
LI-COR Biosciences.....	1109		
MBL International.....	150		
Phoenix Pharmaceuticals, Inc.....	1317		
SurModics IVD .....	729		
<b>FLUORESCENT IN SITU HYBRIDIZATION (FISH) SERVICES</b>			
Bio-Synthesis, Inc. ....	1706		
Marker Gene Technologies, Inc. ....	1318		
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		<b>GEL ELECTROPHORESIS EQUIPMENT</b>	
		Accurate Chemical & Scientific Corp. ....	1512
		CBS Scientific Company Inc.....	1548
		Embi Tec.....	1335
		Expedeon.....	1716
		GenHunter Corporation.....	1223
		Hoefer, Inc. ....	1319
		Lonza.....	610
		Quantimetrix Corporation .....	1222
		Silk Scientific, Inc. ....	1516
		Tools for Molecular Biology .....	1105
		UVP, LLC.....	1506
		<b>GENE TRANSFER DEVICE</b>	
		Bio-Rad Laboratories .....	1415
		OZ Biosciences.....	1337
		<b>GLASSWARE</b>	
		C & A Scientific Co., Inc. ....	739
		Chemglass Life Sciences.....	1518
		Tools for Molecular Biology .....	1105
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		Integrated DNA Technologies .....	1129
		NIH BrIDGs and TRND.....	436
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		CBS Scientific Company Inc.....	1548
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		BioVision, Inc.....	1544
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		PeproTech, Inc.....	721
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DMT-USA, Inc. ....	140
Flexcell International Corp. ....	704
GE Healthcare .....	1321, 1322, 1322
GlobalTown Microtech, Inc. ....	822
IonOptix .....	136
LI-COR Biosciences .....	1109
MED Associates, Inc. ....	1121
Mouse Specifics, Inc. ....	1540
Nikon Instruments Inc. ....	929
Olink Bioscience .....	1504
OriginLab Corporation .....	921
Perimed Inc. ....	1240
Siemens Healthcare .....	845
Silk Scientific, Inc. ....	1516

UVP, LLC .....	1506
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Carestream Molecular Imaging .....	316
CLEVER SYS INC .....	1115
GE Healthcare .....	1322, 1321, 1322
LI-COR Biosciences .....	1109
Perimed Inc. ....	1240
Siemens Healthcare .....	845
Silk Scientific, Inc. ....	1516
UVP, LLC .....	1506
VisualSonics .....	824

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Cedarlane .....	1242
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Kinexus Bioinformatics Corporation .....	1040
Lampire Biological Laboratories, Inc. ....	1629
LC Sciences LLC .....	835
Mercodia .....	535
Olink Bioscience .....	1504
Phoenix Pharmaceuticals, Inc. ....	1317
R&D Systems, Inc. ....	1724
RayBiotech .....	1123
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Abgent Inc. ....	838
Acris Antibodies .....	742
Arbor Assays .....	1437
Assay Biotechnology, Inc. ....	1611
Bachem Americas Inc. ....	1236
Bethyl Laboratories, Inc. ....	1538
BioVision, Inc. ....	1544
Cayman Chemical Company .....	632
Cedarlane .....	1242
Cosmo Bio USA .....	1502
Epitomics, Inc. ....	1441
Jackson ImmunoResearch Laboratories, Inc. ....	1530
Lampire Biological Laboratories, Inc. ....	1629
NACALAI USA, INC. ....	646
Neogen Corporation .....	1203
Olink Bioscience .....	1504
PromoCell GmbH .....	541
R&D Systems, Inc. ....	1724
Rockland Immunochemicals, Inc. ....	1244

SurModics IVD .....	729
Zyagen .....	1736

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NuAire, Inc.....	1022
Research Products International Corp.....	250
Tokai Hit Co., Ltd.....	1336
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Data Sciences International .....	221
emka TECHNOLOGIES .....	206
Flexcell International Corp.....	704
Instech Solomon .....	1205
iPRECIO® Infusion Pumps by Primetech Corporation...	1224
Kent Scientific Corporation.....	102
Razel Scientific Instruments.....	1119

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ASI/Applied Scientific Instrumentation .....	830
Drummond Scientific .....	1423
Narishige International USA, Inc.....	905
Razel Scientific Instruments.....	1119
Sutter Instrument .....	509
Warner Instruments .....	305
World Precision Instruments .....	330

### IONTOPHORESIS INSTRUMENTS

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NuAire, Inc.....	1022
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Warner Instruments .....	305
World Precision Instruments .....	330

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Biometrology / nanoAnalytics.....	324
CBS Scientific Company Inc.....	1548
Drummond Scientific .....	1423
Labconco Corporation.....	915
PRO Scientific Inc.....	1301
Research Products International Corp.....	250
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CLEVER SYS INC .....	1115
Neogen Corporation .....	1203
Omni International, Inc.....	846
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Labconco Corporation.....	915
Living Systems Instrumentation.....	245
NuAire, Inc.....	1022

### LASER DOPPLER

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Perimed Inc.....	1240
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Transonic Systems, Inc.....	110

### LASERS

Nikon Instruments Inc.....	929
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### LECTINS

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Mirus Bio LLC .....	1615
OZ Biosciences.....	1337

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UVP, LLC.....	1506

**LIGHT SOURCES**

CLEVER SYS INC.....	1115
DiCon/ScopeLED.....	340
Embi Tec.....	1335
Nikon Instruments Inc.....	929
Sutter Instrument.....	509
UVP, LLC.....	1506
Warner Instruments.....	305

**LIPIDS**

Abcam Biochemicals.....	923
Accurate Chemical & Scientific Corp.....	1512
Anatrace Products From Affymetrix, Inc.....	1704
Avanti Polar Lipids, Inc.....	1330
Cayman Chemical Company.....	632
Cedarlane.....	1242
MATREYA LLC.....	202
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Drummond Scientific.....	1423
Hamilton Company.....	1409
Omni International, Inc.....	846
Research Products International Corp.....	250

**LUMINOMETERS**

DiCon/ScopeLED.....	340
Mirus Bio LLC.....	1615

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Accurate Chemical & Scientific Corp.....	1512
EMD Millipore.....	1310,1309, 1310
New England Biolabs.....	1210
OZ Biosciences.....	1337
Phoenix Pharmaceuticals, Inc.....	1317

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American Society for Nutrition (ASN).....	529
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American Society for Biochemistry and Molecular Biology (ASBMB).....	1401
American Society for Investigative Pathology (ASIP)....	1030
American Society for Nutrition (ASN).....	529
American Society for Pharmacology and Experimental Therapeutics (ASPET).....	801
Biomedical Engineering Society (BMES).....	217
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Research Products International Corp.....	250
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GlobalTown Microtech, Inc. ....	822
Kent Scientific Corporation.....	102
Tiemann Surgical Instruments.....	1201
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#### MICROMANIPULATORS

ASI/Applied Scientific Instrumentation .....	830
Drummond Scientific .....	1423
GlobalTown Microtech, Inc. ....	822
Narishige International USA, Inc.....	905
Nikon Instruments Inc.....	929
Sutter Instrument .....	509
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ASI/Applied Scientific Instrumentation .....	830
Conquer Scientific .....	1217
LI-COR Biosciences.....	1109
Neogen Corporation .....	1203
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BrandTech Scientific, Inc. ....	1215
Sarstedt, Inc. ....	710

#### MICROSCOPE ILLUMINATORS

ASI/Applied Scientific Instrumentation .....	830
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Nikon Instruments Inc.....	929
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Acris Antibodies .....	742
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Axxora LLC .....	1550
Bethyl Laboratories, Inc. ....	1538
BioVision, Inc.....	1544
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Epitomics, Inc.....	1441
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Jackson ImmunoResearch Laboratories, Inc.....	1530
Lampire Biological Laboratories, Inc. ....	1629
MBL International .....	150
MS Bioworks.....	841
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Phoenix Pharmaceuticals, Inc.....	1317
ProSci Inc. ....	1421
R&D Systems, Inc.....	1724
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Mirus Bio LLC.....	1615
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LC Sciences LLC.....	835
Mirus Bio LLC.....	1615
Trilink BioTechnologies, Inc.....	1522

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GlobalTown Microtech, Inc.....	822
Hugo Sachs Elektronik/Harvard Apparatus.....	303
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Bachem Americas Inc.....	1236
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CBS Scientific Company Inc.....	1548
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GenHunter Corporation.....	1223
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Norgen Biotek Corporation.....	1220	<b>PHOSPHO-SPECIFIC ANTIBODIES</b>	
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PromoCell GmbH.....	541	ABBIOTEC.....	849
Sarstedt, Inc.....	710	Abcore.....	748
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Sigma Life Science.....	642	Assay Biotechnology, Inc.....	1611
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Abcore.....	748	Kinexus Bioinformatics Corporation.....	1040
Abgent Inc.....	838	MBL International.....	150
AnaSpec, Inc.....	1606	Olink Bioscience.....	1504
Aves Labs, Inc.....	715	ProSci Inc.....	1421
Bachem Americas Inc.....	1236	R&D Systems, Inc.....	1724
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Bio-Synthesis, Inc.....	1706		
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		Kent Scientific Corporation.....	102
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Hamilton Company.....	1409	Sable Systems International, Inc.....	203
Hugo Sachs Elektronik/Harvard Apparatus.....	303	Scisense.....	209
Innovative Instruments, Inc.....	717	Transonic Systems, Inc.....	110
Living Systems Instrumentation.....	245		
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MED Associates, Inc.....	1121	Grass Technologies / Astro-Med, Inc.....	1302
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American Radiolabeled Chemicals, Inc.....	735	Sutter Instrument.....	509
Avanti Polar Lipids, Inc.....	1330		

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BrandTech Scientific, Inc. ....	1215
C & A Scientific Co., Inc. ....	739
Chemglass Life Sciences.....	1518
Drummond Scientific .....	1423
GenHunter Corporation.....	1223
Gilson, Inc. ....	630
Hamilton Company .....	1409
Sarstedt, Inc. ....	710
Tools for Molecular Biology .....	1105

**PLASTIC LABORATORY WARE**

BrandTech Scientific, Inc. ....	1215
C & A Scientific Co., Inc. ....	739
Chemglass Life Sciences.....	1518
Research Products International Corp.....	250
Sarstedt, Inc. ....	710

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CBS Scientific Company Inc.....	1548
Embi Tec.....	1335
Hoefer, Inc.....	1319
Mbiotech, Inc.....	1631

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emka TECHNOLOGIES.....	206
iWorx Systems, Inc.....	116
Konigsberg Instruments, Inc. ....	1617
Millar Instruments .....	1010, 323,323
Scisense .....	209
Transonic Systems, Inc.....	110

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Bio-Synthesis, Inc. ....	1706
Chemglass Life Sciences.....	1518
Indus Instruments .....	345
Integrated DNA Technologies .....	1129
Kinexus Bioinformatics Corporation .....	1040
Perimed Inc.....	1240
Physitemp Instruments, Inc. ....	342

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Advanced Targeting Systems .....	315
Dualsystems Biotech AG .....	1630
ForteBio.....	1705

GenHunter Corporation.....	1223
Kinexus Bioinformatics Corporation .....	1040
LC Sciences LLC .....	835
MS Bioworks.....	841

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AbD Serotec .....	622
Accelagen Inc.....	1320
Accurate Chemical & Scientific Corp.....	1512
Dualsystems Biotech AG .....	1630
EMD Millipore .....	1310,1309, 1310
Expedeon.....	1716
ForteBio.....	1705
GE Healthcare .....	1321, 1322,1322
Life Technologies .....	804
Mbiotech, Inc.....	1631
New England Biolabs.....	1210
Norgen Biotek Corporation .....	1220
Protea Biosciences, Inc.....	1018

**PROTEINS/PROTEIN ARRAY**

ABBIOTEC .....	849
Abcam Inc. ....	809
AbD Serotec .....	622
Abgent Inc. ....	838
ActivX Biosciences .....	1623
Anatrace Products From Affymetrix, Inc. ....	1704
Axxora LLC .....	1550
Bio-Rad Laboratories .....	1415
ForteBio.....	1705
Full Moon Biosystems, Inc. ....	1218
GenHunter Corporation.....	1223
Kinexus Bioinformatics Corporation .....	1040
LI-COR Biosciences.....	1109
Life Technologies .....	804
MS Bioworks.....	841
OZ Biosciences.....	1337
PeproTech, Inc.....	721
Protea Biosciences, Inc.....	1018
RayBiotech .....	1123
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AEI Technologies, Inc. ....	241
Columbus Instruments International Corporation.....	1137
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emka TECHNOLOGIES.....	206
Indus Instruments .....	345
Kent Scientific Corporation.....	102
Konigsberg Instruments, Inc. ....	1617
SCIREQ USA Inc.....	1036

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A-M Systems.....	249
Cambridge Electronic Design Ltd.....	148
DMT-USA, Inc.....	140
World Precision Instruments .....	330

**PUMPS**

AEI Technologies, Inc. ....	241
ALZET® Osmotic Pumps/DURECT Corporation .....	1101
BrandTech Scientific, Inc. ....	1215
Coulbourn Instruments .....	304
Flexcell International Corp. ....	704
Harvard Apparatus .....	301
ibidi, LLC .....	1212
IITC Inc. ....	229
Instech Solomon .....	1205
iPRECIO® Infusion Pumps by Primetech Corporation ...	1224
Kent Scientific Corporation .....	102
Labconco Corporation .....	915
Living Systems Instrumentation .....	245
Panlab .....	302
Razel Scientific Instruments .....	1119
Tools for Molecular Biology .....	1105
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CHROMATOGRAPHY**

Eicom Corporation .....	204
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**PURIFIED PROTEINS**

ABBIOTEC .....	849
Abcore .....	748
Accelagen Inc. ....	1320
Axxora LLC .....	1550
Bethyl Laboratories, Inc. ....	1538
Cayman Chemical Company .....	632
Cosmo Bio USA .....	1502
GeneCopeia, Inc. ....	1435
Jackson ImmunoResearch Laboratories, Inc. ....	1530
Kinexus Bioinformatics Corporation .....	1040
Lampire Biological Laboratories, Inc. ....	1629
MS Bioworks .....	841
R&D Systems, Inc. ....	1724
RayBiotech .....	1123
Rockland Immunochemicals, Inc. ....	1244
Worthington Biochemical Corporation .....	901

**R****RADIOACTIVE PRODUCTS**

American Radiolabeled Chemicals, Inc. ....	735
Siemens Healthcare .....	845

**RADIOCHEMICALS**

American Radiolabeled Chemicals, Inc. ....	735
Bachem Americas Inc. ....	1236

**RADIOIMMUNOASSAY KITS**

ALPCO .....	511
Arbor Assays .....	1437
Bachem Americas Inc. ....	1236
Rocky Mountain Diagnostics .....	604
ZenBio, Inc. ....	1332

**RADIOISOTOPE SERVICES**

Siemens Healthcare .....	845
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**RADIONUCLIDES**

American Radiolabeled Chemicals, Inc. ....	735
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**RAPID KINETIC SYSTEMS**

Olis, Inc. ....	1605
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**REAGENTS**

ABBIOTEC .....	849
Abcam Biochemicals .....	923
Abcam Inc. ....	809
Accelagen Inc. ....	1320
Advanced Targeting Systems .....	315
Alfa Aesar, a Johnson Matthey Co .....	312
Aves Labs, Inc. ....	715
Bachem Americas Inc. ....	1236
Bethyl Laboratories, Inc. ....	1538
Centerchem, Inc. ....	1636
Charles River .....	917
Cosmo Bio USA .....	1502
Epitomics, Inc. ....	1441
Gene Tools, LLC .....	1124
GeneCopeia, Inc. ....	1435
Integrated DNA Technologies .....	1129
Lampire Biological Laboratories, Inc. ....	1629
LI-COR Biosciences .....	1109
MO BIO Laboratories, Inc. ....	1439
NACALAI USA, INC. ....	646
Neogen Corporation .....	1203
Norgen Biotek Corporation .....	1220
Olink Bioscience .....	1504
OZ Biosciences .....	1337
PeproTech, Inc. ....	721
ScienCell Research Laboratories .....	832
USB Product from Affymetrix, Inc. ....	1702
Zymo Research Corp. ....	731

**RECEPTOR/LIGAND INTERACTION**

Advanced Targeting Systems .....	315
Dualsystems Biotech AG .....	1630
GenHunter Corporation .....	1223
Olink Bioscience .....	1504

**RECORDERS**

Cambridge Electronic Design Ltd. ....	148
Grass Technologies / Astro-Med, Inc. ....	1302
Triangle BioSystems International .....	1338

**RESEARCH INFORMATION**

ActivX Biosciences .....	1623
American Society for Biochemistry and Molecular Biology (ASBMB) .....	1401
Army Medical Recruiting .....	439
Cincinnati Children's Research Foundation .....	1621
IDEXX RADIL .....	1701
Science/AAAS .....	1202

**RESPIRATORY GAS ANALYZERS**

AEI Technologies, Inc.....	241
BIOPAC Systems, Inc.....	336
Buxco Research Systems.....	1002
Columbus Instruments International Corporation.....	1137
Coulbourn Instruments.....	304
Panlab.....	302
Sable Systems International, Inc.....	203
Seahorse Bioscience, Inc.....	1601

**RESPIRATORY SETUPS**

Buxco Research Systems.....	1002
SCIREQ USA Inc.....	1036
Seahorse Bioscience, Inc.....	1601
VacuMed, Inc.....	650

**RESPIROMETERS**

AEI Technologies, Inc.....	241
Sable Systems International, Inc.....	203
Seahorse Bioscience, Inc.....	1601

**RNA DETECTION KITS**

GenHunter Corporation.....	1223
Marker Gene Technologies, Inc.....	1318
MBL International.....	150

**RNA ISOLATION KITS**

GenHunter Corporation.....	1223
Mbiotech, Inc.....	1631
MBL International.....	150
MO BIO Laboratories, Inc.....	1439
New England Biolabs.....	1210
Norgen Biotek Corporation.....	1220
Sigma Life Science.....	642
Zymo Research Corp.....	731

**RNAI SCREENING**

InvivoGen.....	1602
Mirus Bio LLC.....	1615
OZ Biosciences.....	1337
Sigma Life Science.....	642

**RNAI TEMPLATE SEQUENCING**

Integrated DNA Technologies.....	1129
InvivoGen.....	1602

**S****SAFETY SHIELDS**

CBS Scientific Company Inc.....	1548
Hoefler, Inc.....	1319

**SCIENTIFIC SOFTWARE**

Amirsys.....	421
BIOBSERVE.....	737
emka TECHNOLOGIES.....	206
GraphPad Software, Inc.....	515

IonOptix.....	136
Lafayette Instrument Company.....	701
Nikon Instruments Inc.....	929
Sable Systems International, Inc.....	203
Silk Scientific, Inc.....	1516
Thomson Reuters.....	1524

**SEQUENCE ANALYSIS SOFTWARE**

Integrated DNA Technologies.....	1129
Silk Scientific, Inc.....	1516

**SERUMS**

Bethyl Laboratories, Inc.....	1538
Jackson ImmunoResearch Laboratories, Inc.....	1530
Lampire Biological Laboratories, Inc.....	1629
Rockland Immunochemicals, Inc.....	1244
ZenBio, Inc.....	1332

**SHAKERS**

Bertin Corp.....	740
C & A Scientific Co., Inc.....	739
Chemglass Life Sciences.....	1518
GenHunter Corporation.....	1223
PRO Scientific Inc.....	1301
Sarstedt, Inc.....	710
Tools for Molecular Biology.....	1105

**SIGNAL TRANSDUCTION REAGENTS**

21st Century Biochemicals, Inc.....	1532
ABBIOTEC.....	849
Abcam Biochemicals.....	923
AbD Serotec.....	622
BioVision, Inc.....	1544
Cayman Chemical Company.....	632
Dualsystems Biotech AG.....	1630
Epitomics, Inc.....	1441
MBL International.....	150
Olink Bioscience.....	1504
R&D Systems, Inc.....	1724
Wako Laboratory Chemicals.....	1730

**SITE-DIRECTED MUTAGENESIS**

Integrated DNA Technologies.....	1129
USB Product from Affymetrix, Inc.....	1702

**SKIN MEASURING INSTRUMENTS**

Gubener Plastinate GmbH.....	545
Perimed Inc.....	1240

**SOFTWARE**

ADInstruments.....	1139
Amirsys.....	421
BIOBSERVE.....	737
BioData.....	1632
BIOPAC Systems, Inc.....	336
Buxco Research Systems.....	1002
Carl Zeiss Microscopy, LLC.....	702

CLEVER SYS INC .....	1115
Data Sciences International .....	221
DMT-USA, Inc. ....	140
GraphPad Software, Inc. ....	515
Hatteras Instruments, Inc. ....	247
Hugo Sachs Elektronik/Harvard Apparatus .....	303
OriginLab Corporation .....	921
Perimed Inc. ....	1240
Primal Pictures Ltd. ....	415
SCIREQ USA Inc. ....	1036
Silk Scientific, Inc. ....	1516
Thomson Reuters. ....	1524
Touch of Life Technologies .....	949
Triangle BioSystems International .....	1338

#### **SPECIMEN LABELS**

Gubener Plastinate GmbH. ....	545
Shamrock Scientific Specialty Systems, Inc. ....	706

#### **SPECTROFLUOROMETERS**

Cosmo Bio USA .....	1502
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#### **SPECTROMETERS**

Conquer Scientific .....	1217
Shimadzu Scientific Instruments, Inc. ....	1204
Versa Laboratories .....	1221

#### **SPECTROMETERS, ATOMIC ABSORPTION**

Shimadzu Scientific Instruments, Inc. ....	1204
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#### **SPECTROPHOTOMETERS**

GE Healthcare .....	1321, 1322, 1322
Shimadzu Scientific Instruments, Inc. ....	1204
Thermo Scientific NanoDrop Products .....	1042

#### **SPIROMETERS**

VacuMed, Inc. ....	650
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#### **STEREOTAXIC INSTRUMENTS**

Harvard Apparatus. ....	301
Narishige International USA, Inc. ....	905
TSE Systems, Inc. ....	730

#### **STIRRERS**

C & A Scientific Co., Inc. ....	739
Chemglass Life Sciences .....	1518
PRO Scientific Inc. ....	1301
Tools for Molecular Biology .....	1105

#### **SURGICAL INSTRUMENTS**

Glenbrook Technologies. ....	1216
GlobalTown Microtech, Inc. ....	822
Kent Scientific Corporation .....	102
Tiemann Surgical Instruments. ....	1201
Tools for Molecular Biology .....	1105
World Precision Instruments .....	330

#### **SYRINGES**

Hamilton Company .....	1409
Instech Solomon .....	1205
Kent Scientific Corporation. ....	102
Razel Scientific Instruments .....	1119
TSE Systems, Inc. ....	730

### **T**

#### **TELEMETERING SYSTEMS**

BIOPAC Systems, Inc. ....	336
Data Sciences International .....	221
Eicom Corporation .....	204
emka TECHNOLOGIES .....	206
Konigsberg Instruments, Inc. ....	1617
Millar Instruments .....	323, 1010, 323
Transonic Systems, Inc. ....	110
Triangle BioSystems International .....	1338

#### **TEMPERATURE CONTROLLERS**

IITC Inc. ....	229
Indus Instruments .....	345
Kent Scientific Corporation. ....	102
Living Systems Instrumentation. ....	245
Nanon Technologies .....	1135
Physitemp Instruments, Inc. ....	342
Sable Systems International, Inc. ....	203
Tokai Hit Co., Ltd. ....	1336
Warner Instruments .....	305

#### **TEMPERATURE PROBES**

Buxco Research Systems. ....	1002
IITC Inc. ....	229
Indus Instruments .....	345
Konigsberg Instruments, Inc. ....	1617
Perimed Inc. ....	1240
Physitemp Instruments, Inc. ....	342
Tokai Hit Co., Ltd. ....	1336

#### **THERMAL ANALYSIS EQUIPMENT**

Shimadzu Scientific Instruments, Inc. ....	1204
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#### **THERMAL CYCLERS**

Bio-Rad Laboratories .....	1415
Conquer Scientific .....	1217

#### **TISSUE BATHS, PREPARATORY**

C & A Scientific Co., Inc. ....	739
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#### **TISSUE CULTURE APPARATUS**

Applied BioPhysics, Inc. ....	606
Campden Instruments Ltd. ....	703
Flexcell International Corp. ....	704
Synthecon, Incorporated. ....	648
Tokai Hit Co., Ltd. ....	1336

**TISSUE CULTURE APPARATUS LABWARE**

Applied BioPhysics, Inc. ....	606
Chemglass Life Sciences.....	1518
Drummond Scientific .....	1423
Flexcell International Corp.....	704
ibidi, LLC .....	1212
Sarstedt, Inc. ....	710
Synthecon, Incorporated.....	648

**TISSUE CULTURE CHAMBERS**

Applied BioPhysics, Inc. ....	606
Coy Laboratory Products.....	222
DMT-USA, Inc. ....	140
ibidi, LLC .....	1212
Labconco Corporation.....	915
Physiologic Instruments, Inc. ....	310
Synthecon, Incorporated.....	648
Tokai Hit Co., Ltd.....	1336

**TISSUE CULTURE MEDIA**

Lonza .....	610
PromoCell GmbH.....	541
ZenBio, Inc. ....	1332

**TISSUE CULTURES**

Accurate Chemical & Scientific Corp. ....	1512
IDEXX RADIL .....	1701
Mirus Bio LLC .....	1615
NACALAI USA, INC. ....	646
NuAire, Inc. ....	1022
Tokai Hit Co., Ltd.....	1336
ZenBio, Inc. ....	1332

**TISSUE ORGAN BATHS, CONSTANT TEMPERATURE**

BIOPAC Systems, Inc. ....	336
DMT-USA, Inc. ....	140
emka TECHNOLOGIES .....	206
GlobalTown Microtech, Inc. ....	822
Hugo Sachs Elektronik/Harvard Apparatus .....	303
Living Systems Instrumentation.....	245
TSE Systems, Inc. ....	730
Warner Instruments .....	305
World Precision Instruments .....	330

**TOXINS**

Abcam Biochemicals.....	923
Accurate Chemical & Scientific Corp. ....	1512
American Radiolabeled Chemicals, Inc. ....	735
Cedarlane.....	1242
SCIREQ USA Inc.....	1036

**TRAINING OPPORTUNITIES**

American Association of Anatomists (AAA).....	945
Gubener Plastinate GmbH.....	545
Histochemical Society, The.....	1619
Science/AAAS.....	1202

**TRANSCRIPTION REAGENTS**

Biontex .....	1219
Bio-Rad Laboratories .....	1415
Dualsystems Biotech AG .....	1630
Epitomics, Inc.....	1441
Marker Gene Technologies, Inc. ....	1318
New England Biolabs.....	1210

**TRANSDUCERS**

ADInstruments .....	1139
BIOPAC Systems, Inc. ....	336
GlobalTown Microtech, Inc. ....	822
Indus Instruments .....	345
Millar Instruments .....	323,1010, 323
OZ Biosciences.....	1337
Physitemp Instruments, Inc. ....	342
SCIREQ USA Inc.....	1036
Scisense .....	209
Transonic Systems, Inc.....	110
World Precision Instruments .....	330

**TREADMILLS**

AEI Technologies, Inc. ....	241
Columbus Instruments International Corporation.....	1137
IITC Inc. ....	229
Mouse Specifics, Inc.....	1540
Panlab .....	302
TSE Systems, Inc. ....	730
VacuMed, Inc.....	650

**TUBINGS**

Accurate Chemical & Scientific Corp. ....	1512
Instech Solomon.....	1205
ReCathCo .....	539

**U****ULTRAVIOLET ANALYZERS**

Carestream Molecular Imaging .....	316
UVP, LLC.....	1506

**USSING CHAMBERS**

Physiologic Instruments, Inc. ....	310
World Precision Instruments .....	330

**UV FLUORESCENCE DIAGNOSTIC EQUIPMENT**

Thorlabs Inc.....	1230
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**V****VALVES**

Hamilton Company .....	1409
VacuMed, Inc.....	650



**VIDEO CAMERAS**

CLEVER SYS INC .....	1115
DiCon/ScopeLED.....	340
IonOptix .....	136
Living Systems Instrumentation.....	245
MED Associates, Inc. ....	1121

**VIDEO SYSTEMS MEASURING**

BIOOBSERVE .....	737
CLEVER SYS INC .....	1115
Coulbourn Instruments.....	304
IonOptix .....	136
Panlab .....	302
TSE Systems, Inc. ....	730

**VISUAL RESEARCH EQUIPMENT**

Glenbrook Technologies.....	1216
Gubener Plastinate GmbH.....	545
MED Associates, Inc. ....	1121

**W****WATER BATHS**

C & A Scientific Co., Inc.....	739
Chemglass Life Sciences.....	1518
Hoefer, Inc. ....	1319

Living Systems Instrumentation.....	245
Physiologic Instruments, Inc. ....	310

**WATER PURIFICATION EQUIPMENT**

Conquer Scientific .....	1217
EMD Millipore .....	1310,1309, 1310
Labconco Corporation.....	915
Versa Laboratories .....	1221

**WATER PURIFICATION REVERSE OSMOSIS**

Labconco Corporation.....	915
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**WESTERN BLOTTING EQUIPMENT**

Bethyl Laboratories, Inc. ....	1538
Bio-Rad Laboratories .....	1415
Carestream Molecular Imaging.....	316
CBS Scientific Company Inc.....	1548
GE Healthcare .....	1321, 1322,1322
GenHunter Corporation.....	1223
Hoefer, Inc. ....	1319
LI-COR Biosciences.....	1109
Life Technologies .....	804
Lonza .....	610
Research Products International Corp.....	250
Silk Scientific, Inc. ....	1516

**Visit the Exhibits**  
**Sunday – Tuesday, 9:00 AM – 4:00 PM**

**Take advantage of this unique  
opportunity to view the best products  
and services available. There are more  
than 400 companies offering you a chance  
to discuss your specific needs.**

**Visit Exhibitor Product Workshops**  
**Sunday – Tuesday, 8:00 AM – 5:00 PM**  
**Hall A – Show Floor**

# EXHIBITOR PRODUCT WORKSHOPS

## EB 2012

San Diego Convention Center  
San Diego, CA

Sunday, April 22

### Full Implantable Transit Time Blood Flow

#### Konigsberg Instruments

2000 East Foothill Boulevard

Pasadena, CA 91107

Phone: 626-585-4032

Fax: 626-585-4068

Email: [w.j.mills@konigsberginc.com](mailto:w.j.mills@konigsberginc.com)

Web: [www.itstelemetry.com](http://www.itstelemetry.com)

10:00 AM – 11:00 AM – Room A (Hall A) – Show Floor

*Presenter:* Steve Pettinger

A discussion of the research applications and surgical techniques developed for the use of a revolutionary new fully implantable telemetry system that will measure Cardiac Output and Peripheral Blood Flow using Transit Time technology. The new T27 series encoder coupled with the TU7 implantable flow-meter permits full cardiac analysis in non-human primates, canines and swine. The battery life exceeds one year of continuous operation.

### A New Generation of Bruker AFMs for Biophysicists

#### Bruker Corporation

112 Robin Hill Road

Santa Barbara, CA 93117

Phone: 805-967-1400

Fax: 805-967-7717

Email: [productinfo@bruker-nano.com](mailto:productinfo@bruker-nano.com)

Web: [www.bruker-axs.com](http://www.bruker-axs.com)

11:00 AM – 12:00 PM – Room B (Hall A) – Show floor

*Presenter:* James E. Shaw, PhD

In this tutorial Bruker will present the latest advances in their full-line of atomic force microscopes (AFM) that continue to put their AFM systems at the forefront of biophysical research. Data will be presented from various application areas demonstrating the use of the self-optimizing ScanAsyst® Mode for ultra-low force high-resolution imaging of soft biological samples and PeakForce QNM® for correlative spatial mapping of sample nano-mechanical properties. We will present the latest in functionally integrated AFM and optical microscopy for live cell studies. We

will also discuss how Bruker's advances in high-speed AFM imaging are improving research productivity and providing biophysicists with unprecedented opportunities to directly observe the dynamics of biologically-related processes.

### EndoGear: A Fully Implantable Biotelemetry System to Measure Flow Velocity, Pressure and ECG in Cardiovascular Research Models

#### Transonic Systems

34 Dutch Mill Road

Ithaca, NY 14850

Phone: 607-257-5300

Fax: 607-257-7256

Email: [support@transonic.com](mailto:support@transonic.com)

Web: [www.transonic.com](http://www.transonic.com)

1:00 PM – 2:00 PM – Room B (Hall A) – Show Floor

*Presenters:* Koullis Pitsillides and Ghassan Kassab

Telemetry is an established technique for obtaining valuable data from unrestrained animals both in the laboratory and the field. Telemetry systems that can measure simple data including ECG and blood pressure using fluid-filled catheters have previously been available, but telemetry systems that can provide measurements of both blood pressure and blood flow dynamics have only recently been introduced. Such implantable telemetry systems can provide a more complete picture of the physiological status of the animal model under investigation.

EndoGear is a new, fully implantable biotelemetry system that measures the critical parameters for a complete hemodynamic study profile: blood flow velocity using Doppler ultrasound technology, arterial and ventricular pressure using miniature solid-state pressure catheters, ECG and temperature.

This workshop will introduce the unique capabilities of these implants, discuss details of the sensors used, identify and describe animal model applications where combined blood flow velocity and blood pressure measurements are key considerations and examine some of the data obtained using the EndoGear system.

**Monday, April 23**

**Genetically Modified Cell Lines to Drive Your Research: Targeted Genome Editing with ZFNs to Create Powerful New Cellular Models**

**Sigma Life Science**

3050 Spruce Street  
St. Louis, MO 63103  
Phone: 314-771-5765  
Email: [brad.keller@sial.cm](mailto:brad.keller@sial.cm)  
Web: [www.sigmaaldrich.com/life-science/cells-and-cell-based-assays.html](http://www.sigmaaldrich.com/life-science/cells-and-cell-based-assays.html)

12:00 PM – 1:00 PM – Room B (Hall A) – Show Floor

*Presenter:* Bradley T. Keller, PhD

Zinc finger nucleases allow rapid and permanent modification of gene loci to construct gene knockouts, targeted knock-ins or reporter-tagged cell lines. Using ZFN technology, we are creating in vitro models with human cancer cells that have specific mutations for colon, lung and breast cancers. These cells contain patient-relevant mutations of disease-specific genes providing ideal models to study an individual's drug sensitivity and resistance, e.g., personalized medicine. ZFNs are also used to modify cellular genes with fluorescent reporters, thus facilitating live-cell imaging of tagged proteins at endogenous expression levels. This allows evaluation of complex protein dynamics in processes such as receptor-mediated endocytosis. In addition to off-the-shelf cell lines, Sigma's Cell Design Studio uses ZFN technology to create custom genome modifications in mammalian cell lines tailored to highly specific research needs. Thus, our exciting cell line portfolio offers customers the perfect tools for their particular research applications.

**Utilizing Pressure-Volume Loops and Coronary Blood Flow to Assess Cardiac Efficiency in Miniature Swine with Compensated Heart Failure Following Low-Intensity Interval Exercise**

**Scisense Systems Inc.**

3397 White Oak Road, Unit 3  
London, ON N6E 3A1  
Canada  
Phone: 519-680-7677  
Email: [news@scisense.com](mailto:news@scisense.com)  
Web: [www.scisense.com](http://www.scisense.com)

1:00 PM – 2:00 PM – Room A (Hall A) – Show Floor

*Presenter:* Craig A. Emter, PhD

University of Missouri - Columbia

Despite decades of research, the exact mechanisms underlying changes in coronary vascular function during the development of heart failure and its subsequent impact on metabolic and LV function have yet to be clearly determined. In this workshop, Dr. Craig Emter will explain how he uses PV loop and flow measurements in a complimentary manner in his own lab to better understand cardiac physiology in vivo.

## Ensuring Accuracy in Multiplex Immunoassay Results

### R&D Systems, Inc.

614 McKinley Place NE  
Minneapolis, MN 55413  
Phone: 612-379-2956  
Fax: 612-379-6580  
Email: [Info@RnDSystems.com](mailto:Info@RnDSystems.com)  
Web: [www.RnDSystems.com](http://www.RnDSystems.com)

2:00 PM – 3:00 PM – Room B (Hall A) – Show Floor

*Presenter:* Jane Schmidt

Multiplex immunoassays are an efficient tool for evaluating multiple biomarkers simultaneously. With multiplex technology, a single assay using less than 100  $\mu$ L of sample can generate results that, with a traditional ELISA, would require several mL of sample and weeks of experimentation. However, one must keep in mind that the potential for cross-reactivity or interference in these assays also multiplies with the complexity of the panel. Multiplex assays must be fully validated to ensure accurate, precise, and reproducible results for the user.

R&D Systems has decades of experience developing immunoassays that are recognized as the best available. In this workshop we will discuss some of the factors that can negatively impact the performance of an immunoassay and how these can be magnified in a multiplex experiment. We will discuss practical ways to evaluate the performance of a multiplex immunoassay, including calibration, spike recovery, dilution linearity, sensitivity, precision and specificity, and how to evaluate product literature. We will also discuss how to assess your results against the current knowledge of the biomarker itself.

## The Digital Journey: A Microscope to Publication Image Primer

### The Histochemical Society

PO Box 85630  
Seattle, WA 98145-1630  
Phone: 206-832-9853  
Fax: 426-483-1058  
Email: [mmcgough@histochemicalsociety.org](mailto:mmcgough@histochemicalsociety.org)  
Web: [www.histochemicalsociety.org](http://www.histochemicalsociety.org)

4:00 PM – 5:00 PM – Room B (Hall A) – Show Floor

*Presenter:* Jerry Sedgewick

Moving from mounted labeled specimens on a microscope slide to publication quality images requires skills in three areas: Microscopy, Digital Photography and Post-Processing. These skills are usually taught independent of each other but this tutorial will follow the entire workflow from a fluorescently labeled microscope slide to a publication quality image. We include learning about the components of a microscope and how to take advantage of microscope features; which settings in camera software are most important; and the post-processing steps done in Photoshop<sup>©</sup> or in similar programs. This course is taught by a microscopist, who authored two books on scientific imaging and who directed a core light microscopy facility at the University of Minnesota for 15 years.

**Tuesday, April 24**

**Electric Cell-Substrate Impedance Sensing: A Label-Free, Non-Invasive Method of Cell Measurement**

**Applied Biophysics**

185 Jordon Road  
Troy, MY 12180  
Phone: 518-880-6860  
Email: [info@biophysics.com](mailto:info@biophysics.com)  
Web: [www.biophysics.com](http://www.biophysics.com)

10:00 AM – 11:00 AM – Room A (Hall A) – Show Floor

*Presenter:* Christian Renken

This workshop will provide an overview of the use of impedance to detect cell morphological changes. Emphasis will be placed on the use of different AC frequencies to distinguish cell parameters. Applications include barrier function, permeability, invasion/extravasation, signal transduction, and proliferation.

**Knockout Rat Models from SAGE Labs to Drive Research of Cholesterol Disequilibria**

**Sigma Life Science/SAGE Labs**

3050 Spruce Street  
St. Louis, MO 63103  
Phone: 314-771-5765  
Email: [jeff.xue@sial.com](mailto:jeff.xue@sial.com)  
Web: [www.sageresearchmodels.com](http://www.sageresearchmodels.com)

12:00 PM – 1:00 PM – Room A (Hall A) – Show Floor

*Presenter:* Jeff S. Xue, PhD

Cholesterol homeostasis has been correlated to several human disease pathologies including obesity, diabetes, atherosclerosis, Alzheimer's disease and Huntington's disease. To develop a better understanding of the mechanisms of cholesterol regulation we have created rats with manipulations in the genes Apoe, Ldlr and Lep. These mutants were created by injection of zinc finger nucleases (ZFN) into one-cell Sprague-Dawley rat embryos. Dimerization of ZFN pairs about their target DNA locus allows for FOKI nuclease activity, creating a double stranded break (DSB). DSBs are most commonly repaired by a mechanism called non-homologous end joining (NHEJ), which functions at varying fidelity. This introduces frameshift mutations and leads to a lack of functional protein. Phenotypic characterization of homozygous null animals demonstrated high serum cholesterol level and insulin resistance at early age. The three knockout rat models developed at SAGE Labs will be helpful in the study of the etiology of several human pathologies related to cholesterol homeostasis.

# Society Special Functions

## Daily Listing

### **Thursday, April 19, 2012**

- \*ASBMB Finance Committee Meeting—8:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Leucadia)
- \*ASBMB Council Executive Committee Meeting—5:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Leucadia)
- \*ASBMB Council Reception and Working Dinner—5:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Santa Rosa)
- \*ASIP Council Meeting—8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Del Mar)
- \*ASPET Finance Committee Meeting—5:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1/2)

### **Friday, April 20, 2012**

- \*AAA Board Meeting—8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Presidio)
- \*APS Extracellular Nucleotides and Nucleosides in the Regulation of Kidney Function—8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Solana)
- APS Section Advisory Committee Meeting—3:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Malibu)
- \*ASBMB Council Meeting—9:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Santa Rosa)
- \*ASBMB Graduate/Postdoctoral Travel Award Keynote Lecture—5:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salon 4)
- \*ASBMB JBC AE's Reception and Working Dinner—5:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Santa Rosa)
- \*ASBMB Graduate/Postdoctoral Travel Award Poster Session and Reception—6:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salons 1-3)
- \*ASIP Meetings & Courses Task Force Meeting—8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Del Mar)

- \*ASIP Program Committee Meeting—9:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Del Mar)
- \*ASIP Publications Committee Meeting—10:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Del Mar)
- \*ASIP Public Affairs Working Group—12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Del Mar)
- \*ASIP Membership Committee Meeting—1:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Del Mar)
- \*ASIP Education Committee Meeting—3:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Del Mar)
- \*ASIP Committee for Career Development, Women & Minorities Meeting—4:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Del Mar)

ASN Satellite Symposium: The Global Nutrition Transition: The Role of Lipid Supplementation—8:30 AM  
(San Diego Hilton Bayfront Hotel, Indigo Ballroom D)

ASN CARIG RIS Annual Symposium—1:00 PM  
(San Diego Hilton Bayfront Hotel, Indigo Ballroom C)

ASN Satellite Symposium - What Do We Really Know About Whole Foods Digestibility and Energy Values?—1:00 PM  
(San Diego Hilton Bayfront Hotel, Indigo Ballroom G/H)

ASN Industry Forum—5:30 PM  
(San Diego Hilton Bayfront Hotel, Room 310)

ASN CARIG VARIG Social and Poster Competition—6:30 PM  
(San Diego Hilton Bayfront Hotel, Indigo Ballroom B)

\*ASN Reception for Partners and Leaders—7:00 PM  
(San Diego Wine & Culinary Event Center, 200 Harbor Drive, Suite 120)

\*ASPET Council Meeting—8:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1/2)

\*ASPET Council of Division Chairs Meeting—1:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Torrey Pines 1)

ASPET Behavioral Pharmacology Society Meeting—6:00 PM  
(San Diego Marriott Marquis & Marina Hotel, San Diego Ballroom - Salon A)

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\*By invitation only. For up-to-date information, please visit [www.experimentalbiology.org](http://www.experimentalbiology.org)

The Microcirculatory Society Executive Council Meeting—  
6:00 PM  
(San Diego Marriott Marquis & Marina Hotel, La Costa)

### **Saturday, April 21, 2012**

AAA Career Networking Break—10:00 AM  
(San Diego Convention Center, Room 7A)

\*AAA Fellows Circle Meeting—12:45 PM  
(San Diego Convention Center, Room 12)

\*AAA Publications Committee Meeting—2:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Carlsbad)

\*AAA Wiley Reception—7:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Coronado  
and Coronado Terrace)

\*AACBNC Reception—5:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Mission  
Hills)

APS Animal Care and Experimentation Committee—  
8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Malibu)

\*APS Epithelial Transport Group Young Investigator  
Symposium—8:00 AM  
(San Diego Convention Center, Room 28A)

APS Refresher Course on Endocrinology—8:00 AM  
(San Diego Convention Center, Room 24)

\*APS Central Nervous System Section Steering Committee  
Meeting—11:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Dana  
Point)

APS Cardiovascular Section Program Committee—  
12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, La Costa)

APS Renal Section Steering Committee Meeting—12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Miramar)

APS Teaching Section Steering Committee Meeting—  
12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Malibu)

APS Porter Physiology Development Committee  
Meeting—1:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Malibu)

\*APS Frontiers in Physiology Research Teacher Orientation—  
2:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Balboa)

\*APS Neural Control and Autonomic Regulation Section  
Steering Committee Meeting—2:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Mission  
Hills)

\*APS/NIDDK Minority Travel Fellow Orientation and  
Porter Reception—3:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon G)

APS WEH Section Trainee Award Finalists Session and  
Data Diuresis—3:15 PM  
(San Diego Convention Center, Room 25A)

APS Undergraduate Orientation Session—3:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Santa  
Rosa)

APS 125<sup>th</sup> Anniversary Beach Party—7:00 PM  
(North Embarcadero) **Ticket required.**

\*ASBMB *Journal of Biological Chemistry* Editorial Board  
Orientation—8:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon DE)

ASBMB Fostering Partnerships between Colleges,  
Universities and K-12 Schools Workshop—9:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Santa  
Rosa)

\*ASBMB Professional Development Program for Graduate  
Students and Postdoctoral Trainees—9:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Marriott  
Hall - Salon 4)

ASBMB, Powering Up!—11:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Chicago/  
Atlanta)

\*ASBMB *Journal of Biological Chemistry* Editorial Board  
Luncheon—12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon G)

ASBMB 16<sup>th</sup> Annual Undergraduate Student Research  
Poster Competition—1:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Marriott  
Hall - Salons 1-3)

\*ASBMB *Journal of Biological Chemistry* Editorial Board  
Meeting—1:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon DE)

## Special Functions—SATURDAY

ASBMB Speed Dating, Finding Your Perfect Career “Match” (A Workshop for Undergraduates)—4:45 PM  
(San Diego Marriott Marquis & Marina Hotel, San Diego Ballroom - Salon A)

ASBMB Opening Lecture: Herbert Tabor/*Journal of Biological Chemistry* Lectureship—6:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salons 4-6)

ASBMB Opening Reception, immediately following Herbert Tabor/JBC Lectureship  
(San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salons 1-3)

ASIP Pathobiology for Basic Scientists: Cell Injury and Inflammation: New Riffs on a Classical Score—8:30 AM  
(San Diego Convention Center, Room 16A)

ASIP Graduate Education in Pathology Workshop—11:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Cardiff)

ASIP Breast Cancer Scientific Interest Group Networking Session—11:45 AM  
(San Diego Convention Center, Room 1B)

ASIP Highlights: Graduate Student Research in Pathology—1:30 PM  
(San Diego Convention Center, Room 15B)

ASIP Excellence in Science Award Lecture: Mechanisms of TDP-43 Mediated Neurodegeneration in ALS and FTL D—3:30 PM  
(San Diego Convention Center, Room 15B)

ASIP Trainee Welcome Reception—4:00 PM  
(San Diego Convention Center, Room 15A)

ASIP Outstanding Investigator Award Lecture: Lost in Ubiquitination, Found by Mass Spectrometry: Identification of E3 Ligase Substrates Controlling Critical Cellular Events and Cancer—5:00 PM  
(San Diego Convention Center, Room 16A)

\*ASIP *American Journal of Pathology* Editorial Board Dinner—6:15 PM  
(San Diego Marriott Marquis & Marina Hotel, Torrey Pines 3)

ASN Satellite Session: Proteins as Beneficial Ingredients in Fortified Blended Foods. What Food Aid Studies are Needed?—6:30 AM  
(San Diego Convention Center, Room 30A/B)

ASN Nutritional Sciences Council Business Meeting and Breakfast—7:00 AM  
(San Diego Hilton Bayfront Hotel, Room 310)

\*ASN RIS Chairs Luncheon—12:00 PM  
(San Diego Hilton Bayfront Hotel, Room 310)

ASN PhenHRIG 2012: The Human Microbiome and Bioactive Flavonoid—1:00 PM  
(San Diego Convention Center, Room 30A/B)

ASN Medical Nutrition Council Business Meeting—1:30 PM  
(San Diego Hilton Bayfront Hotel, Room 313)

ASN First-Time Attendee and New Member Orientation Organized by the Membership Committee—2:00 PM  
(San Diego Convention Center, Room 33C)

\*ASN Publications Operations Committee Meeting—2:00 PM  
(San Diego Hilton Bayfront Hotel, Room 312)

\*ASN Membership Committee Meeting—3:00 PM  
(San Diego Convention Center, Room 33B)

ASN Nutrition Immunology RIS Business Meeting—4:00 PM  
(San Diego Hilton Bayfront Hotel, Room 310)

ASN Energy and Macronutrient Metabolism RIS “Hot Topics” Seminar and Business Meeting—5:00 PM  
(San Diego Hilton Bayfront Hotel, Room 304)

ASN History of Nutrition Committee Meeting—5:00 PM  
(San Diego Hilton Bayfront Hotel, Room 504)

ASN Joint Reception and Poster Competition: Dietary Bioactive Components, Nutrient-Gene Interactions, and Vitamins & Minerals RIS—5:00 PM  
(San Diego Convention Center, Room 20B/C)

ASN Community and Public Health Nutrition RIS Business Meeting—5:30 PM  
(San Diego Convention Center, Room 33C)

ASN Experimental Animal Nutrition RIS Poster Competition & Business Meeting—6:00 PM  
(San Diego Convention Center, Room 24)

ASN Energy and Macronutrient Metabolism RIS “Hot Topics” Reception—6:30 PM  
(San Diego Hilton Bayfront Hotel, Room 306B)

ASN Dietary Bioactive Components RIS Business Meeting—7:00 PM  
(San Diego Convention Center, Room 25A)

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\*By invitation only. For up-to-date information, please visit [www.experimentalbiology.org](http://www.experimentalbiology.org)



ASN Nutrient-Gene Interactions RIS Business Meeting—  
7:00 PM

(San Diego Convention Center, Room 22)

ASN Vitamins & Minerals RIS Business Meeting—7:00 PM  
(San Diego Convention Center, Room 25B)

ASN Reception for Membership and University Mixer—  
8:00 PM  
(San Diego Hilton Bayfront Hotel, Sapphire Ballroom  
DHLP)

ASPET Behavioral Pharmacology Society Meeting—  
8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon F)

\*ASPET Program Committee Meeting—12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Rancho  
Santa Fe 1/2)

ASPET Business Meeting—6:00 PM  
(San Diego Convention Center, Room 20D)

ASPET Opening Reception—7:30 PM  
(San Diego Convention Center, Center Terrace)

EB Exhibit Hall Lounges—8:00 AM  
(San Diego Convention Center, Halls A-D)

\*Expert Working Group on Metabolomics in Epi studies to  
investigate Cancer Risk—11:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Point  
Loma)

Cornell/Penn State Nutrition Mixer—5:00 PM  
(San Diego Hilton Bayfront Hotel, Room 500)

The Microcirculatory Society Awards Banquet—12:00 PM  
(San Diego Hilton Bayfront Hotel, Sapphire Ballroom D/H)

\*National SMART Team Reception—7:30 PM  
(San Diego Convention Center, Room 6B)

\*SEBM Council / Members' Business Meeting—12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Del Mar)

University of Michigan Department of Pharmacology Social  
Hour—9:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Laguna)

## **Sunday, April 22, 2012**

\*AAA New Member Welcome Breakfast—7:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Cardiff)

\*AAA Past President's Luncheon—12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Carlsbad)

AAA Undergraduate Poster Session—3:30 PM  
(San Diego Convention Center, Sails Pavilion)

AAA Young Investigator Symposium—5:00 PM  
(San Diego Convention Center, Room 9)

AAA Socializer—7:00 PM  
(San Diego Convention Center, West Terrace/West Lobby)

APS Environmental & Exercise Physiology Section Steering  
Committee Meeting—6:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Catalina)

APS Physiology Understanding Week Poster Session—  
7:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon D)

APS Respiration Section Trainee Highlights Breakfast—  
7:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon F)

\*APS Bruce Award Poster Judging—8:00 AM  
(San Diego Convention Center, Sails Pavilion)

APS Comparative and Evolutionary Physiology Section  
Steering Committee—8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Newport  
Beach)

APS Red Blood Cell Mechanisms of Tissue Blood Flow  
Control Coffee Break—8:00 AM  
(San Diego Convention Center, Room 26)

APS Senior Physiologists Lounge—9:00 AM  
(San Diego Convention Center, Room 28C)

APS Teaching of Physiology Section Roundtable Box  
Luncheon—11:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Cardiff)

\*APS Cardiovascular Section Steering Committee—  
12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, La Costa)

APS Career Opportunities in Physiology Committee  
Meeting—12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Coronado)

## Special Functions—SUNDAY

\*APS Endocrinology and Metabolism Steering Committee Meeting—12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Mission Hills*)

APS International Physiology Committee—12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Dana Point*)

APS Science Policy Committee—12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Catalina*)

APS Medical Physiology Course Directors Meeting—2:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Mission Hills*)

APS Respiration Section Steering Committee Meeting—2:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Catalina*)

\*APS Physiologists in Industry Committee Meeting—2:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Coronado*)

APS Undergraduate Poster Session and David Bruce Awards Reception—3:30 PM  
(*San Diego Convention Center, Sails Pavilion*)

\*APS Renal Section Posters and Professors—5:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Catalina*)

APS Physiologists in Industry Mixer—6:45 PM  
(*San Diego Marriott Marquis & Marina Hotel, Malibu*)

\*ASBMB Breakfast with Award Scientists—7:00 AM  
(*San Diego Convention Center, Room 11A*)

\*ASBMB Publications Committee Meeting—9:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Leucadia*)

\*ASBMB Lipid Research Division Steering and Advocacy Committee Meeting—12:30 PM  
(*San Diego Convention Center, Room 13*)

ASBMB Workshop on LIPID MAPS Lipidomics Tools—12:30 PM  
(*San Diego Convention Center, Room 11A*)

ASBMB Teaching Session with Stuart Kornfeld—1:30 PM  
(*San Diego Convention Center, Room 6B*)

\*ASBMB Undergraduate Affiliate Network Committee Meeting—1:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Leucadia*)

ASBMB Business Meeting—6:15 PM  
(*San Diego Convention Center, Room 11A*)

\*ASBMB Welcome Reception, hosted by the Minority Affairs Committee—6:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon D*)

ASIP Career Development Workshop and Breakfast: Getting Your Dream Job: Preparing Your CV and Managing Your Interview—7:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

\*ASIP Associate Editors Meeting—8:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Balboa*)

ASIP 12<sup>th</sup> Annual Career Development Program and Lunch: Fundamental Basics for Success: How to Write Award-Winning Grants—11:45 AM  
(*San Diego Marriott Marquis & Marina Hotel, Presidio*)

ASIP Rous Whipple Award Lecture: The Many Roles of VEGF in the Adult—5:00 PM  
(*San Diego Convention Center, Room 16B*)

ASIP Club Hepatomania—6:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Torrey Pines 2/3*)

ASIP Der Schadenklub - Cell Injury Scientific Interest Group Networking Reception—6:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon E*)

ASN Graduate Student Breakfast Supported by National Dairy Council—6:45 AM  
(*San Diego Hilton Bayfront Hotel, Room 304*)

\*ASN Advances in Nutrition Editors' Meeting—8:00 AM  
(*San Diego Hilton Bayfront Hotel, Room 312*)

ASN Diet and Cancer RIS Business Meeting, Poster Competition, and Reception—12:00 PM  
(*San Diego Convention Center, Room 33A*)

ASN Obesity RIS Business Meeting & Student Research Poster Competition—12:00 PM  
(*San Diego Convention Center, Room 33B*)

\*ASN Nutrition Education RIS Professional Development and Mentorship Luncheon—12:30 PM  
(*San Diego Convention Center, Room 14A*)

\*ASN Meet the Editors—12:45 PM  
(*San Diego Convention Center, Room 32B*)

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\*By invitation only. For up-to-date information, please visit [www.experimentalbiology.org](http://www.experimentalbiology.org)

\*ASN Publications Management Committee Meeting—  
2:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 504*)

ASN Sponsors and Awardees Meet and Greet—5:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 206*)

ASN Aging and Chronic Disease RIS Business Meeting—  
5:30 PM  
(*San Diego Convention Center, Room 33A*)

ASN Awards Ceremony—6:00 PM  
(*San Diego Hilton Bayfront Hotel, Indigo Ballroom A/E*)

ASN Event for Young Professionals and Postdocs—7:30 PM  
(*San Diego Hilton Bayfront Hotel, Room 311*)

\*ASN Supporting Members and Donors Reception—  
7:30 PM  
(*San Diego Hilton Bayfront Hotel, Elevation Room*)

\*ASPET All-Divisions Executive Officers' Meeting—  
7:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Chicago/Atlanta*)

ASPET Diversity Committee Mentoring Breakfast—  
7:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Anaheim*)

ASPET WiP into Shape Networking Walk—7:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Concierge Desk*)

ASPET JPET Associate Editors Breakfast Meeting—  
7:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 2*)

\*ASPET Neuropharmacology Division Executive Committee Meeting—7:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Torrey Pines 2/3*)

ASPET Building a Pharmacology Course from Scratch: Benefits & Pitfalls of a Cut and Paste Pharmacology Course—9:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salon 5*)

\*ASPET Cardiovascular Pharmacology Division Executive Committee Meeting—12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Torrey Pines 2/3*)

\*ASPET Drug Discovery, Drug Development & Regulatory Affairs Division Executive Committee Meeting—12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1*)

\*ASPET Drug Metabolism Division Executive Committee Meeting—12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Chicago/Atlanta*)

\*ASPET Integrative Systems, Translational and Clinical Pharmacology Division Executive Committee Meeting—12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 2*)

ASPET Adapting TBL Techniques to Teach Pharmacology to Graduate, Professional & Medical Students (Kumar)—  
3:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salon 5*)

ASPET Cardiovascular Pharmacology Division Business Meeting—5:45 PM  
(*San Diego Convention Center, Room 5B*)

ASPET Association of Medical Schools Pharmacology Chairs Reception—6:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, New York*)

ASPET Best Abstract Competition—6:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salons 3-4*)

\*ASPET Board of Publications Trustees Joint Editorial Boards Dinner—7:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, San Diego Ballroom - Salon C*)

Christian Fellowship Meeting—7:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 501*)

The Microcirculatory Society Business Meeting—4:45 PM  
(*San Diego Convention Center, Room 23*)

The Microcirculatory Society International Liaison Committee for Microcirculation Meeting—8:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Coronado*)

\*SEBM Editorial Board Meeting—11:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Santa Rosa*)

\*SEBM Socializer and Awards Presentation—5:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Presidio*)

## Special Functions—MONDAY

### Monday, April 23, 2012

AAA Education Roundtables—8:00 AM  
(San Diego Convention Center, Room 11A)

\*AAA Public Affairs Committee—8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Carlsbad)

\*AAA Scientific Affairs Committee—10:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Carlsbad)

\*AAA 125<sup>th</sup> Anniversary Task Force Meeting—12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Cardiff)

AAA Keynote and Business Meeting—5:00 PM  
(San Diego Convention Center, Room 8)

AAA Student Posters & Reception—7:00 PM  
(San Diego Convention Center, West Terrace/West Lobby)

Annual Business Meeting of Association of Scientists of Indian Origin in America (ASIOA)—4:30 PM  
(San Diego Marriott Marquis & Marina Hotel, San Diego Ballroom - Salon A)

\*APS Awards Committee Meeting—7:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Coronado)

\*APS/NIDDK Minority Travel Fellow Networking Breakfast—7:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Presidio)

APS Membership Committee Meeting—8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Catalina)

\*APS Physiology for Life Science Teachers & Students—8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon E)

APS Senior Physiologists' Lounge—9:00 AM  
(San Diego Convention Center, Room 28C)

APS Careers Symposium: Do I Need Another Degree?—10:30 AM  
(San Diego Convention Center, Room 28A)

APS Senior Physiologists Committee Meeting—11:45 AM  
(San Diego Marriott Marquis & Marina Hotel, Newport Beach)

\*APS Bodil Schmidt-Nielsen Distinguished Mentor and Scientist Award Reception—12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salon 2)

\*APS Chapter Advisory Committee (CAC) Business Meeting—12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Malibu)

APS History Group Business Meeting and Presentation—12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Catalina)

\*APS Physiology for Life Science Student Workshop—12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon F)

\*APS Perkins Memorial Award Committee—12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, La Costa)

\*APS Physiology for Life Science Teachers Workshop—1:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Del Mar)

APS Gastrointestinal & Liver Section Trainee Symposium—3:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon D)

APS Association of Chairs of Departments of Physiology (ACDP) Meeting—4:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Malibu)

APS Central Nervous System Section Reception and Awards—5:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Coronado)

APS Teaching of Physiology Section Business Meeting—5:45 PM  
(San Diego Marriott Marquis & Marina Hotel, La Costa)

APS Comparative and Evolutionary Physiology Section Business & Dinner Meeting—6:00 PM  
(The Horton Grand Hotel, 311 Island Avenue, San Diego, CA 92101)

APS NCAR Reception/Awards Presentations—6:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Point Loma)

APS Cell and Molecular Physiology Section Banquet—6:30 PM  
(The Fleetwood, 639 J Street, San Diego, CA 92101)

APS Respiration Section Awards Presentation and Banquet—6:30 PM  
(Holiday Inn on the Bay, 1355 N. Harbor Drive, San Diego, CA 92101)

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\*By invitation only. For up-to-date information, please visit [www.experimentalbiology.org](http://www.experimentalbiology.org)

- APS Cardiovascular Section Reception and Dinner—7:00 PM  
(*California Spirit, Fifth Avenue Landing*)
- APS EEP Section Business Meeting—7:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salon 5*)
- APS Endocrinology and Metabolism Section Awards Reception and Business Meeting—7:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Newport Beach*)
- APS Renal Section Banquet and Business Meeting—7:00 PM  
(*Hotel Solamar, Solstice Ballroom, 435 6<sup>th</sup> Avenue at J Street, San Diego, CA 92101*)
- APS Teaching of Physiology Section Dinner—7:00 PM  
(*La Fiesta Mexican Cuisine & Lounge, 628 5<sup>th</sup> Avenue, San Diego, CA 92101*)
- APS Environmental & Exercise Physiology Section Social—8:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Santa Rosa*)
- \*ASBMB Breakfast with Award Scientists—7:00 AM  
(*San Diego Convention Center, Room 11A*)
- \*ASBMB AMGDB Chairs Meeting—12:30 PM  
(*San Diego Convention Center, Room 13*)
- ASBMB Effectively Communicating Your Science, Public Policy Session—12:30 PM  
(*San Diego Convention Center, Room 6B*)
- ASBMB Lipid Droplets: Basic Working Principles Workshop—12:30 PM  
(*San Diego Convention Center, Room 11A*)
- ASBMB Thematic Fermentation Hour—6:00 PM  
(*San Diego Convention Center, West Mezzanine Terrace*)
- ASBMB 1st Annual Poetry Contest Reading—7:00 PM  
(*San Diego Convention Center, Ballroom 6 Lobby*)
- ASIP Cotran Early Career Investigator Award Lecture: Molecular Engines that Build and Break Epithelial Barriers—8:30 AM  
(*San Diego Convention Center, Room 16A*)
- \*ASIP APC at ASIP—12:45 PM  
(*San Diego Convention Center, Room 33B*)
- ASIP Lunch & Learn: Best Practices of Biobanking and Specimen Collection—12:45 PM  
(*San Diego Convention Center, Room 14A*)
- ASIP Veterinary Pathology Scientific Interest Group/Networking Event—12:45 PM  
(*San Diego Convention Center, Sails Pavilion*)
- ASIP Awards Presentation & Business Meeting—5:00 PM  
(*San Diego Convention Center, Room 16A*)
- ASIP Awards Reception—6:00 PM  
(*San Diego Convention Center, Mezzanine Foyer*)
- \*ASN Advances in Nutrition Editorial Board Meeting—7:00 AM  
(*San Diego Hilton Bayfront Hotel, Room 500*)
- \*ASN *The American Journal of Clinical Nutrition* Editorial Board Meeting—7:00 AM  
(*San Diego Hilton Bayfront Hotel, Room 313*)
- ASN Department Heads Breakfast supported by Kellogg—7:00 AM  
*San Diego Hilton Bayfront Hotel, Room 310*)
- ASN *Journal of Nutrition* Editorial Board Meeting—7:00 AM  
*San Diego Hilton Bayfront Hotel, Room 311*)
- ASN Nutritional Epidemiology RIS Business Meeting—8:30 AM  
(*San Diego Convention Center, Room 33A*)
- \*ASN Public Information Committee Meeting—10:00 AM  
(*San Diego Hilton Bayfront Hotel, Room 312*)
- ASN Students Meet the Fellows—10:30 AM  
(*San Diego Hilton Bayfront Hotel, Room 310*)
- ASN Fellows, 50-Year Members, and Past Presidents Luncheon—11:30 AM  
(*San Diego Hilton Bayfront Hotel, Room 304*)
- ASN Nutrition Translation RIS Business Meeting and Networking Mixer—12:30 PM  
(*San Diego Convention Center, Room 33A*)
- \*ASN Graduate and Professional Education Committee with Sub-Committees Business Meeting—1:45 PM  
(*San Diego Convention Center, Room 33C*)
- ASN Nutrition Education RIS Business Meeting—5:00 PM  
(*San Diego Convention Center, Room 33C*)
- ASN Annual Business Meeting—5:30 PM  
(*San Diego Convention Center, Room 31*)
- ASN KNS Global Synergies for Food and Health: KNS and Foodopolis (Korean National Food Cluster)—6:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 520*)

## Special Functions—MONDAY

ASN International Nutrition Council Business Meeting and Kellogg Prize in International Nutrition Research Lecture—6:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 306*)

ASN KNS Korean Scientists Night Reception supported by FOODOPOLIS—7:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 500*)

\*ASN Journal Reception—7:30 PM  
(*Roy's Hawaiian Fusion, 333 West Harbor Drive*)

ASN Speed Mentoring for Students (SIG/YPIG)—7:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salon 1*)

ASN International Nutrition Council Reception—8:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 308*)

\*ASPET Behavioral Pharmacology Executive Business Meeting—7:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1*)

\*ASPET Molecular Pharmacology Editorial Board Meeting—7:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Torrey Pines 3*)

\*ASPET Pharmacology Education Division Executive Committee Meeting—7:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Torrey Pines 2*)

ASPET Drug Discovery, Drug Development & Regulatory Affairs Division Business Meeting—12:15 PM  
(*San Diego Convention Center, Room 5B*)

ASPET Diversity Committee Meeting—12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1*)

\*ASPET Molecular Pharmacology Division Executive Committee Meeting—12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Torrey Pines 2*)

\*ASPET Pharmacological Reviews Editorial Board Meeting—12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Torrey Pines 3*)

ASPET Behavioral Pharmacology Division Business Meeting—5:45 PM  
(*San Diego Convention Center, Room 2*)

ASPET Drug Metabolism Division Business Meeting—5:45 PM  
(*San Diego Convention Center, Room 3*)

ASPET Integrative Systems, Translational and Clinical Pharmacology Division Business Meeting—5:45 PM  
(*San Diego Convention Center, Room 5A*)

ASPET Pharmacology Education Division Business Meeting—5:45 PM  
(*San Diego Convention Center, Room 5B*)

ASPET Molecular Pharmacology Division Business Meeting and Mixer—7:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Presidio*)

ASPET Pharmacology Education Division, Drug Discovery, Drug Development and Regulatory Affairs Division, and Integrative Systems, Translational, and Clinical Pharmacology Division Joint Mixer—7:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Solana*)

\*ASPET Mentoring: A Formula for Success—8:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1/2*)

Association of African Biomedical Scientists (AABS) Inc. Annual General and Scientific Meeting—4:00 PM  
(*San Diego Convention Center, Room 15B*)

\*The Friedman School and Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University Alumni and Friends Cocktail Reception—6:00 PM  
(*San Diego Hilton Bayfront Hotel, Elevation Room*)

German Science Breakfast—8:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

Iowa State University Reception—7:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 504*)

The University of Arizona Dept of Chemistry & Biochemistry Reception for Alumni & Friends—5:00 PM  
(*San Diego Convention Center, Room 12*)

University of Illinois Nutrition Mixer—7:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 503*)

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\*By invitation only. For up-to-date information, please visit [www.experimentalbiology.org](http://www.experimentalbiology.org)

**Tuesday, April 24, 2012**

\*AAA-ASE Editorial Board Meeting—7:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Carlsbad)

\*AAA Membership Meeting—7:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Balboa)

\*AAA Educational Affairs Committee—8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Cardiff)

\*AAA Professional Development Committee—10:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Balboa)

\*AAA - AR Editorial Board Meeting—12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Cardiff)

\*AAA Terminology Committee—12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Carlsbad)

AAA Awards Reception—7:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon DE Foyer)

AAA Awards Banquet—7:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon DE)

\*APS Gastrointestinal & Liver Section Steering Committee—6:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Coronado)

\*APS Education Committee Meeting—7:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Catalina)

APS Senior Physiologists' Lounge—9:00 AM  
(San Diego Convention Center, Room 28C)

\*APS Respiration Section Program Committee Meeting—11:45 AM  
(San Diego Marriott Marquis & Marina Hotel, Coronado)

\*APS Women in Physiology Committee Meeting—12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Catalina)

\*APS Frontiers in Physiology Research Teacher Fellowship Awards Luncheon—12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Santa Rosa)

APS Business Meeting—6:00 PM  
(San Diego Convention Center, Room 20A)

APS Gastrointestinal and Liver Section Banquet, Business Meeting and Awards—7:00 PM  
(Roma Thai Restaurant, 327 Fourth Avenue)

\*ASBMB Work-Life Balance and Time Management: A Professional Development Workshop for Students, Postdocs and Junior Faculty—12:30 PM  
(San Diego Convention Center, Room 11A)

ASBMB Women Scientists' Panel and Networking Reception—6:00 PM  
(San Diego Convention Center, Room 11A)

ASIP Scientific Sleuthing of Human Disease for High School Teachers—8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Solana)

ASIP Neuropathology Scientifics Interest Group Lunch/Networking Session—11:45 AM  
(San Diego Convention Center, Room 33A)

ASIP Endothelial and Epithelial Contributions to Homeostasis and the Inflammatory Response Special Interest Group Reception—5:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Del Mar)

ASN Minority Affairs Committee MARC Travel Awardees Poster Session and Networking Breakfast—7:00 AM  
(San Diego Convention Center, Room 33A)

ASN Lactation RIS/ISRHML Business Meeting & Luncheon—12:00 PM  
(San Diego Hilton Bayfront Hotel, Room 310)

ASN ARS W.O. Atwater Memorial Lecture Reception—1:45 PM  
(San Diego Convention Center, Room 20B/C)

ASN Student Career Discussion—5:30 PM  
(San Diego Hilton Bayfront Hotel, Room 310)

\*ASPET Drug Metabolism and Disposition Editorial Board Meeting—7:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1/2)

\*ASPET Nominating Committee Meeting—7:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Torrey Pines 2)

\*ASPET Board of Publications Trustees Meeting—12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Torrey Pines 3)

ASPET Graduate Recruitment & Education Committee Meeting—12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1/2)

## Special Functions—TUESDAY/WEDNESDAY

ASPET WiP Career Roundtable—1:00 PM

*(San Diego Convention Center, Room 12)*

ASPET Neuropharmacology Division Business Meeting—  
5:45 PM

*(San Diego Convention Center, Room 3)*

ASPET Toxicology Division Executive Committee and  
Business Meeting—5:45 PM

*(San Diego Convention Center, Room 5A)*

ASPET Cardiovascular Pharmacology Division Mixer—  
6:00 PM

*(San Diego Marriott Marquis & Marina Hotel, Santa  
Rosa)*

ASPET Drug Metabolism Division & Toxicology Division  
Joint Mixer—7:00 PM

*(San Diego Marriott Marquis & Marina Hotel, Balboa)*

ASPET Neuropharmacology Division Mixer—7:00 PM

*(San Diego Marriott Marquis & Marina Hotel, Solana)*

ASPET Student/Postdoc Mixer—9:00 PM

*(San Diego Marriott Marquis & Marina Hotel, Marriott  
Hall - Salon 2)*

Calcutta University Alumni Dinner Meeting—6:30 PM

*(Royal India, 329 Market Street, 619-269-9999)*

Contact: Dipak K. Banerjee, 787-758-2552, Ext. 1624

WVU-HSC Alumni Mixer for Biomedical Sciences—  
5:30 PM

*(San Diego Convention Center, Room 12)*

## Wednesday, April 25, 2012

\*AAA Program Committee Meeting—10:00 AM

*(San Diego Convention Center, Room 13)*

APS Mentoring Symposium: Conflict Resolution: How to  
Keep Everyone Happy!—8:00 AM

*(San Diego Convention Center, Room 25C)*

APS Trainee Symposium: E-Media Tools for the Professional  
Scientist—10:30 AM

*(San Diego Convention Center, Room 25C)*

\*APS/NIDDK Minority Travel Fellow Luncheon—12:00 PM

*(San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon D)*

APS Noble Prize in Physiology of Medicine Lecture—  
4:30 PM

*(San Diego Convention Center, Ballroom 20A)*

APS Closing Dinner—6:30 PM

*(San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon E/F) **Ticket required.***

ASPET Closing Reception—6:00 PM

*(San Diego Marriott Marquis & Marina Hotel, Poolside  
Terrace)*

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*\*By invitation only. For up-to-date information, please visit [www.experimentalbiology.org](http://www.experimentalbiology.org)*



# Society Special Functions

## Alphabetical Listing

- \*AAA 125<sup>th</sup> Anniversary Task Force Meeting—Monday, 12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Cardiff)
- \*AAA - AR Editorial Board Meeting—Tuesday, 12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Cardiff)
- AAA Awards Reception and Banquet—Tuesday, 7:00PM  
(San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon DE and Foyer)
- \*AAA Board Meeting—Friday, 8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Presidio)
- AAA Career Networking Break—Saturday, 10:00 AM  
(San Diego Convention Center, Room 7A)
- AAA Education Roundtables—Monday, 8:00 AM  
(San Diego Convention Center, Room 11A)
- \*AAA Educational Affairs Committee—Tuesday, 8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Cardiff)
- \*AAA Fellows Circle Meeting—Saturday, 12:45 PM  
(San Diego Convention Center, Room 12)
- AAA Keynote and Business Meeting—Monday, 5:00 PM  
(San Diego Convention Center, Room 8)
- \*AAA Membership Meeting- Tuesday, 7:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Balboa)
- \*AAA New Member Welcome Breakfast—Sunday, 7:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Cardiff)
- \*AAA Past President's Luncheon—Sunday, 12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Carlsbad)
- \*AAA Professional Development Committee—Tuesday, 10:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Balboa)
- \*AAA Program Committee Meeting—Wednesday, 10:00 AM  
(San Diego Convention Center, 13)
- \*AAA Public Affairs Committee—Monday, 8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Carlsbad)
- \*AAA Publications Committee Meeting—Saturday, 2:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Carlsbad)
- \*AAA Scientific Affairs Committee—Monday, 10:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Carlsbad)
- AAA Socializer—Sunday, 7:00 PM  
(San Diego Convention Center, West Terrace/West Lobby)
- AAA Student Posters & Reception—Monday, 7:00 PM  
(San Diego Convention Center, West Terrace/West Lobby)
- \*AAA Terminology Committee—Tuesday, 12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Carlsbad)
- \*AAA Wiley Reception—Saturday, 7:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Coronado and Coronado Terrace)
- AAA Young Investigator Symposium—Sunday, 5:00 PM  
(San Diego Convention Center, Room 9)
- \*AACBNC Reception—Saturday, 5:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Mission Hills)
- Annual Business Meeting of Association of Scientists of Indian Origin, in America (ASIOA)—Monday, 4:30 PM  
(San Diego Marriott Marquis & Marina Hotel, San Diego Ballroom - Salon A)
- APS 125<sup>th</sup> Anniversary Beach Party—Saturday, 7:00 PM  
(North Embarcadero) **Ticket required.**
- APS 125 Years of Physiology Timeline—Saturday-Wednesday, 7:30 AM  
(San Diego Convention Center, Sails Pavilion)
- APS Animal Care and Experimentation Committee—Saturday, 8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Malibu)
- APS Association of Chairs of Departments of Physiology (ACDP) Meeting—Monday, 4:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Malibu)
- \*APS Awards Committee Meeting—Monday, 7:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Coronado)
- \*APS Bodil Schmidt-Nielsen Distinguished Mentor and Scientist Award Reception—Monday, 12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salon 2)
- \*APS Bruce Award Poster Judging—Sunday, 8:00 AM  
(San Diego Convention Center, Sails Pavilion)
- APS Business Meeting—Tuesday, 6:00 PM  
(San Diego Convention Center, Room 20A)

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## Special Functions—ALPHABETICAL

APS Cardiovascular Section Program Committee—  
Saturday, 12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, La Costa*)

APS Cardiovascular Section Reception and Dinner—  
Monday, 7:00 PM  
(*California Spirit, Fifth Avenue Landing*)

\*APS Cardiovascular Section Steering Committee—  
Sunday, 12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, La Costa*)

APS Career Opportunities in Physiology Committee  
Meeting—Sunday, 12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Coronado*)

APS Careers Symposium: Do I Need Another Degree?—  
Monday, 10:30 AM  
(*San Diego Convention Center, Room 28A*)

APS Cell and Molecular Physiology Section Banquet—  
Monday, 6:30 PM  
(*The Fleetwood, 639 J Street, San Diego, CA 92101*)

APS Central Nervous System Section Reception and  
Awards—Monday, 5:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Coronado*)

\*APS Central Nervous System Section Steering Committee  
Meeting—Saturday, 11:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Dana  
Point*)

\*APS Chapter Advisory Committee (CAC) Business  
Meeting—Monday, 12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Malibu*)

APS Closing Dinner—Wednesday, 6:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon E/F*) **Ticket required.**

APS Comparative and Evolutionary Physiology Section  
Business & Dinner Meeting—Monday, 6:00 PM  
(*The Horton Grand Hotel, 311 Island Avenue, San Diego,  
CA 92101 619-544-1886*)

APS Comparative and Evolutionary Physiology Section  
Steering Committee—Sunday, 8:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Newport  
Beach*)

\*APS Education Committee Meeting—Tuesday, 7:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Catalina*)

APS EEP Section Business Meeting—Monday, 7:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott  
Hall - Salon 5*)

APS Endocrinology and Metabolism Section Awards  
Reception and Business Meeting—Monday, 7:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Newport  
Beach*)

\*APS Endocrinology and Metabolism Steering Committee  
Meeting—Sunday, 12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Mission  
Hills*)

APS Environmental & Exercise Physiology Section  
Social—Monday, 8:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Santa  
Rosa*)

APS Environmental & Exercise Physiology Section Steering  
Committee Meeting—Sunday, 6:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Catalina*)

\*APS Epithelial Transport Group Young Investigator  
Symposium—Saturday, 8:00 AM  
(*San Diego Convention Center, Room 28A*)

\*APS Extracellular Nucleotides and Nucleosides in the  
Regulation of Kidney Function—Friday, 8:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Solana*)

\*APS Frontiers in Physiology Research Teacher Fellowship  
Awards Luncheon—Tuesday, 12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Santa  
Rosa*)

\*APS Frontiers in Physiology Research Teacher  
Orientation—Saturday, 2:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Balboa*)

\*APS Gastrointestinal & Liver Section Steering Committee—  
Tuesday, 6:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Coronado*)

APS Gastrointestinal & Liver Section Trainee Symposium—  
Monday, 3:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon D*)

APS Gastrointestinal and Liver Section Banquet, Business  
Meeting and Awards—Tuesday, 7:00 PM  
(*Rama Thai Restaurant, 327 Fourth Avenue, San Diego,  
CA 92101*)

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APS History Group Business Meeting and Presentation—  
Monday, 12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Catalina*)

APS International Physiology Committee—Sunday,  
12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Dana  
Point*)

APS Medical Physiology Course Directors Meeting—  
Sunday, 2:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Mission  
Hills*)

APS Membership Committee Meeting—Monday, 8:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Catalina*)

APS Mentoring Symposium: Conflict Resolution: How to  
Keep Everyone Happy!—Wednesday, 8:00 AM  
(*San Diego Convention Center, Room 25C*)

APS NCAR Reception/Awards Presentations—Monday,  
6:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Point  
Loma*)

\*APS Neural Control and Autonomic Regulation Section  
Steering Committee Meeting—Saturday, 2:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Mission  
Hills*)

\*APS/NIDDK Minority Travel Fellow Luncheon—  
Wednesday, 12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon D*)

\*APS/NIDDK Minority Travel Fellow Networking  
Breakfast—Monday, 7:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Presidio*)

\*APS/NIDDK Minority Travel Fellow Orientation and  
Porter Reception—Saturday, 3:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon G*)

APS Noble Prize in Physiology of Medicine Lecture—  
Wednesday, 4:30 PM  
(*San Diego Convention Center, Ballroom 20A*)

\*APS Perkins Memorial Award Committee—Monday,  
12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, La Costa*)

\*APS Physiologists in Industry Committee Meeting—  
Sunday, 2:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Coronado*)

APS Physiologists in Industry Mixer—Sunday, 6:45 PM  
(*San Diego Marriott Marquis & Marina Hotel, Malibu*)

\*APS Physiology for Life Science Student Workshop—  
Monday, 12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon F*)

\*APS Physiology for Life Science Teachers & Students—  
Monday, 8:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon E*)

\*APS Physiology for Life Science Teachers Workshop—  
Monday, 1:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

APS Physiology Understanding Week Poster Session—  
Sunday, 7:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Marina  
Ballroom - Salon D*)

APS Porter Physiology Development Committee Meeting—  
Saturday, 1:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Malibu*)

APS Publications Committee Banquet—Sunday, 6:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, San Diego  
Ballroom - Salon A/B*)

APS- Red Blood Cell Mechanisms of Tissue Blood Flow  
Control—Coffee Break—Sunday, 8:00 AM  
(*San Diego Convention Center, Room 26*)

APS Refresher Course on Endocrinology—Saturday,  
8:00 AM  
(*San Diego Convention Center, Room 24*)

APS Renal Section Banquet and Business Meeting—  
Monday, 7:00 PM  
(*Hotel Solamar, Solstice Ballroom 435 6<sup>th</sup> Avenue at  
J Street, San Diego, CA 92101*)

\*APS Renal Section Posters and Professors—Sunday,  
5:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Catalina*)

APS Renal Section Steering Committee Meeting—Saturday,  
12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Miramar*)

APS Respiration Section Awards Presentation and  
Banquet—Monday, 6:30 PM  
(*Holiday Inn on the Bay, 1355 N. Harbor Drive, San  
Diego, CA 92101*)

## Special Functions—ALPHABETICAL

- \*APS Respiration Section Program Committee Meeting—  
Tuesday, 11:45 AM  
(*San Diego Marriott Marquis & Marina Hotel, Coronado*)
- APS Respiration Section Steering Committee Meeting—  
Sunday, 2:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Catalina*)
- APS Respiration Section Trainee Highlights Breakfast—  
Sunday, 7:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon F*)
- APS Science Policy Committee—Sunday, 12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Catalina*)
- APS Section Advisory Committee Meeting—Friday, 3:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Malibu*)
- APS Senior Physiologists Committee Meeting—Monday,  
11:45 AM  
(*San Diego Marriott Marquis & Marina Hotel, Newport Beach*)
- APS Senior Physiologists Lounge—Sunday—Tuesday,  
9:00 AM  
(*San Diego Convention Center, Room 28C*)
- APS Teaching of Physiology Section Business Meeting—  
Monday, 5:45 PM  
(*San Diego Marriott Marquis & Marina Hotel, La Costa*)
- APS Teaching of Physiology Section Dinner—Monday,  
7:00 PM  
(*La Fiesta Mexican Cuisine & Lounge, 628 5<sup>th</sup> Avenue, San Diego, CA 92101*)
- APS Teaching of Physiology Section Roundtable Box Luncheon—Sunday, 11:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Cardiff*)
- APS Teaching Section Steering Committee Meeting—  
Saturday, 12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Malibu*)
- APS Trainee Symposium: E-Media Tools for the Professional Scientist—Wednesday, 10:30 AM  
(*San Diego Convention Center, Room 25C*)
- APS Undergraduate Orientation Session—Saturday, 3:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Santa Rosa*)
- APS Undergraduate Poster Session and David Bruce Awards Reception—Sunday, 3:30 PM  
(*San Diego Convention Center, Sails Pavilion*)
- APS WEH Section Trainee Award Finalists Session and Data Diuresis—Saturday, 3:15 PM  
(*San Diego Convention Center, Room 25A*)
- \*APS Women in Physiology Committee Meeting—Tuesday,  
12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Catalina*)
- ASBMB 1st Annual Poetry Contest Reading—Monday,  
7:00 PM  
(*San Diego Convention Center, Ballroom 6 Lobby*)
- ASBMB 16<sup>th</sup> Annual Undergraduate Student Research Poster Competition—Saturday, 1:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salons 1-3*)
- \*ASBMB AMGDB Chairs Meeting—Monday, 12:30 PM  
(*San Diego Convention Center, Room 11A*)
- \*ASBMB Breakfast with Award Scientists—Monday,  
7:00 AM  
(*San Diego Convention Center, Room 13*)
- \*ASBMB Breakfast with Award Scientists—Sunday,  
7:00 AM  
(*San Diego Convention Center, Room 11A*)
- ASBMB Business Meeting—Sunday, 6:15 PM  
(*San Diego Convention Center, Room 11A*)
- \*ASBMB Council Executive Committee Meeting—  
Thursday, 5:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Leucadia*)
- \*ASBMB Council Meeting—Friday, 9:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Santa Rosa*)
- \*ASBMB Council Reception and Working Dinner—  
Thursday, 5:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Santa Rosa*)
- ASBMB Effectively Communicating Your Science, Public Policy Session—Monday, 12:30 PM  
(*San Diego Convention Center, Room 6B*)
- \*ASBMB Finance Committee Meeting—Thursday, 8:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Leucadia*)
- ASBMB Fostering Partnerships between Colleges, Universities and K-12 Schools Workshop—Saturday,  
9:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Santa Rosa*)

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\*By invitation only. For up-to-date information, please visit [www.experimentalbiology.org](http://www.experimentalbiology.org)

- \*ASBMB Graduate/Postdoctoral Travel Award Keynote Lecture—Friday, 5:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salon 4*)
- \*ASBMB Graduate/Postdoctoral Travel Award Poster Session and Reception—Friday, 6:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salons 1-3*)
- \*ASBMB JBC AE's Reception and Working Dinner—Friday, 5:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Santa Rosa*)
- \*ASBMB *Journal of Biological Chemistry* Editorial Board Luncheon—Saturday, 12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon G*)
- \*ASBMB *Journal of Biological Chemistry* Editorial Board Meeting—Saturday, 1:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon D/E*)
- \*ASBMB *Journal of Biological Chemistry* Editorial Board Orientation—Saturday, 8:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon D/E*)
- ASBMB Lipid Droplets: Basic Working Principles Workshop—Monday, 12:30 PM  
(*San Diego Convention Center, Room 11A*)
- \*ASBMB Lipid Research Division Steering and Advocacy Committee Meeting—Sunday, 12:30 PM  
(*San Diego Convention Center, Room 13*)
- ASBMB Opening Lecture: Herbert Tabor/*Journal of Biological Chemistry* Lectureship—Saturday, 6:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salons 4-6*)
- ASBMB Opening Reception, immediately following Herbert Tabor/JBC Lectureship  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salons 1-3*)
- \*ASBMB Professional Development Program for Graduate Students and Postdoctoral Trainees—Saturday, 9:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salon 4*)
- \*ASBMB Publications Committee Meeting—Sunday, 9:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Leucadia*)
- ASBMB Speed Dating, Finding Your Perfect Career “Match” (A Workshop for Undergraduates)—Saturday, 4:45 PM  
(*San Diego Marriott Marquis & Marina Hotel, San Diego Ballroom - Salon A*)
- ASBMB Teaching Session with Stuart Kornfeld—Sunday, 1:30 PM  
(*San Diego Convention Center, Room 6B*)
- ASBMB Thematic Fermentation Hour—Monday, 6:00 PM  
(*San Diego Convention Center, West Mezzanine Terrace*)
- \*ASBMB Undergraduate Affiliate Network Committee Meeting—Sunday, 1:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Leucadia*)
- \*ASBMB Welcome Reception, hosted by the Minority Affairs Committee—Sunday, 6:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon D*)
- ASBMB Women Scientists' Panel and Networking Reception—Tuesday, 6:00 PM  
(*San Diego Convention Center, Room 11A*)
- \*ASBMB Work-Life Balance and Time Management: A Professional Development Workshop for Students, Postdocs and Junior Faculty—Tuesday, 12:30 PM  
(*San Diego Convention Center, Room 11A*)
- ASBMB Workshop on LIPID MAPS Lipidomics Tools—Sunday, 12:30 PM  
(*San Diego Convention Center, Room 11A*)
- ASBMB, Powering Up!—Saturday, 11:30 AM  
(*San Diego Marriott Marquis & Marina Hotel - Chicago/Atlanta*)
- ASIP 12<sup>th</sup> Annual Career Development Program and Lunch: Fundamental Basics for Success: How to Write Award-Winning Grants—Sunday, 11:45 AM  
(*San Diego Marriott Marquis & Marina Hotel, Presidio*)
- \*ASIP *American Journal of Pathology* Editorial Board Dinner—Saturday, 6:15 PM  
(*San Diego Marriott Marquis & Marina Hotel, Torrey Pines 3*)
- \*ASIP APC at ASIP—Monday, 12:45 PM  
(*San Diego Convention Center, Room 33B*)

## Special Functions—ALPHABETICAL

\*ASIP Associate Editors Meeting—Sunday, 8:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Balboa*)

ASIP Awards Presentation & Business Meeting—Monday, 5:00 PM  
(*San Diego Convention Center, Room 16A*)

ASIP Awards Reception—Monday, 6:00 PM  
(*San Diego Convention Center, Mezzanine Foyer*)

ASIP Breast Cancer Scientific Interest Group Networking Session—Saturday, 11:45 AM  
(*San Diego Convention Center, Room 1B*)

ASIP Career Development Workshop and Breakfast: Getting Your Dream Job: Preparing Your CV and Managing Your Interview—Sunday, 7:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

ASIP Club Hepatomania—Sunday, 6:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Torrey Pines 2/3*)

\*ASIP Committee for Career Development, Women & Minorities Meeting—Friday, 4:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

ASIP Cotran Early Career Investigator Award Lecture: Molecular Engines that Build and Break Epithelial Barriers—Monday, 8:30 AM  
(*San Diego Convention Center, Room 16A*)

\*ASIP Council Meeting—Thursday, 8:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

ASIP Der Schadenklub - Cell Injury Scientific Interest Group Networking Reception—Sunday, 6:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon E*)

\*ASIP Education Committee Meeting—Friday, 3:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

ASIP Endothelial and Epithelial Contributions to Homeostasis and the Inflammatory Response Special Interest Group Reception—Tuesday, 5:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

ASIP Excellence in Science Award Lecture: Mechanisms of TDP-43 Mediated Neurodegeneration in ALS and FTL—Saturday, 3:30 PM  
(*San Diego Convention Center, Room 15B*)

ASIP Graduate Education in Pathology Workshop—Saturday, 11:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Cardiff*)

ASIP Highlights: Graduate Student Research in Pathology—Saturday, 1:30 PM  
(*San Diego Convention Center, Room 15B*)

ASIP Lunch & Learn: Best Practices of Biobanking and Specimen Collection—Monday, 12:45 PM  
(*San Diego Convention Center, Room 14A*)

\*ASIP Meetings & Courses Task Force Meeting—Friday, 8:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

\*ASIP Membership Committee Meeting—Friday, 1:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

ASIP Neuropathology Scientifics Interest Group Lunch/Networking Session—Tuesday, 11:45 AM  
(*San Diego Convention Center, Room 33A*)

ASIP Outstanding Investigator Award Lecture: Lost in Ubiquitination, Found by Mass Spectrometry: Identification of E3 Ligase Substrates Controlling Critical Cellular Events and Cancer—Saturday, 5:00 PM  
(*San Diego Convention Center, Room 16A*)

ASIP Pathobiology for Basic Scientists: Cell Injury and Inflammation: New Riffs on a Classical Score—Saturday, 8:30 AM  
(*San Diego Convention Center, Room 16A*)

\*ASIP Program Committee Meeting—Friday, 9:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

\*ASIP Public Affairs Working Group—Friday, 12:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

\*ASIP Publications Committee Meeting—Friday, 10:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

ASIP Rous Whipple Award Lecture: The Many Roles of VEGF in the Adult—Sunday, 5:00 PM  
(*San Diego Convention Center, Room 16B*)

ASIP Scientific Sleuthing of Human Disease for High School Teachers—Tuesday, 8:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Solana*)

ASIP Trainee Welcome Reception—Saturday, 4:00 PM  
(*San Diego Convention Center, Room 15A*)

ASIP Veterinary Pathology Scientific Interest Group/Networking Event—Monday, 12:45 PM  
(*San Diego Convention Center, Sails Pavilion*)

\*ASN Advances in Nutrition Editorial Board Meeting—Monday, 7:00 AM  
(*San Diego Hilton Bayfront Hotel, Room 500*)

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\*By invitation only. For up-to-date information, please visit [www.experimentalbiology.org](http://www.experimentalbiology.org)

- \*ASN Advances in Nutrition Editors' Meeting—Sunday, 8:00 AM  
(*San Diego Hilton Bayfront Hotel, Room 312*)
- ASN Aging and Chronic Disease RIS Business Meeting—Sunday, 5:30 PM  
(*San Diego Convention Center, Room 33A*)
- ASN Annual Business Meeting—Monday, 5:30 PM  
(*San Diego Convention Center, Room 31*)
- ASN ARS W.O. Atwater Memorial Lecture Reception—Tuesday, 1:45 PM  
(*San Diego Convention Center, Ballroom 20B/C*)
- ASN Awards Ceremony—Sunday, 6:00 PM  
(*San Diego Hilton Bayfront Hotel, Indigo Ballroom A/E*)
- ASN CARIG RIS Annual Symposium—Friday, 1:00 PM  
(*San Diego Hilton Bayfront Hotel, Indigo Ballroom C*)
- ASN CARIG VARIG Social and Poster Competition—Friday, 6:30 PM  
(*San Diego Hilton Bayfront Hotel, Indigo Ballroom B*)
- ASN Community and Public Health Nutrition RIS Business Meeting—Saturday, 5:30 PM  
(*San Diego Convention Center, Room 33C*)
- ASN Department Heads Breakfast supported by Kellogg—Monday, 7:00 AM  
*San Diego Hilton Bayfront Hotel, Room 310*)
- ASN Diet and Cancer RIS Business Meeting, Poster Competition, and Reception—Sunday, 12:00 PM  
(*San Diego Convention Center, Room 33A*)
- ASN Dietary Bioactive Components RIS Business Meeting—Saturday, 7:00 PM  
(*San Diego Convention Center, Room 25A*)
- ASN Energy and Macronutrient Metabolism RIS “Hot Topics” Reception—Saturday, 6:30 PM  
(*San Diego Hilton Bayfront Hotel, Room 306B*)
- ASN Event for Young Professionals and Postdocs—Sunday, 7:30 PM  
(*San Diego Hilton Bayfront Hotel, Room 311*)
- ASN Energy and Macronutrient Metabolism RIS “Hot Topics” Seminar and Business Meeting—Saturday, 5:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 304*)
- ASN Experimental Animal Nutrition RIS Poster Competition & Business Meeting—Saturday, 6:00 PM  
(*San Diego Convention Center, Room 24*)
- ASN Fellows, 50-Year Members, and Past Presidents Luncheon—Monday, 11:30 AM  
(*San Diego Hilton Bayfront Hotel, Room 304*)
- ASN First-Time Attendee and New Member Orientation Organized by the Membership Committee—Saturday, 2:00 PM  
(*San Diego Convention Center, Room 33C*)
- \*ASN Graduate and Professional Education Committee with Sub-Committees Business Meeting—Monday, 1:45 PM  
(*San Diego Convention Center, Room 33C*)
- ASN Graduate Student Breakfast Supported by National Dairy Council—Sunday, 6:45 AM  
(*San Diego Hilton Bayfront Hotel, Room 304*)
- ASN History of Nutrition Committee Meeting—Saturday, 5:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 504*)
- ASN Industry Forum—Friday, 5:30 PM  
(*San Diego Hilton Bayfront Hotel, Room 310*)
- ASN International Nutrition Council Business Meeting and Kellogg Prize in International Nutrition Research Lecture—Monday, 6:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 306*)
- ASN International Nutrition Council Reception—Monday, 8:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 308*)
- ASN Joint Reception and Poster Competition: Dietary Bioactive Components, Nutrient-Gene Interactions, and Vitamins & Minerals RIS—Saturday, 5:00 PM  
(*San Diego Convention Center, Ballroom 20B/C*)
- \*ASN Journal Reception—Monday, 7:30 PM  
(*Roy's Hawaiian Fusion, 333 West Harbor Drive*)
- ASN KNS Global Synergies for Food and Health: KNS and Foodopolis (Korean National Food Cluster)—Monday, 6:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 520*)
- ASN KNS Korean Scientists Night Reception supported by FOODOPOLIS—Monday, 7:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 500*)
- ASN KNS Korean Nutrition Scientists Meeting and Reception—Monday, 7:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 500*)

## Special Functions—ALPHABETICAL

ASN Lactation RIS/ISRHML Business Meeting & Luncheon—Tuesday, 12:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 310*)

ASN Medical Nutrition Council Business Meeting—Saturday, 1:30 PM  
(*San Diego Hilton Bayfront Hotel, Room 313*)

\*ASN Meet the Editors—Sunday, 12:45 PM  
(*San Diego Convention Center, Room 16B*)

ASN Member and Attendee Lounge supported by Kraft Foods—Saturday—Tuesday, 7:30 AM  
(*San Diego Convention Center, Room 30E*)

ASN Membership Committee Meeting—Saturday, 3:00 PM  
(*San Diego Convention Center, Room 33B*)

ASN Minority Affairs Committee MARC Travel Awardees Poster Session and Networking Breakfast—Tuesday, 7:00 AM  
(*San Diego Convention Center, Room 33A*)

ASN Nutrition Education RIS Business Meeting—Monday, 5:00 PM  
(*San Diego Convention Center, Room 33C*)

\*ASN Nutrition Education RIS Professional Development and Mentorship Luncheon—Sunday, 12:30 PM  
(*San Diego Convention Center, Room 14A*)

ASN Nutrient-Gene Interactions RIS Business Meeting—Saturday, 7:00 PM  
(*San Diego Convention Center, Room 22*)

ASN Nutrition Translation RIS Business Meeting and Networking Mixer—Monday, 12:30 PM  
(*San Diego Convention Center, Room 33A*)

ASN Nutritional Epidemiology RIS Business Meeting—Monday, 8:30 AM  
(*San Diego Convention Center, Room 33A*)

ASN Nutritional Immunology RIS Business Meeting—Saturday, 4:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 310*)

ASN Nutritional Sciences Council Business Meeting and Breakfast—Saturday, 7:00 AM  
(*San Diego Hilton Bayfront Hotel, Room 310*)

ASN Obesity RIS Business Meeting & Student Research Poster Competition—Sunday, 12:00 PM  
(*San Diego Convention Center, Room 33B*)

ASN PhenHRIG 2012: The Human Microbiome and Bioactive Flavonoid—Saturday, 1:00 PM  
(*San Diego Convention Center, Room 30A/B*)

\*ASN Public Information Committee Meeting—Monday, 10:00 AM  
(*San Diego Hilton Bayfront Hotel, Room 312*)

\*ASN Publications Management Committee Meeting—Sunday, 2:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 504*)

\*ASN Publications Operations Committee Meeting—Saturday, 2:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 312*)

ASN Reception for Membership and University Mixer—Saturday, 8:00 PM  
(*San Diego Hilton Bayfront Hotel, Sapphire Ballroom DHLP*)

\*ASN Reception for Partners and Leaders—Friday, 7:00 PM  
(*San Diego Wine & Culinary Event Center, address?>*)

\*ASN RIS Chairs Luncheon—Saturday, 12:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 310*)

ASN Satellite Symposium - What Do We Really Know About Whole Foods Digestibility and Energy Values?—Friday, 1:00 PM  
(*San Diego Hilton Bayfront Hotel, Indigo Ballroom G/H*)

ASN Satellite Symposium: The Global Nutrition Transition: The Role of Lipid Supplementation—Friday, 8:30 AM  
(*San Diego Hilton Bayfront Hotel, Indigo Ballroom D*)

ASN Satellite Session: Proteins as Beneficial Ingredients in Fortified Blended Foods. What Food Aid Studies are Needed?—6:30 AM  
(*San Diego Convention Center, Room 30A/B*)

ASN Speed Mentoring for Students (SIG/YPIG)—Monday, 7:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salon 1*)

\*ASN Sponsors and Awardees Meet and Greet—Sunday, 5:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 206*)

ASN Student Career Discussion—Tuesday, 5:30 PM  
(*San Diego Hilton Bayfront Hotel, Room 310*)

ASN Students Meet the Fellows—Monday, 10:30 AM  
(*San Diego Hilton Bayfront Hotel, Room 310*)

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\*ASN *The American Journal of Clinical Nutrition* Editorial Board Meeting—Monday, 7:00 AM  
(*San Diego Hilton Bayfront Hotel, Room 313*)

ASN Vitamins & Minerals RIS Business Meeting—Saturday, 7:00 PM  
(*San Diego Convention Center, Room 25B*)

ASPET Adapting TBL Techniques to Teach Pharmacology to Graduate, Professional & Medical Students—Sunday, 3:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salon 5*)

\*ASPET All-Divisions Executive Officers' Meeting—Sunday, 7:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Chicago/Atlanta*)

ASPET- Association of Medical Schools Pharmacology Chairs Reception—Sunday, 6:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, New York*)

ASPET Behavioral Pharmacology Division Business Meeting—Monday, 5:45 PM  
(*San Diego Convention Center, Room 2*)

\*ASPET Behavioral Pharmacology Executive Business Meeting—Monday, 7:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1*)

ASPET Behavioral Pharmacology Society Meeting—Friday, 6:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, San Diego Ballroom - Salon A*)

ASPET Behavioral Pharmacology Society Meeting—Saturday, 8:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Marina Ballroom - Salon F*)

ASPET Best Abstract Competition—Sunday, 6:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salons 3-4*)

\*ASPET Board of Publications Trustees Joint Editorial Boards Dinner—Sunday, 7:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, San Diego Ballroom - Salon C*)

\*ASPET Board of Publications Trustees Meeting—Tuesday, 12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Torrey Pines 3*)

ASPET Building a Pharmacology Course from Scratch: Benefits & Pitfalls of a Cut and Paste Pharmacology Course—Sunday, 9:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salon 5*)

ASPET Business Meeting—Saturday, 6:00 PM  
(*San Diego Convention Center, Ballroom 20D*)

ASPET Cardiovascular Pharmacology Division Business Meeting—Sunday, 5:45 PM  
(*San Diego Convention Center, Room 5B*)

\*ASPET Cardiovascular Pharmacology Division Executive Committee Meeting—Sunday, 12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Torrey Pines 2/3*)

ASPET Cardiovascular Pharmacology Division Mixer—Tuesday, 6:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Santa Rosa*)

ASPET Closing Reception—Wednesday, 6:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Poolside Terrace*)

\*ASPET Council Meeting—Friday, 8:30 AM  
(*San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1/2*)

\*ASPET Council of Division Chairs Meeting—Friday, 1:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Torrey Pines 1*)

ASPET Diversity Committee Meeting—Monday, 12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1*)

ASPET Diversity Committee Mentoring Breakfast—Sunday, 7:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Anaheim*)

ASPET Drug Discovery, Drug Development & Regulatory Affairs Division Business Meeting—Monday, 12:15 PM  
(*San Diego Convention Center, Room 5B*)

\*ASPET Drug Discovery, Drug Development & Regulatory Affairs Division Executive Committee Meeting—Sunday, 12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1*)

## Special Functions—ALPHABETICAL

\*ASPET Drug Metabolism and Disposition Editorial Board Meeting—Tuesday, 7:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1/2)

ASPET Drug Metabolism Division & Toxicology Division Joint Mixer—Tuesday, 7:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Balboa)

ASPET Drug Metabolism Division Business Meeting—Monday, 5:45 PM  
(San Diego Convention Center, Room 3)

\*ASPET Drug Metabolism Division Executive Committee Meeting—Sunday, 12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Chicago/Atlanta)

\*ASPET Finance Committee Meeting—Thursday, 5:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1/2)

ASPET Graduate Recruitment & Education Committee Meeting—Tuesday, 12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1/2)

ASPET Integrative Systems, Translational and Clinical Pharmacology Division Business Meeting—Monday, 5:45 PM  
(San Diego Convention Center, Room 5A)

\*ASPET Integrative Systems, Translational and Clinical Pharmacology Division Executive Committee Meeting—Sunday, 12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 2)

ASPET JPET Associate Editors Breakfast Meeting—Sunday, 7:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 2)

\*ASPET Mentoring: A Formula for Success—Monday, 8:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1/2)

ASPET Molecular Pharmacology Division Business Meeting and Mixer—Monday, 7:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Presidio)

\*ASPET Molecular Pharmacology Division Executive Committee Meeting—Monday, 12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Torrey Pines 2)

\*ASPET Molecular Pharmacology Editorial Board Meeting—Monday, 7:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Torrey Pines 3)

ASPET Neuropharmacology Division Business Meeting—Tuesday, 5:45 PM  
(San Diego Convention Center, Room 3)

ASPET Neuropharmacology Division Mixer—Tuesday, 7:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Solana)

\*ASPET Neuropharmacology Division Executive Committee Meeting—Sunday, 7:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Torrey Pines 2/3)

\*ASPET Nominating Committee Meeting—Tuesday, 7:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Torrey Pines 2)

ASPET Opening Reception—Saturday, 7:30 PM  
(San Diego Convention Center, Center Terrace)

\*ASPET Pharmacological Reviews Editorial Board Meeting—Monday, 12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Torrey Pines 3)

ASPET Pharmacology Education Division Business Meeting—Monday, 5:45 PM  
(San Diego Convention Center, Room 5B)

\*ASPET Pharmacology Education Division Executive Committee Meeting—Monday, 7:30 AM  
(San Diego Marriott Marquis & Marina Hotel, Torrey Pines 2)

ASPET Pharmacology Education Division, Drug Discovery, Drug Development and Regulatory Affairs Division, and Integrative Systems, Translational, and Clinical Pharmacology Division Joint Mixer—Monday, 7:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Solana)

\*ASPET Program Committee Meeting—Saturday, 12:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Rancho Santa Fe 1/2)

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ASPET Student/Postdoc Mixer—Tuesday, 9:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall - Salon 2*)

ASPET Toxicology Division Executive Committee and Business Meeting—Tuesday, 5:45 PM  
(*San Diego Convention Center, Room 5A*)

ASPET WiP Career Roundtable—Tuesday, 1:00 PM  
(*San Diego Convention Center, Room 12*)

ASPET WiP into Shape Networking Walk—Sunday, 7:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Concierge Desk*)

Association of African Biomedical Scientists (AABS) Inc. Annual General and Scientific Meeting—Monday, 4:00 PM  
(*San Diego Convention Center, Room 15B*)

Calcutta University Alumni Dinner Meeting—Tuesday, 6:30 PM  
(*Royal India, 329 Market Street, 619-269-9999*)  
Contact: Dipak K. Banerjee, 787-758-2552, Ext. 1624

Christian Fellowship Meeting—Sunday, 7:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 501*)

Cornell/Penn State Nutrition Mixer—Saturday, 5:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 500*)

\*Expert Working Group on Metabolomics in Epi studies to investigate Cancer Risk—Saturday, 11:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Point Loma*)

\*The Friedman School and Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University Alumni and Friends Cocktail Reception—Monday, 6:00 PM  
(*San Diego Hilton Bayfront Hotel, Elevation Room*)

German Science Breakfast—Monday, 8:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

Iowa State University Reception—Monday, 7:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 504*)

The Microcirculatory Society International Liaison Committee for Microcirculation Meeting—Sunday, 8:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Coronado*)

The Microcirculatory Society Awards Banquet—Saturday, 12:00 PM  
(*San Diego Hilton Bayfront Hotel, Sapphire Ballroom D/H*)

The Microcirculatory Society Business Meeting—Sunday, 4:45 PM  
(*San Diego Convention Center, Room 23*)

The Microcirculatory Society Executive Council Meeting—Friday, 6:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, La Costa*)

\*National SMART Team Reception—Saturday, 7:30 PM  
(*San Diego Convention Center, Room 6B*)

\*SEBM Council / Members' Business Meeting—Saturday, 12:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Del Mar*)

\*SEBM Editorial Board Meeting—Sunday, 11:00 AM  
(*San Diego Marriott Marquis & Marina Hotel, Santa Rosa*)

\*SEBM Socializer and Awards Presentation—Sunday, 5:30 PM  
(*San Diego Marriott Marquis & Marina Hotel, Presidio*)

The University of Arizona Dept of Chemistry & Biochemistry Reception for Alumni & Friends—Monday, 5:00 PM  
(*San Diego Convention Center, Room 12*)

University of Illinois Nutrition Mixer—Monday, 7:00 PM  
(*San Diego Hilton Bayfront Hotel, Room 503*)

University of Michigan Department of Pharmacology Social Hour—Saturday, 9:00 PM  
(*San Diego Marriott Marquis & Marina Hotel, Laguna*)

WVU-HSC Alumni Mixer for Biomedical Sciences—Tuesday, 5:30 PM  
(*San Diego Convention Center, Room 12*)

Young Experimental Scientists (Y.E.S.) Mixer—Monday, 9:00PM  
(*San Diego Marriott Marquis & Marina Hotel, Marriott Hall 3*)

## *Ancillary Functions*

Association of African Biomedical Scientist (AABS) Inc.  
Annual General and Scientific Meeting—Monday, 4:00 PM  
(San Diego Convention Center, Room 15B)

Calcutta University Alumni Dinner Meeting—Tuesday,  
6:30 PM  
(Royal India, 329 Market Street, 619-269-999)  
Contact: Dipak K. Banerjee, 787-758-2552, Ext. 1624

Christian Fellowship Meeting—Sunday, 7:00 PM  
(San Diego Hilton Bayfront Hotel, Room 501)

Cornell/Penn State Nutrition Mixer—Saturday, 5:00 PM  
(San Diego Hilton Bayfront Hotel, Room 500)

\*Expert Working Group on Metabolomics in Epi studies to  
investigate Cancer Risk—Saturday, 11:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Point  
Loma)

\*The Friedman School and Jean Mayer USDA Human  
Nutrition Research Center on Aging at Tufts University  
Alumni and Friends Cocktail Reception—Monday, 6:00 PM  
(San Diego Hilton Bayfront Hotel, Elevation Room)

German Science Breakfast—Monday, 8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Del Mar)

Iowa State University Reception—Monday, 7:00 PM  
(San Diego Hilton Bayfront Hotel, Room 504)

The Microcirculatory Society International Liaison  
Committee for Microcirculation Meeting—Sunday, 8:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Coronado)

The Microcirculatory Society Awards Banquet—Saturday,  
12:00 PM  
(San Diego Hilton Bayfront Hotel, Sapphire Ballroom D/H)

The Microcirculatory Society Business Meeting—Sunday,  
4:45 PM  
(San Diego Convention Center, Room 23)

The Microcirculatory Society Executive Council Meeting—  
Friday, 6:00 PM  
(San Diego Marriott Marquis & Marina Hotel, La Costa)

\*National SMART Team Reception—Saturday, 7:30 PM  
(San Diego Convention Center, Room 6B)

PhenHRIG 2012: The Human Microbiome and Bioactive  
Flavonoid—Saturday, 1:00 PM  
(San Diego Convention Center, Room 30A/B)

\*Satellite Session: Proteins as Beneficial Ingredients in  
Fortified Blended Foods. What Food Aid Studies are  
Needed?—Saturday, 6:30 AM  
(San Diego Convention Center, Room 30A/B)

\*SEBM Council / Members' Business Meeting—Saturday,  
12:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Del Mar)

\*SEBM Editorial Board Meeting—Sunday, 11:00 AM  
(San Diego Marriott Marquis & Marina Hotel, Santa  
Rosa)

\*SEBM Socializer and Awards Presentation—Sunday,  
5:30 PM  
(San Diego Marriott Marquis & Marina Hotel, Presidio)

The University of Arizona Dept of Chemistry & Biochemistry  
Reception for Alumni & Friends—Monday, 5:00 PM  
(San Diego Convention Center, Room 12)

University of Illinois Nutrition Mixer—Monday,  
7:00 PM  
(San Diego Hilton Bayfront Hotel, Room 503)

University of Michigan Department of Pharmacology Social  
Hour—Saturday, 9:00 PM  
(San Diego Marriott Marquis & Marina Hotel, Laguna)

WEH Section Trainee Award Finalists Session and Data  
Diuresis—Saturday, 3:15 PM  
(San Diego Convention Center, Room 25A)

WVU-HSC Alumni Mixer for Biomedical Sciences—  
Tuesday, 5:30 PM  
(San Diego Convention Center, Room 12)

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