EXPERIMENTALBIOLOGY.ORG

PROGRAM

EB
Experimental Biology

April 21 - 25, 2018
SAN DIEGO, CALIFORNIA

Annual Meeting of:

AAA American Association of Anatomists

aps American Physiological Society

ASBMB American Society for Biochemistry and Molecular Biology

ASIP American Society for Investigative Pathology

ASPET Transforming Discoveries into Therapies
American Society for Pharmacology and Experimental Therapeutics

Experimental Biology Management Office
9650 Rockville Pike, Bethesda, MD 20814 | Phone: 301-634-7010 | Fax: 301-634-7014
Email: management@experimentalbiology.org | Web: www.experimentalbiology.org
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HOST SOCIETIES

AAA	American Association of Anatomists
APS	The American Physiological Society
ASBMB	American Society for Biochemistry and Molecular Biology
ASIP	American Society for Investigative Pathology
ASPET	American Society for Pharmacology and Experimental Therapeutics

GUEST SOCIETIES

AAA

ISVM	International Society of Vertebrate Morphology
ISEMPH	International Society for Evolution, Medicine and Public Health

APS

ACSM	American College of Sports Medicine
AFMR	American Federation for Medical Research
SBFiS	Brazilian Society of Physiology
BMES	Biomedical Engineering Society
MCS	Microcirculatory Society
SfRBM	Society for Redox Biology and Medicine
PhySoc	The Physiological Society

ASBMB

BS	Biochemical Society
ACS	Division of Biological Chemistry— American Chemical Society
PABMB	Panamerican Association for Biochemistry and Molecular Biology
RNA	RNA Society
SEBM	Society for Experimental Biology and Medicine

ASIP

ASMB	American Society for Matrix Biology
ACVP	American College of Veterinary Pathologists
APC	Association of Pathology Chairs
APSA	American Physician Scientists Association
HCS	The Histochemical Society
SCVP	The Society for Cardiovascular Pathology
SIPMeT	Società Italiana di Patologia e Medicina Traslazionale/ Italian Society of Pathology and Translational Medicine

ASPET

	Behavioral Pharmacology Society
	British Pharmacological Society
	Global GI Club
ITTS	International Transmembrane Transporter Society

Table of Contents

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M. B. Furie, *ASIP*
P. F. Hollenberg, *ASPET*
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J. Siuciak, *ASPET, Chair*
M. Frank, *APS*
S. Boynes, *AAA*
B. Gordon, *ASBMB*
M. E. Sobel, *ASIP*

Office Contact Information

AAA

San Diego Convention Center
Room 10

Saturday–Tuesday | 7:30 AM–5:30 PM

APS

San Diego Marriott Marquis & Marina—
La Jolla/La Mesa

Thurs–Wed | 7:00 AM–5:00 PM
Wed | 7:00 AM–3:00 PM
Phone: 619-645-6940

ASBMB

San Diego Convention Center
Room 13

Sun–Tues | 9:30 AM–4:30 PM
Wed | 9:30 AM–2:00 PM

ASIP

San Diego Convention Center
Room 5B

Fri–Tues | 7:00 AM–6:00 PM
Phone: 619-525-6229

ASPET

San Diego Convention Center,
Room 17B

Sat | 1:00 PM–4:00 PM
Sun–Tues | 8:00 AM–6:00 PM
Wed | 8:00 AM–12:00 PM
Phone: 619-525-6228

AV HEADQUARTER OFFICE

San Diego Convention Center
Room 32A

Fri–Wed | 7:00 AM–6:00 PM

CAREER RESOURCES

San Diego Convention Center
Hall D

Sat | 12:00 PM–6:00 PM
Sun–Mon | 9:00 AM–5:00 PM
Tues | 9:00 AM–4:00 PM

Sails Pavilion

Wednesday | 9:00 AM–12:00 PM

EXHIBIT MANAGEMENT

San Diego Convention Center,
Hall D

Sat–Tues | 8:00 AM–5:00 PM

EXHIBITOR REGISTRATION

San Diego Convention Center
Hall A

Sat–Tue | 8:00 AM–4:00 PM

FIRST AID

San Diego Convention Center
20A Workroom

Sat–Wed | 7:30 am–4:00 pm
Phone: 619-525-6232

LOST AND FOUND

San Diego Convention Center
Lobby D

Phone: 619-525-6231

MEETING MANAGEMENT OFFICE

San Diego Convention Center
Lobby D

Fri–Sat | 7:30 AM–6:00 PM
Sun–Wed | 7:30 AM–5:00 PM
Phone: 619-525-6231

REGISTRATION

San Diego Convention Center
Lobby D

Fri | 1:00 PM–6:00 PM
Sat | 7:00 AM–8:00 PM
Sun–Tues | 7:00 AM–5:00 PM
Wed | 7:00 AM–3:00 PM
Phone: 619-525-6231

SPECIAL NEEDS/ADA

San Diego Convention Center
Lobby D, Management Office

Phone: 619-525-6231

SPEAKER PRACTICE ROOM

San Diego Convention Center
Rooms 12 and 21

Sat – Tue | 7:00 AM – 5:00 PM
Wed | 7:00 AM – 3:00 PM

San Diego Convention Center	San Diego Marriott Marquis & Marina
111 W. Harbor Drive San Diego, CA 92101 Phone: 619-525-5000	333 W Harbor Drive San Diego, CA 92101 Phone: 619-234-1500

See page xvii for hotel map and telephone numbers for overflow hotels.

Code of Conduct

Experimental Biology is committed to providing a friendly, safe, and welcoming environment for all, regardless of gender, sexual orientation, disability, race, ethnicity, religion, national origin, or other protected characteristics. We expect all attendees, media, speakers, volunteers, organizers, venue staff, guests, and exhibitors to help us ensure a safe and positive conference experience for everyone.

We expect all participants at EB 2018 to abide by this Code of Conduct in all venues, including ancillary events and all social gatherings.

- Exercise consideration and respect in your speech and actions.
- Refrain from demeaning, discriminatory, or harassing behavior and speech.
- Be mindful of your surroundings and of your fellow participants. Alert the EB Management Office if you notice a dangerous situation, someone in distress, or violations of this Code of Conduct.

UNACCEPTABLE BEHAVIORS

- Intimidating, harassing, abusive, discriminatory, derogatory or demeaning speech or actions by any participant at EB 2018 and at all related events
- Harmful or prejudicial verbal or written comments or visual images related to gender, sexual orientation, race, religion, disability, or other personal characteristics
- Inappropriate use of nudity and/or sexual images in public spaces (including presentation slides)
- Deliberate intimidation, stalking, or following
- Harassing photography
- Photographing slides of oral presentations and posters without the express permission of the presenter/author
- Recording of scientific and other sessions without the express permission of the participants
- Sustained disruption of scientific sessions or other events
- Unwelcome and uninvited attention or contact
- Physical assault (including unwelcome touch or groping)
- Real or implied threat of physical harm
- Real or implied threat of professional or financial damage or harm

IF YOU WITNESS OR EXPERIENCE CONDUCT VIOLATING THE CODE

EB and participating Society staff will be happy to help participants contact convention center/hotel/venue security or local law enforcement, and otherwise assist those experiencing harassment, to enable them to feel safe for the duration of the conference. We value your attendance, and want to make your experience as productive and professionally stimulating as possible.

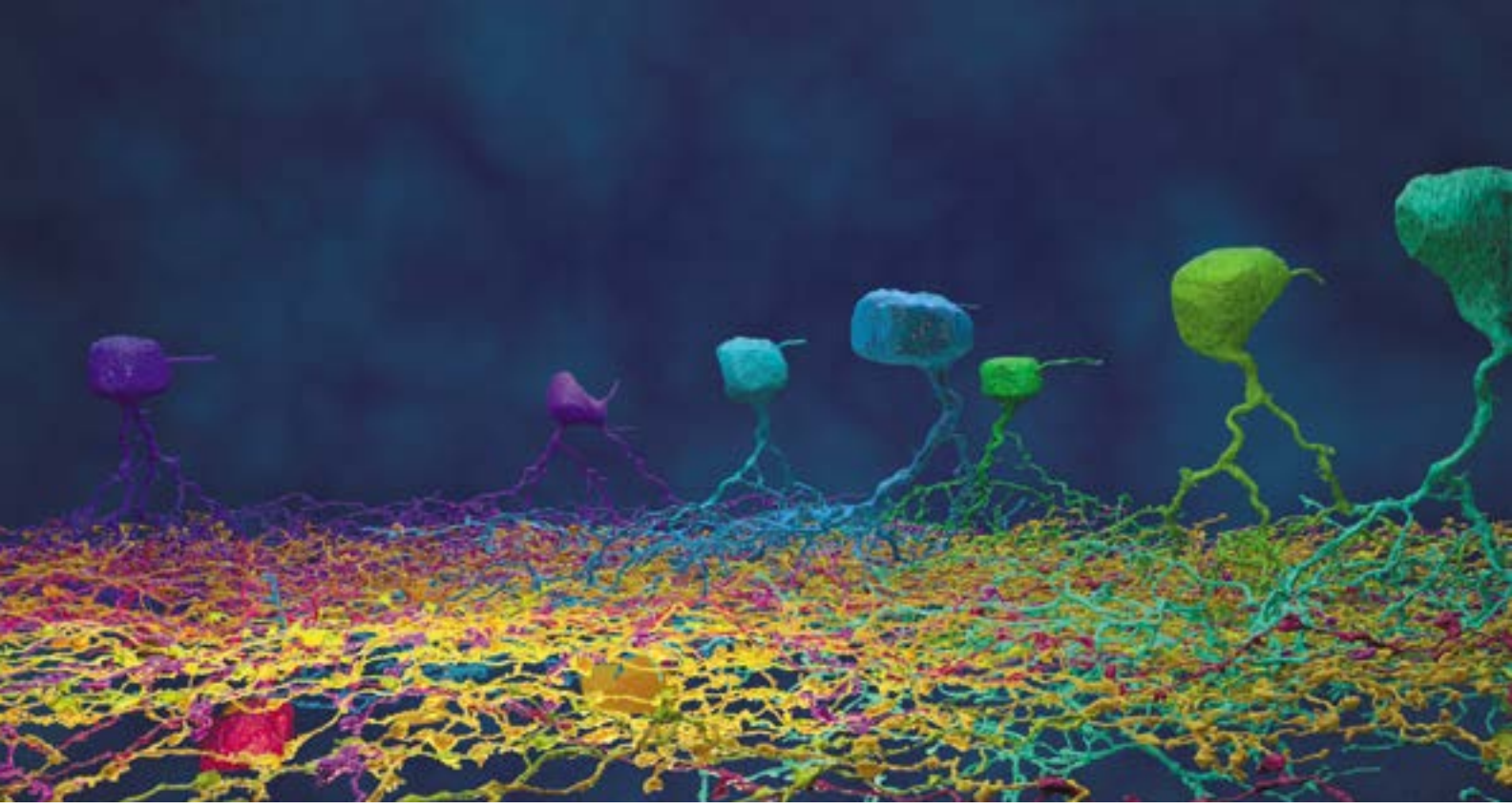
Please contact the EB Management Office or the nearest participating Society office or email management@experimentalbiology.org to file a complaint.

CONSEQUENCES OF UNACCEPTABLE BEHAVIOR

Unacceptable behavior from any participant at EB 2018, including attendees, sponsors, exhibitors, contractors, volunteer leaders, vendors, venue staff, and anyone with decision-making authority, will not be tolerated. Anyone asked to stop unacceptable behavior is expected to comply immediately.

If a participant engages in unacceptable behavior, Experimental Biology staff may take any action they deem appropriate, including removal from EB 2018, without refund, and/or future EB meetings. Egregious violations will result in more severe sanctions, including the possibility of reporting to local law enforcement.

See the Scientific Integrity Policy for more information.



General Information

REGISTRATION

San Diego Convention Center, Lobby D

Hours

Friday | 1:00 PM–6:00 PM
Saturday | 7:00 AM–8:00 PM
Sunday–Tuesday | 7:00 AM–5:00 PM
Wednesday | 7:00 AM–3:00 PM

FEES

$585	Sponsoring/ Participating Society Member
$785	Nonmember
$185	Retired Society Member
$220	Retired Nonmember
$120[1]	Graduate Student Member
$160[1]	Graduate Student Nonmember
$460[2]	Postdoctoral Trainee
$560[2]	Postdoctoral Trainee Nonmember
$310	1-Day Member
$410	1-Day Nonmember
$40[3]	Undergraduate Student
$50[3]	Undergraduate Student Nonmember
Free[3]	High School Student and Teachers**

CATEGORIES

[1]**Graduate Student Registration (including all Society student members):** You must have a department head or research advisor certify your student eligibility. If registering online, enter the name and email address of your department head. If registering at the meeting, bring your 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.

[2]**Postdoctoral Trainee:** Trainees have obtained their doctoral degree within the last five years and are currently enrolled in a postdoctoral trainee program.

[3]**Undergraduate Students and High School Students:** To receive your badge on-site, bring a student ID card or a letter signed by your department head, research advisor or teacher.

High School Teacher: You must be a certified High School Teacher currently teaching High School students. You do not qualify for this category if you are currently teaching at a University or a Hospital. Credentials or a letter from the school principal will need to be provided on-site to receive your badge.

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.

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, 2018.

EXHIBITOR REGISTRATION

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

SOCIETY TICKETED EVENTS

The following special Society activities have been planned and may require a fee in addition to the Experimental Biology 2018 registration fee.

ASIP Social Events:

XVIIIth Annual Workshop on Graduate Education in Pathology: Mindfulness and Wellness for Students and Faculty

April 21, 2018 | 11:45 PM–1:45 PM

Onsite Registration
Members $20 | Non-Members $25

Committee for Career Development & Diversity Workshop and Breakfast: Mentor/Mentee Relationships

Sunday, April 22, 2018 | 7:00 AM

Onsite Registration
Members $20 | Non-Members $25

XVIIIth Annual ASIP/AAA Career Development and Mentoring Program and Lunch: The IDP: Highway to Success

Sunday, April 22, 2018 | 11:45 AM–1:45 PM

Onsite Registration
Non-Members $25

**ASIP Trainee members and AAA Student Members will receive a complimentary ticket*

Lunch and Learn: Science, Statistics and Getting It Right

Tuesday, April 24, 2018 | 11:45 AM–1:45 PM

Onsite Registration
Members $20 | Non-Members $25

Scientific Interest Group (SIG) Networking and Interactive Poster Session

Tuesday, April 24, 2018 | 5:30 PM–7:30 PM

FREE FOR ALL ATTENDEES.

ASSISTANCE FOR ATTENDEES WITH SPECIAL NEEDS

EB 2018 is committed to assisting attendees with special needs. Registrants with special needs are advised to contact the EB Meeting Management Office at **management@experimentalbiology.org** with your specific request, using the phrase "Assistance with Special Needs" in the subject line prior to the meeting. For onsite 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 Visitor & Convention Bureau staff the Concierge Desk in the Lobby D of the San Diego Convention Center and is able to provide accessibility information for the local area attractions. For information on San Diego area attractions, contact Visit San Diego, the official Convention and Visitors Bureau at 619-525-5000 or **www.visitsandiego.org**.

BADGE PICK UP

Badges were not mailed in advance. **There will be on-site kiosks set up to print your badge upon your arrival at the meeting** at San Diego Convention Center, Lobby D or satellite registration counters located in the San Diego Marriott Marquis & Marina, Lobby Lounge East. Lost or forgotten badges can only be replaced at the Replacement Badge Counter located in the San Diego Convention Center, Lobby D at the cost of $25. **Printed programs WILL NOT be distributed. Program information will be available online prior to the meeting for individual downloading. You should also plan to download the meeting app prior to arriving.**

NOTE: Badges must be worn at all times in the San Diego Convention Center. You will not be allowed access to 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.

CERTIFICATE OF ATTENDANCE

You may pick up a certificate of attendance beginning on Monday, April 24 at the Registration Desk in the San Diego Convention Center, Lobby D at 1:00 PM.

COAT AND LUGGAGE STORAGE

San Diego Convention Center

Facilities for coat and luggage check will be available Saturday through Wednesday. The luggage check can store your bag(s) and coats for the day for **$5 per item.** Please do not bring luggage to the meeting rooms.

CONFERENCE PHOTO CONSENT

When you registered for Experimental Biology 2018, you affirmed that you agreed 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 Marriott Marquis & Marina, and San Diego Hilton Bayfront, encourage responsible drinking for those drinking 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.

EB 2018 MOBILE APP

Download the app today and enjoy searching through various session topics, speakers and exhibiting companies by society, by day, by location. Set up your daily schedule by adding them to your appointment calendar. Visit the App store today and search for Experimental Biology 2018.

EB 2019—ORLANDO *NEW!*

EB 19 will be held in Orlando, FL April 6–10. Start planning NOW for your participation at EB 19 by visiting the Florida Area Information Booth located in Lobby D. A city representative will be available to answer questions about the city, city sites and activities in preparation for attending the EB 19 convention.

E-POSTERS AND POSTER PICK-UP

San Diego, CA , Lobby D

Mira has arranged for pre-ordering of poster printing and delivery to the Experimental Biology 2018 meeting. Information was sent in advance with your poster confirmation information. Posters may be picked up during registration hours (Friday, April 20 1:00 PM–5:00 PM, Saturday, April 21, 7:00 AM–5:00 PM, Sunday, April 22 through Tuesday, April 24, 7:00 AM–5:00 PM), Wednesday, April 25, 7:00 AM–12:00 PM. **Onsite poster printing will be available using FedEx Kinkos in Lobby D of the Convention Center.** Visit FedEx online to place an order, or contact FedEx Office at the Convention Center by calling 619-525-5450.

Online Poster Access

Following the EB 2018 meeting, all registered attendees will be able to access PDFs of the posters online through the e-poster link on the EB 2018 website. All presenters are requested to upload a PDF file of their poster. Only registered attendees will be able to access the e-poster site.

EXHIBITS

San Diego Convention Center, Hall A-D

Exhibits will be open from 9:00 AM–4:00 PM, Sunday–Tuesday. *See pages 390–406* for the complete list of exhibiting companies and products. Visit the EB 2018 mobile app to customized and organize your visit by building an itinerary. Visit www.experimentalbiology.org and click on Floor plan and Current Exhibitors to organize your booth visits. **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 set up or dismantling hours.

FIRST AID

San Diego Convention Center, 20A Workroom (Second Level)

A First Aid room will be located on the Second Level of the San Diego Convention Center. A nurse/First aid administrator will be on duty during key hours.

HOUSING INQUIRIES

San Diego Convention Center, Lobby D

A San Diego housing bureau representative will be located in the Lobby Information Booth in Lobby D to manage hotel questions and concerns.

INTERNET ACCESS

Internet will be available throughout the Convention Center Lobby and Foyer areas but is not available in Meeting rooms.

LOST AND FOUND

Please visit the Meeting Management Office located in Lobby D of the San Diego Convention Center to look for items lost or turned in items found.

POSTER PRESENTATIONS AND POLICY

San Diego Convention Center, Hall A-D

Poster viewing and display hours listed below. Presenters must hang their posters on the appropriate poster board no later than 9:00 AM on the day of presentation. 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.

Date	Location	Poster Set-up	Poster Viewing	Poster Presentation	Poster Tear-down
Sunday–Tuesday (AAA, APS, ASBMB. ASIP, ASPET)	Hall A-D	7:00 AM–9:00 AM	9:00 AM–4:00 PM	Times vary; see individual Society	4:00 PM–6:00 PM
Wednesday (APS and ASBMB only)	Sails Pavilion	7:00 AM–9:00 AM	9:00 AM–4:00 PM	Times vary; see individual Society	4:00 PM–6:00 PM

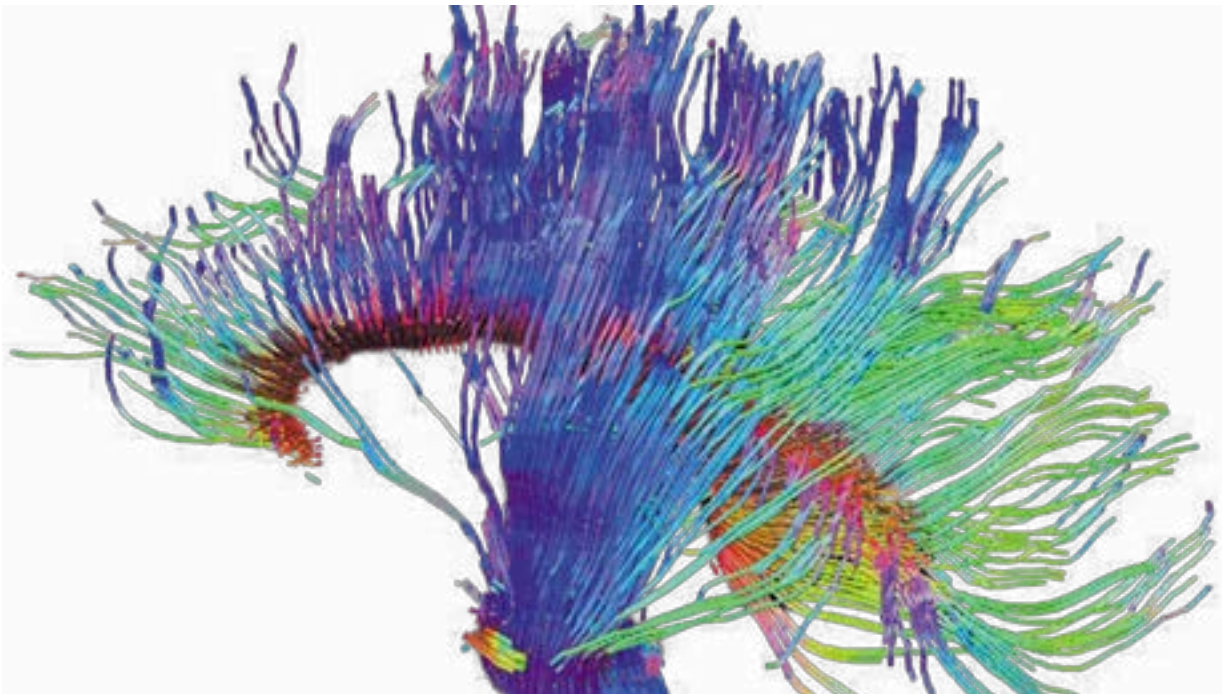
Presenters are expected to stand at their poster board during the assigned Poster Presentation time. Do not leave your belongings, poster containers or any materials under the poster boards or in the poster area. EB Management is not responsible for articles left in the poster area. Pushpins are available at the Poster Attendant stations.

PROGRAM

Printed programs WILL NOT be distributed. Program information will be available online prior to the meeting for individual downloading. You should also plan to download the meeting app prior to arriving.

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.



Continuing Medical Education (CME)

Please note that the only Society educational component of Experimental Biology 2018 that is eligible for CME credit is the ASIP 2018 Annual Meeting.

ACCME ACCREDITATION STATEMENT

This activity ("American Society for Investigative Pathology [ASIP] 2018 Annual Meeting") has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the American Society for Clinical Pathology (ASCP) and the American Society for Investigative Pathology (ASIP) The ASCP is accredited by the ACCME to provide continuing medical education for physicians.

The ASCP designates this "live" educational activity (ASIP 2018 Annual Meeting) for a maximum of **30.5** *AMA PRA Category 1 Credit(s)*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

EDUCATIONAL OBJECTIVE/TARGET AUDIENCE

The objective of the ASIP 2018 Annual Meeting is to increase basic and applied pathology knowledge, focusing on pathogenesis of disease. The ASIP 2018 Annual Meeting is designed to meet the participants' education 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), and to support participants' lifelong learning towards a goal of promoting patient safety and improving patient care and is specifically targeted to graduate and medical students, pathology residents, post-doctoral fellows, research scientists, clinical practitioners, laboratory professionals, and medical education professionals.

At the completion of the ASIP 2018 Annual Meeting, participants should be able to:

1. Discuss the research underway and/or the current topics relevant to their areas of interest in pathology;
2. Demonstrate a gained level of knowledge of the methods and techniques being used by researchersand practitioners in the field;
3. Utilize information and data that lead to improvements in human health.

DISCLOSURE OF FINANCIAL RELATIONSHIPS AND RESOLUTION OF CONFLICTS OF INTEREST

In order to ensure balance, independence, objectivity and scientific rigor in all its educational activities, and in accordance with ACCME Standards, the ASCP requires that all individuals in a position to influence and/or control the content of ASCP CME activities disclose to the ASCP and subsequently to learners whether they do or do not have any relevant financial relationships with proprietary entities producing health care goods or services that are discussed in CME activities. Faculty are asked to use generic names in any discussion of therapeutic options, to base patient care recommendations on scientific evidence and to base information regarding commercial products/services on scientific methods generally accepted by the medical community. All ASCP CME activities are evaluated by participants for the presence of any commercial bias and thus input is used to subsequent CME planning decisions. The primary purpose of this "live" CME activity is educational and the comments, opinions, and/or recommendations expressed by the faculty or authors are their own and not those of ASCP or ASIP.

The Planning Committee members and staff of this CME activity have been asked to disclose any relationships that could be perceived by some as a real or apparent conflict of interest. The staff and Planning Committee members have no relevant financial relationships with commercial interests to disclose.

The following members of the Planning Committee and staff have no relevant financial relationships with commercial interests to disclose:

- Pilar Alcaide
- Udayan Apte
- Diane Bielenberg
- William Coleman
- Francesco Curcio
- Wen-Xing Ding
- Carol Farver
- Charles Frevert
- Kevin Gardner
- Jonathon Homeister
- Philip Iannaccone
- Andrei Ivanov
- Denuja Karunakaran
- Rheinalt Jones
- Themis Kyriakides
- Lisa McFadden
- Danny Milner
- Richard Mitchell
- Kari Nejak-Bowen
- Asma Nusrat
- Jose Otero
- Melissa Schutten
- Tara Snethen
- Mark Sobel
- Douglas Stairs
- William Stetler-Stevenson
- James Stone
- Ruth Sullivan
- Elizabeth Whitley
- David Williams
- Monte Willis
- Cecelia Yates

All invited faculty of CME-designated sessions have been asked to disclose any relationships that, in the context of their presentation, could be perceived by some as a real or apparent conflict of interest. All faculty with disclosed relationships have affirmed that they do not consider these relationships will influence their presentation. The disclosures have been reviewed and conflicts of interest resolved or managed.

FACULTY DISCLOSURES

Full Name	Employer	Commercial Interest	Role	Compensation
Arul Chinnaiyan	University of Michigan	Tempus	Scientific Advisory Board	Stipend, Stock
		Oncofusion	Scientific Advisory Board	Stock
		Esanik	Scientific Advisory Board	Stock
		Medsyn	Scientific Advisory Board	Stock
Richard Daneman	UCSD	Denali	Provides Data	LSA for Lab
		Alecter	Consultant	Stock
		Inception	Consultant	Honorarium
Jayanta Debnath	University of California, San Francisco	Vescor, LLC	Scientific Advisory Board	Honorarium
		5AM Ventures	Ad Hoc Consultant	Consultancy Fee
Kathryn Gold	UCSD	Takeda	Speaker	Honorarium
		AstraZeneca	Scientific Advisory Board	Honorarium
		Boehringer Ingelheim	Scientific Advisory Board	Honorarium

Full Name	Employer	Commercial Interest	Role	Compensation
Donna Hansel	University of California, San Diego	Genentech	Scientific Advisory Board	Consultancy Fee
		Roche	Scientific Advisory Board	Consultancy Fee
		AstraZeneca	Scientific Advisory Board	Consultancy Fee
Neil Kaplowitz	USC School of Medicine	AstraZeneca	Consultant	Consultancy Fee
		Hoffman-La Roche, LTD	Consultant	Consultancy Fee
		Ionis	Consultant	Consultancy Fee
		Norvartis	Consultant	Consultancy Fee
		Pfizer	Consultant	Consultancy Fee
			Consultant	Consultancy Fee
Mauro Perretti	Queen Mary University of London	BMS	Consultant	Consultancy Fee
		Antibe Therapeutics	Scientific Advisory Board	Share Options
		Mallinckrodt	Consultant	Honorarium
		Palatin Technologies	Consultant	Honorarium
Charles Serhan	Brigham & Women's Hospital	Inflammation Research Foundation	Scientific Advisory Board	Honorarium
		Solutex Company	Scientific Advisory Board	Honorarium
		Corbus Pharma	Scientific Advisory Board	Honorarium
E. Sally Ward	Texas A&M Health Science Center	MedImmune	Patent License	Licensed Patent (Patent owned by UT Southwestern)
		Argenx	Patent License	Licensed Patent (Patent owned by UT Southwestern)
Alan Wells	University of Pittsburgh	CN Bio Innovations	Patent License	Patent Royalty

The Following Faculty Have No Relevant Financial Relationships With Commercial Interests To Disclose:

- Edita Aksamitiene
- Pilar Alcaide
- Nicola Allen
- Gianfranco Alpini
- Erica Alexeev
- Hanan Alfawaz
- Thibault Allain
- Hiba Alsaffar
- Bogi Andersen
- Udayan Apte
- Ines Barrone
- Elaine Bearer
- Diane Bielenberg
- Benjamin Bikman
- Pablo Binder
- Jennifer Borowsky
- Rudolf Braun
- Gregory Brower
- Joan Brown
- Jessica Bruce
- Jack Bui
- Susan Burke
- Francisco Carrillo-Salinas
- Yu-Chan Chang
- Chien-Sin Chen
- Arul Chinnaiyan
- Jean Chiou
- Paul Coffer
- Patricia D'Amore
- Prarthana Dalal
- Richard Daneman
- Trevor Darby
- Jayanta Debnath
- Nathaniel dela Paz
- Wen-Xing Ding
- Marco Doucet
- Simone Douglas
- Barbara Drolet
- Andrew Duncan
- Asif Elahi
- Adam Engler
- Shuling Fan
- Elena Fekete
- Gen-Sheng Feng
- Ariel Feldstein
- Andrea Floris
- Jamie Friedman
- Jane Frimodig
- Martha Furie
- Chandrashekhar Gandhi
- Allison Gartung
- Georg Gerber
- Sean Gill
- Cinzia Giordano
- Angela Glading
- Nicole Gottdenker
- Sudhiranjan Gupta
- Asa Gustafsson
- Catherine Hedrick
- Vashendriya Hira

- Kelsey Hirschi
- Ronggui Hu
- Alana Iglewicz
- La' Toya James
- Hong Jiang
- Zariel Johnson
- Muhamuda Kader
- Vasundhara Kain
- Felix Kannapin
- Michael Karin
- Denuja
- Karunakaran
- Lindsey Kennedy
- Tatiana Kisseleva
- Karis Kosar
- Andrew Koutnik
- Narendra Kumar
- Sandeep Kumar
- Sudhir Kumar
- Sarvesh Kumar
- Britta Kunkemoeller
- Dennis Kusters
- Tsung-Ching Lai
- Jordi Lanis
- Mansun Law
- Nguyen Puong Khanh Le
- J Scott Lee
- Chaoyang Li
- Andrew Lichtman
- Minjie Lin
- Jillian Liu
- Qi Liu
- Tianju Liu
- Gang Liu
- Jacey Liu
- Massimo Locati
- Aurelia Lugea
- Nicholas Lukacs
- Jan Lumibao
- Francis Luscinskas
- Aldons Lusis
- James Luyendyk
- Hanumantha Rao Madala
- Jacquelyn Maher
- Marina Martinez
- Rhonda Mason
- Elizabeth Mazzio
- Jane McHowat
- Matthew McMillin
- Patricia Mendonca
- Fanyin Meng
- Olachi Mezu-Ndubuisi
- George Michalopoulos
- Danny Milner
- Satdarshan Paul Monga
- Courtney Murdock
- Malladi Murthy
- Jamie Naden
- Wesley Naritoku
- Kari Nejak-Bowen
- Nayden Naydenov
- Njabulo Ngwenyama
- Benoit Niclou
- Nicholas Nolan
- Scott Oakes
- Marygorret Obonyo
- Lieza Odendaal
- Shuji Ogino
- Oluchukwu Okonkwo
- Mazen Osman
- Adam Ostergar
- Jose Otero
- Josh Owens
- Shyanne Page
- Mana Parast
- Akia Parks
- Traci Parry
- David Peeney
- Ashley Petrone
- Anie Philip
- Mason Poffenbarger
- Ginell Post
- Tirthadipa Pradhan
- Morgan Preziosi
- Kate Price
- Henry Qazi
- Shaik Rahaman
- Komal Ramani
- Richa Rani
- Daniel Remick
- Lucia Roa-Peña
- Brian Robinson
- Katherine Roth
- Nakisha Rutledge
- Bejan Saeedi
- Felipe Salazar-Ramírez
- Hellen Joyce Santos
- Camilla Schinner
- Elisabeth Schlögl
- Farah Sheikh
- Christina Sigurdson
- Nora Springer
- Elizabeth Stahl
- Douglas Stairs
- James Stone
- Jenna Strickland
- David Sullivan
- Yu Sun
- Sreedhar Reddy Suthe
- Equar Taka
- Iman Talaat
- Shigeo Tamiya
- Jeffery Tessem
- Douglas Tilley
- Maria Lauda Tomasi
- Mingming Tong
- Warren Tourtellotte
- Emily Troemel
- Hanna Ungewiß
- Juliana Priscila Vago
- Cornelis Van Noorden
- Francisco Velázquez Planas
- Franziska Vielmuth
- Chad Walesky
- Chase Walton
- Li Wang
- Alexander Wein
- Jakob Wells
- Monte Willis
- Zachary Wilson
- Alexandra Wolfarth
- Nan Wu
- Xuemei Xu
- Chao Xu
- Jing Yang
- Yi-Chieh Yang
- Clayton Yates
- Cecelia Yates
- Min You
- Dani Zander
- Yulan Zhao
- Huiping Zhou

SESSIONS ELIGIBLE FOR CME

Please note that the only Society educational component of Experimental Biology 2018 that is eligible for CME credit is the ASIP 2018 Annual Meeting.

This ASIP 2018 Annual Meeting CME Workbook includes a consolidated list of ASIP scientific sessions that are eligible for *AMA PRA Category 1 Credit(s)*™. The ASIP 2018 Annual Meeting CME Workbook will be available online on the ASIP Meeting website (http://asip18.asip.org/cme/) beginning April 9, 2018 and onsite in the ASIP Office and the Experimental Biology Meeting Management Office located in the San Diego Convention Center. In addition, signage outside of the ASIP meeting rooms will designate those educational sessions that are eligible for *AMA PRA Category 1 Credit(s)*™ as indicated by the word "CME."

Please note that some ASIP scientific sessions are not eligible for *AMA PRA Category 1 Credit(s)*™ because faculty disclosures of financial relationships with commercial interests could not be resolved or managed. Please also be aware that visiting exhibits and posters in the exhibit hall is not an approved continuing medical education activity because of ACCME standards that are designed to prevent commercial bias.

HOW TO APPLY FOR CME CREDIT:

CME Application Forms can be found on the ASIP Meeting website (http://asip18.asip.org/cme/) beginning April 9, 2018. Applications for CME credit must be submitted online no later than **June 1, 2018.** You will receive your CME certificate within two weeks of successful submission of your online application. If you have questions concerning your CME application (or do not receive your certificate within the timeframe explained above), contact the ASIP Education Office by phone (240) 283-9712, email cme@asip.org or write to ASIP Education Office, 1801 Rockville Pike, Suite 350, Rockville, MD 20852.

CME Application Fees:

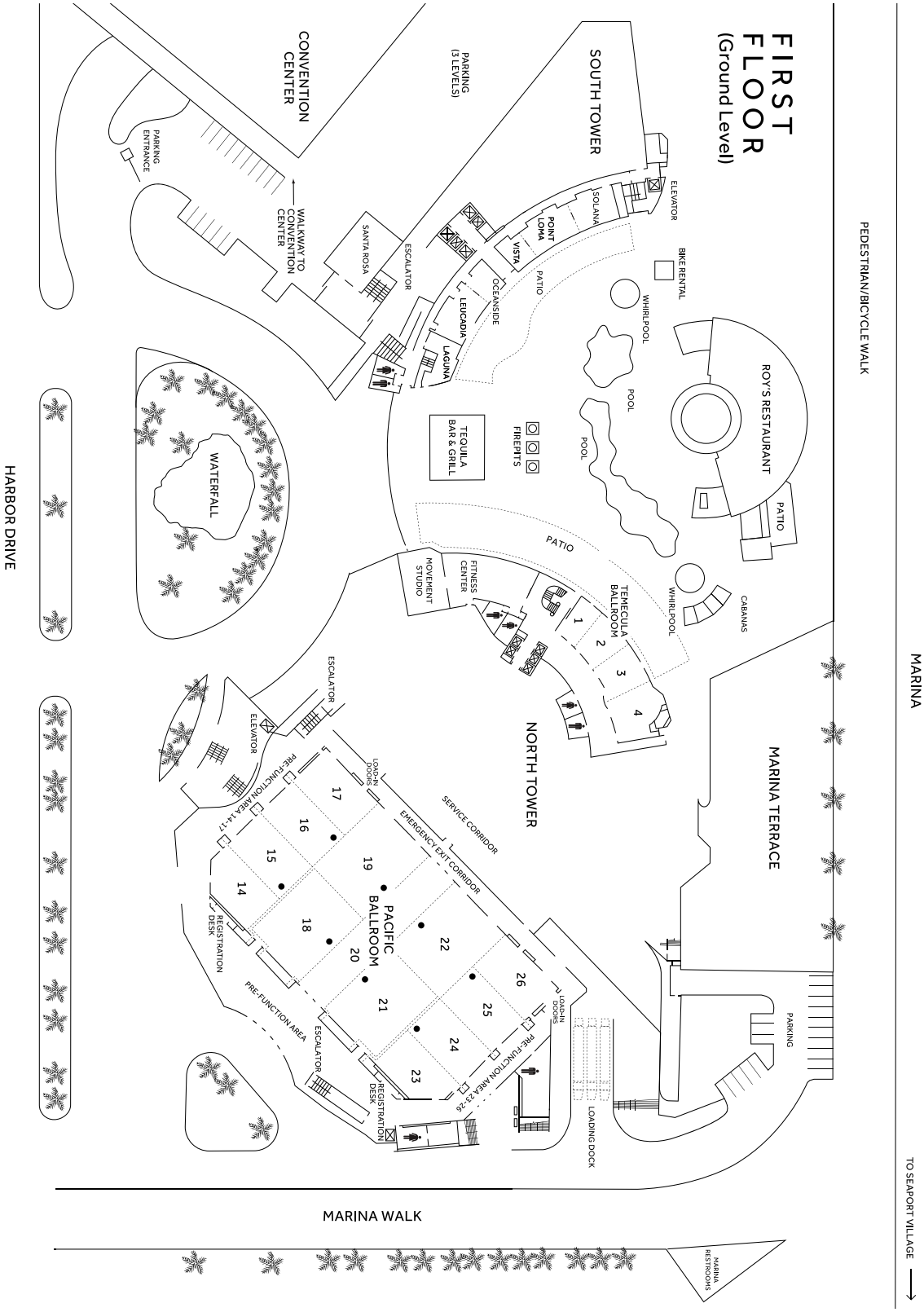
- **ASIP members in good standing:** there is **NO FEE** to apply for CME for the ASIP 2018 Annual Meeting
- **Non-ASIP members:** there is a $100 application fee, payable upon submission of the online CME application.

Diagrams

SAN DIEGO MARRIOTT MARQUIS & MARINA

333 W Harbor Drive | San Diego, CA 92101

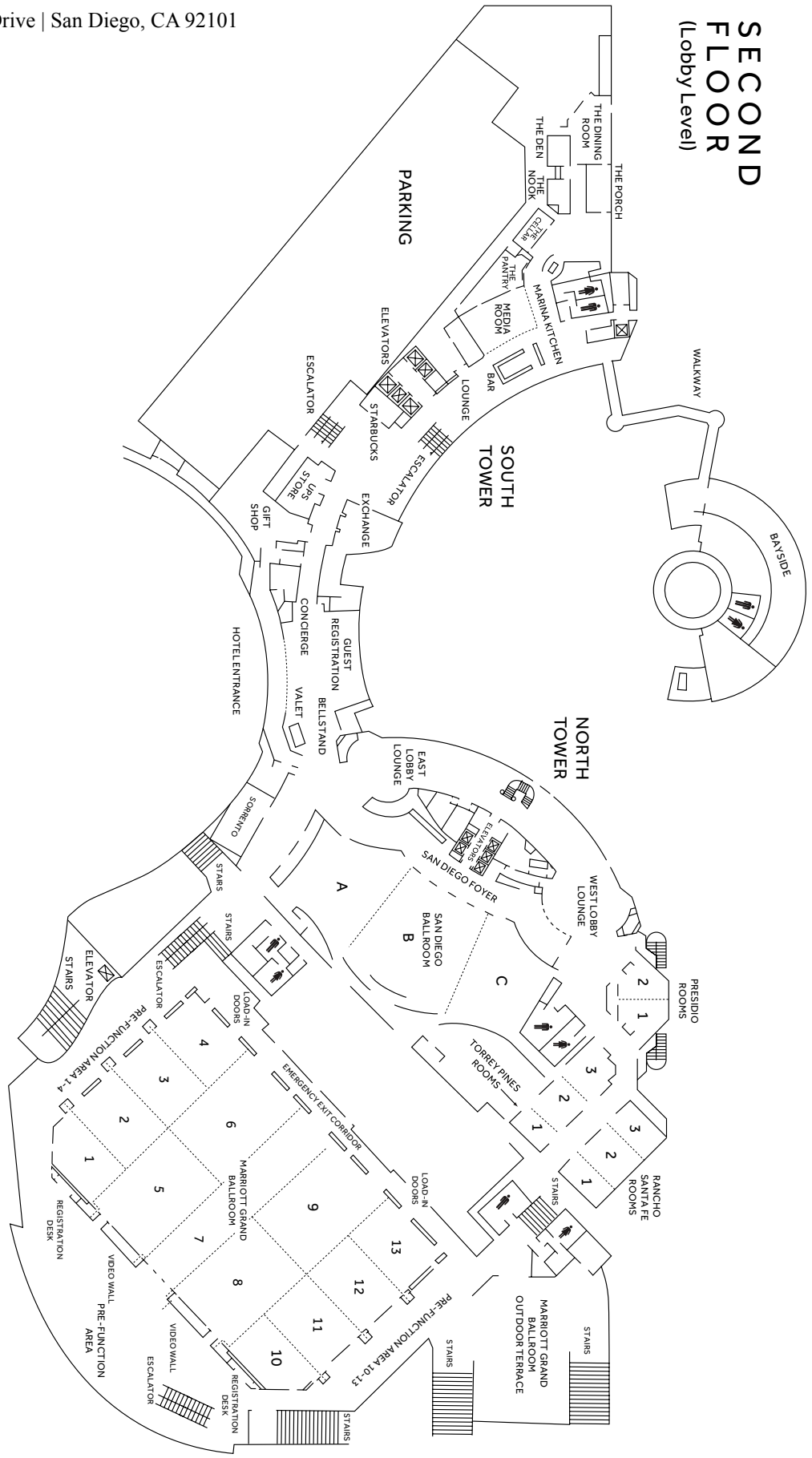
First Floor



SAN DIEGO MARRIOTT MARQUIS & MARINA

333 W Harbor Drive | San Diego, CA 92101

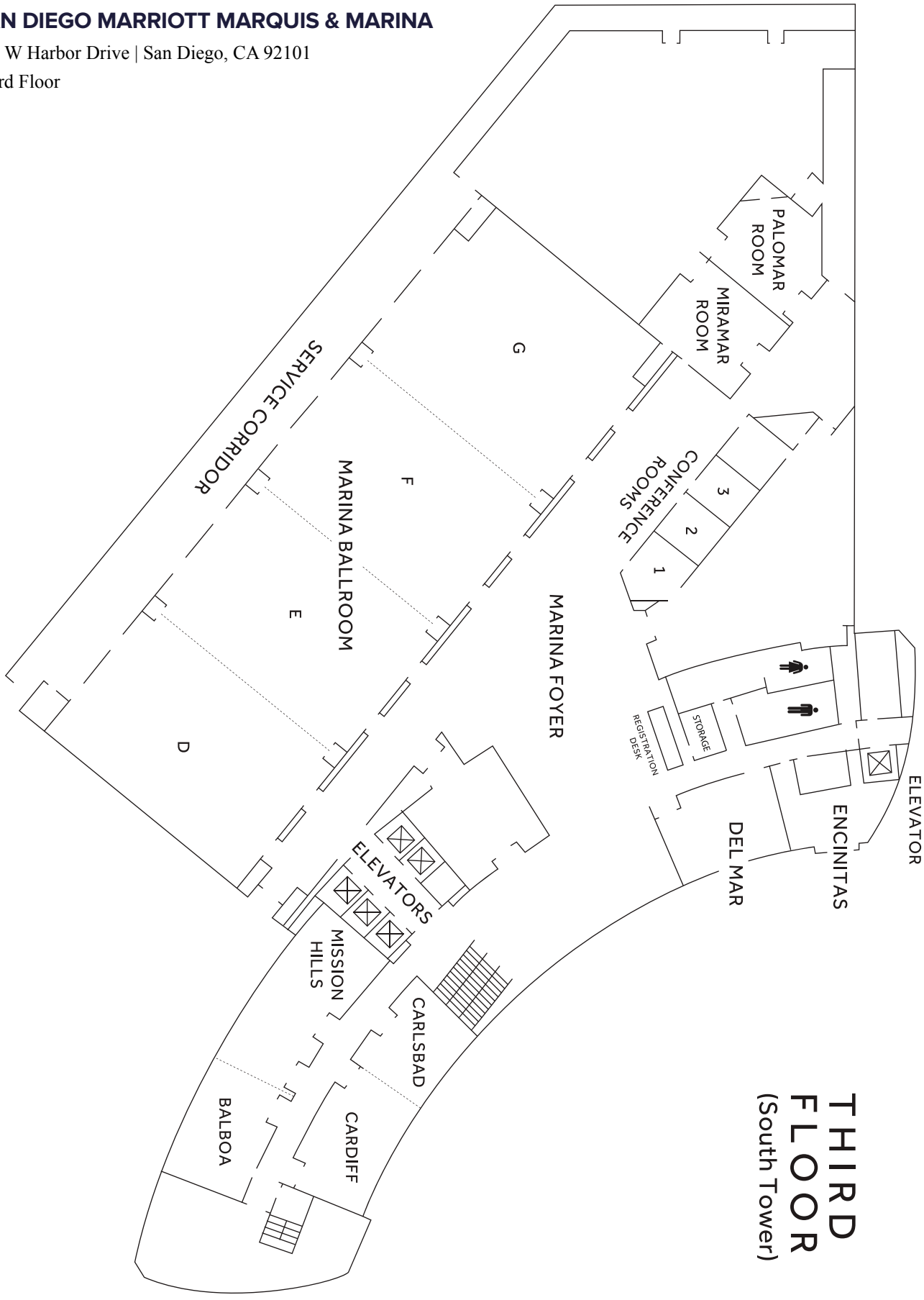
Second Floor



SAN DIEGO MARRIOTT MARQUIS & MARINA

333 W Harbor Drive | San Diego, CA 92101

Third Floor

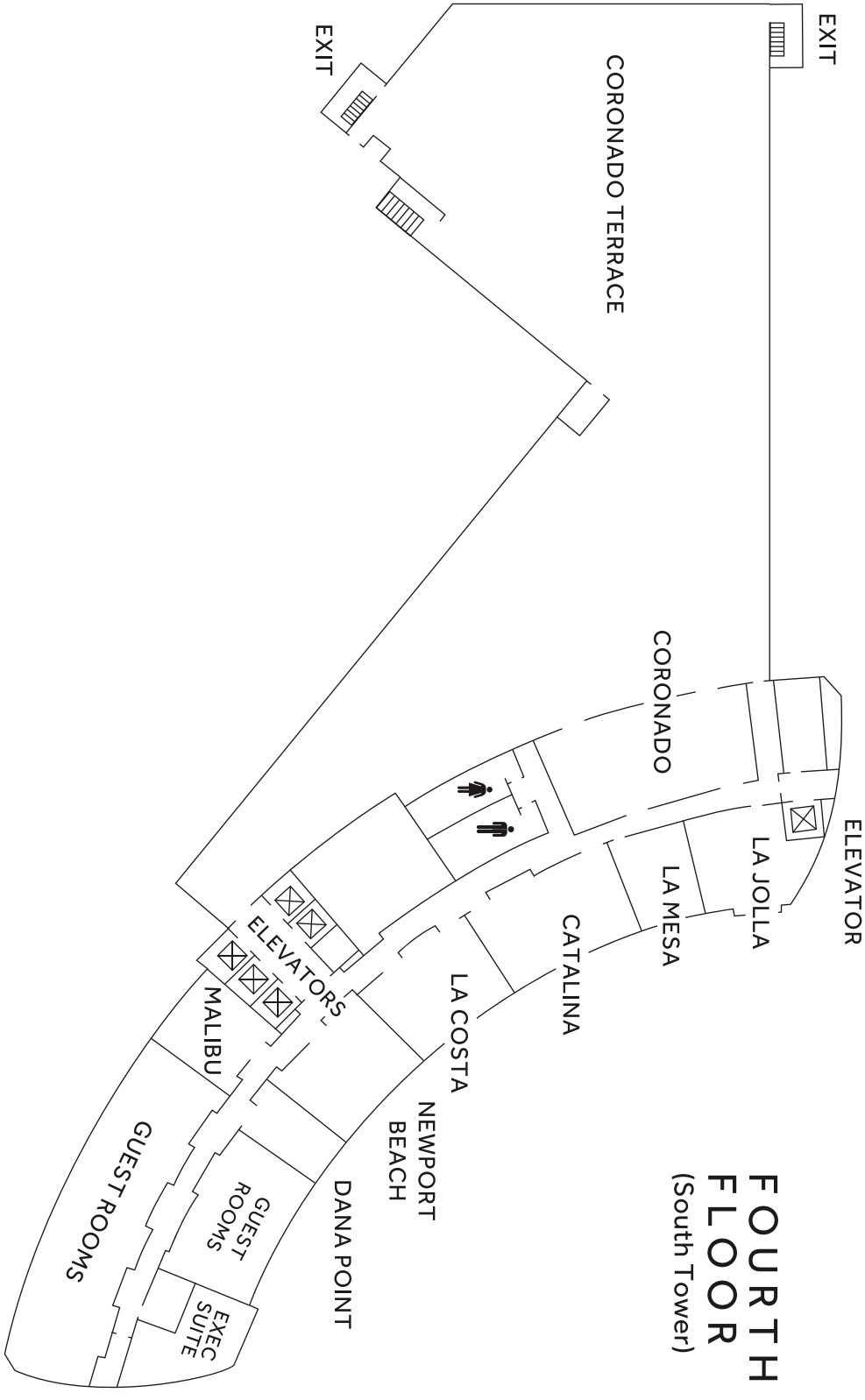


THIRD FLOOR
(South Tower)

SAN DIEGO MARRIOTT MARQUIS & MARINA

333 W Harbor Drive | San Diego, CA 92101

Fourth Floor



Oral Sessions

FRIDAY, APRIL 20

Biochemistry and Molecular Biology

1. ASBMB GRADUATE AND POSTDOCTORAL TRAVEL AWARD PROFESSIONAL NETWORKING EVENT

Society Events

Fri. 5:30 pm—San Diego Convention Center, 6A Lobby

Cochaired: C. Heinen and T. O'Connell

Invitation only. Graduate and postdoctoral travel awardees meet for a kick-off reception and networking activity geared to practice networking skills and engage with Saturday's career program presenters.

2. SEBM MENTOR MEET-UP AND CAREER DEVELOPMENT WORKSHOP

Society Events

5:30 pm—San Diego Marriott Marquis & Marina, Presidio

Chaired: M. D'Ecclessis

SATURDAY, APRIL 21

Across Societies

3. POSTER/ORAL PRESENTATION PRACTICE & MENTORING SESSIONS

Workshop

Sat. 12:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, Peer Mentor Pod

Career and Professional Development

FASEB Diversity Resources Program will sponsor Presentation Practice & Mentoring Sessions beginning Saturday, April 21, to provide FASEB DREAM poster/oral presentation travel award recipients and other interested EB2018 student/postdoc attendees with an opportunity to practice their presentations and obtain feedback from designated Workshop Mentors/Coaches. If you would like to participate in the poster/oral presentation & mentoring sessions, sign-up by using the following link, http://bit.ly/EB18SignUp1on1Session.

4. CAREER CORNER SESSIONS WITH DR. ADAMS

Workshop

Sat. 12:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, Career Corner

Career and Professional Development

Drop in or sign-up for one-on-one or group sessions for career counseling/career planning sessions with Dr. Howard G. Adams in between his presentations in the EB2018 Career Center. Dr. Adams will be available in the "Career Corner" in the EB2018 Career Center located in Hall D beginning on Saturday, April 21. Sign-up by using the following link, http://bit.ly/EB18SignUp1on1Session.

5. ONE-ON-ONE RESUME CRITIQUE/CV, CAREER COUNSELING, ESSAY PERSONAL STATEMENT ASSESSMENTS

Workshop

Sat. 12:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, Career Counseling Room

Career and Professional Development

One-on-one sessions for CV/resume critiques, career counseling, and essay/personal statement assessments will begin on Saturday, April 21. If you're interested in a one-on-one, advance sign up will start on Sunday, April 1. Sign-up by using the following link, http://bit.ly/EB18SignUp1on1Session to schedule your session.

6. NETWORKING: A REQUIRED LIFE SKILL

Workshop

Sat. 4:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

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.

4:00 Speaker. **H. Adams.** H.G. Adams & Assoc., Norfolk, VA.

7. ELEMENTS OF A CREDIBLE PRESENTATION

Workshop

Sat. 5:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

5:00 Speaker. **E. Rosa-Molinar.** The Univ. of Kansas

8. WRAP IT UP! HOW TO SUMMARIZE YOUR RESEARCH POSTER IN 5 MINUTES OR LESS

Workshop

Sat. 5:30 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

This presentation serves to instruct researchers, primarily trainees, on how to effectively summarize their research in five minutes or less. The information presented mainly focuses on poster presentations but can also be applied to other areas such as informational interviews. Emphasis is placed on key points such as knowing the target audience, knowledge of the research/results, and the ability to convey a clear, concise and accurate message. One highlight of this presentation is the incorporation of technology and how to use it to further enhance and disseminate the information.

5:30 Speaker. **S-G. Scott.** American Gastroenterological Assn.

10. EB 2018 TANG PRIZE AWARD LECTURE

Lecture

Sat. 6:00 pm—San Diego Convention Center, Ballroom 20

Award Lectures

Speaker: **Feng Zhang.** Broad Institute of MIT and Harvard, Cambridge, MA McGovern Institute for Brain Research, Department of Brain and Cognitive Sciences. Department of Biological Engineering, Massachusetts Institute of Technology, Cambridge, MA.

Precision genome editing, the ability to alter specific DNA sequences, is a powerful tool for understanding the molecular circuitry underlying cellular processes. Over the past several years, we and others have harnessed microbial CRISPR-Cas systems for use as platforms for a range of genome manipulations, including single and multiplex gene knockout, gene activation, and large-scale screening applications. Recently, we discovered and characterized several novel CRISPR systems that target RNA, including the CRISPR-Cas13 family. We recently reported that Cas13 can be reprogrammed using a single RNA guide to cleave target mRNAs in vivo and that a dead variant of Cas13 (dCas13), created through mutation of the RNase domain, retains target specificity and binding activity. dCas13 provides a platform for a range of RNA-modulation applications, including transcript imaging and RNA editing. Cas13 also exhibits so-called "collateral" activity in vitro, which we capitalized on to create SHERLOCK, a highly sensitive and specific CRISPR diagnostic platform. We are continuing to explore microbial diversity to find new enzymes and systems that can be adapted for use as molecular biology tools and novel therapeutics.

6:00 Harnessing Nature's Diversity for Gene Editing and Beyond. **Feng Zhang.** Broad Institute of MIT and Harvard, Cambridge, MA.

11. EB 2018 WELCOME RECEPTION

Society Events

Sat. 7:00 pm—San Diego Convention Center, Sails Pavilion

Join fellow attendees for our second, inter-disciplinary meet and mingle. Appreciate the power and energy of the EB Meeting as all career levels come together for fun and networking. Light refreshments will be served. Member-attendees receive one complimentary drink ticket when they sign up for the event during EB Meeting registration. Cash bar also available.

12. EB SCIENCE OUTREACH ACTIVITY POSTER SESSION

Science Outreach Poster Session

Sat. 7:00 pm—San Diego Convention Center, Sails Pavilion

During the EB Welcome Reception, science outreach programs from around the country will have their activities on display and are certain to spark interest, ideas, networks and great conversation. **Authors will be at their boards from 7:00–8:00** pm

OA1 **12.1** #DoSomething! Raising awareness about antibiotic resistance the SWI way. **A. M. Barral, E. Kurt.** National University and Small World Initiative.

OA2 **12.2** 2nd Grade Students Have PhUn Learning About Thermoregulation. **P.A. Halpin.** University of New Hampshire at Manchester.

OA3 **12.3** A Successful STEM Outreach Program at Marshall University. **T.J. Whitlow, M. Wilson, T. Cartwright, R. Zuberbuehler.** Marshall University.

OA4 **12.4** A World of PhUn: Hands-On Exploration of Neuro & Cardiac Physiology with 4th-Grade Students. **F.E. Mowry, S.C. Peaden, L.B. Olivia, C.M. Robinson, E.S. Coleman, D.D. Schwartz, V.C. Biancardi.** Auburn University.

OA5 **12.5** Addressing Health Disparities in Los Angeles County via a Medical Outreach Program. **A. Jalali, B. Varamini.** Biola University.

OA6 **12.6** Anatomy Explorers: A Pilot Science Outreach Exchange between Bangalore and London. **L. Wilson, C. Pym, C. Deshpande, T. Thomas, R. Wingate.** King's College London, United Kingdom.

OA7 **12.7** Anatomy STEM Outreach at Colorado State University. **C.A. Meyer, H. Hall, K.R. Ivie, N. Heise, T.R. Clapp.** Colorado State University.

OA8 **12.8** Arizona Research Collection for Integrative Vertebrate Evolution and Study (ARCIVES): An Innovative Zoological Collection. **N.E. Wells, K.E. Townsend, H.F. Smith, J.E. Georgi, A.E. Lee, B.E. Adrian.** Midwestern University.

OA9 **12.9** Art of Science Communication – Engaging Any and All Audiences. **H. Alexander.** Public Outreach Committee of ASBMB.

OA10 **12.10** *ArtLab;* Exploring the intersection of art and science. **K.H. Oliver.** Vanderbilt University Medical Center.

OA11 **12.11** Bringing Physiology Understanding Week to Fourth Graders in State College, PA. **A. Dey, J. Hester, K. Ghanem, D. Korzick.** The Pennsylvania State University.

OA12 **12.12** Bringing Rural Areas Interactive Neuroscience: The BRAIN Initiative at the University of Vermont. **R. St. Clair.** University of Vermont.

OA13 **12.13** Building and Sustaining QCC-MSEIP Outreach Activities to Ensure Underrepresented STEM Student Engagement. **N. Gadura.** Queensborough Community College.

OA14 **12.14** Community of Practice as a Model for Science Education Outreach. **E. Li, M. Southwell, B. Forster, K. Snetselaar.** Saint Joseph's University.

OA15 **12.15** Creating Connections in our Community. **G.G. Dachel, R. Knier.** University of Wisconsin—Stout.

OA16 **12.16** Determination Of Effective Dose Fifty (ED) Of Scorpion Antivenom Against Scorpion Envenomation Using The Newly Developed Formula. **S. Alhaji Saganuwan.** University of Agriculture Makurdi, Nigeria.

OA17 **12.17** Development of a Graduate Minor in Communicating Science at Indiana University. **J. Organ, M. Wininger, K. Hoffmann-Longtin.** Indiana University School of Medicine and Indiana University—Purdue University Indianapolis.

OA18 **12.18** Discovery Box Loan Program Provides STEM Engagement Materials to Regional Schools. **R.P. Rylaarsdam, K. Tumminello.** Benedictine University.

OA19 **12.19** Enhancing Critical Thinking Skills of High School Science Students: an Outreach Project. **P. Williams, D.L. Lally, J. Donahue, G. Gillaspy.** Virginia Tech.

OA20 **12.20** Evaluating Flipped Teaching in STEM: A Rubric. **R. Rockhold, M. Barnard, C. Compretta, E. Dehon, M. Elasri, E. Meyer, A. Notebaert, S. Stray, D. Sullivan, J. Taylor.** University of Mississippi Medical Center, University of Mississippi and University of Southern Mississippi.

OA21 **12.21** Evidence-based resources for evolutionary medicine education. **S. Brownell, D. Grunspan, R. Nesse.** Arizona State University.

OA22 **12.22** Falcon Biomanufacturing: Teaching molecular biology, protein expression, and entrepreneurship in a rural high school. **M. Koci, R. Ali, B. Boller.** NC State University and Bertie Early College High School.

OA23 **12.23** Get Involved with the ASBMB Public Outreach Committee!. **D.R. Snowflack.** ASBMB.

OA24 **12.24** Having "PhUn" Learning About Physiology in Nebraska. **N.M. Sharma, A. Schiller, E.I. Boesen.** University of Nebraska Medical Center

OA25 **12.25** Health and Anatomy in the Wiregrass: a unique workshop for high school students in the Southeast region combining physiology, anatomy, scientific research, and creative thought. **A.A. Vasauskas, M.N. Buchman, C.L. Richardson.** Alabama College of Osteopathic Medicine.

OA26 **12.26** How to Change an Outreach Service into a Scholarly Activity? An Important State Infrastructure with Six Cycles of NIH Funding. **P.S. Klinkhachorn, A. Klinkhachorn.** West Virginia University and MetroHealth Hospital.

OA27 **12.27** Impact of Immersive STEM Summer Camp for Underprivileged Middle Schoolers. **A.E. Martinez, R. Tirgar, A. Ribes-Zamora, G. Villares.** University of St. Thomas.

OA28 **12.28** Kentucky Chapter of The American Physiological Society's Involvement in Science Outreach. **W.K. Sumanasekera, R. Cooper, L. Winchester, F. Andrade, S. Tyagi, I. Joshua.** Sullivan University College of Pharmacy, University of KY, Western KY University and University of Louisville.

OA29 **12.29** LEAP into Research: A program to help transfer students get involved in research. **K. Cooper, S. Brownell.** Arizona State University.

OA30 **12.30** Mapping the Body: Poetry and Anatomical Art—New Student Exhibit Merges Humanities and Sciences in Higher Education Collaboration. **A.N. Dueñas, B. Barker, N. Beer, D. Royer.** University of Colorado, Anschutz Medical Campus and University of Colorado Denver.

OA31 **12.31** Michigan Physiological Society introduces an undergraduate Physiology Quiz team competition at their annual meeting. **V.S. VanRyn, E.A. Wehrwein, H-M. Cheng, S. Barman.** Michigan State University and University of Malaya, Malaysia.

OA32 **12.32** Molecular Modeling Programs Using Physical Models Make the Invisible World "Real". **D.H. Munzenmaier, J. Birschbach, M. Franzen, M. Hoelzer, M. Warden, T. Herman.** Milwaukee School of Engineering.

OA33 **12.33** Otterbein University ASBMB Student Chapter: Dropping the Science. **H.M. Bailey, E.K. Hughes, D.T. Wei, J.T. Tansey.** Otterbein University.

OA34 **12.34** Outreach in New York City! The ASBMB Student Chapter at Marymount Manhattan College. **J. Furnari, K. Mora, A. Aguanno.** Marymount Manhattan College and Marymount Manhattan.

OA35 **12.35** PDB-101: Educational Resources for Molecular Explorations Through Biology and Medicine. **S.K. Burley, C. Zardecki, C. Christie, S. Dutta, D.S. Goodsell, R. Lowe, C. Randle, W. Tao, M. Voigt, J. Woo.** RCSB Protein Data Bank and RCSB PDB.

OA36 **12.36** PhUn week at San Diego: Giving students the hands-on experience in Physiology to inspire the pursuance of college and career pathways in the Biomedical Sciences. **K. Ananthakrishnan, A. Hernandez-Carretero, O. Molinar-Inglis.** University of California San Diego.

OA37 **12.37** Physiology Friday with Michigan Tech University: Using Lumber, Woodscrews, and Power Drills to Facilitate Understanding of Human and Animal Movement in Rural High Schools. **S. Elmer, T. Bye, K. Carter.** Michigan Technological University.

OA38 **12.38** Pills, Potions and Poisons: A High School Science Enrichment Program. **K. Summers, M. Downing, N. Kwiek.** The Ohio State University.

OA39 **12.39** Sample a taste of science. **P.K. Bahia.** Scientists and Inc.

OA40 **12.40** Science for Adults. **A. Decker.** Fleet Science Center.

OA41 **12.41** Science Outreach Program For High Schools That Serve Underrepresented Minorities: Generating a Catalyst for Science. **M.J. Massimelli, K. Denaro.** University of California Irvine.

OA42 **12.42** Science Stories on Instagram. **T. Wilkie, H.S. Kantheti.** UT Southwestern Med Center and UT Dallas.

OA43 **12.43** Scientific Community Outreach: Promoting Science to Students at the K–12 Level and STEM Students in ASBMB UPR-RP. **E.D. Navarro, M.G. Perez-Oquendo, J.D. Ramirez-Lugo.** University of Puerto Rico—Rio Piedras, Puerto Rico.

OA44 **12.44** Scientific Community Outreach: Promoting Science to Students at the K–12 Level and STEM Students in ASBMB UPR-RP. **E.D. Navarro, M.G. Perez-Oquendo, J. Ramirez-Lugo.** University of Puerto Rico—Rio Piedras, Puerto Rico.

OA45 **12.45** Social Synapse: Building a Better Network through Educational Outreach at the Department of Neurological Surgery at Northwestern University. **A. Martiny, K. Peck, M. Walsh, M. Walsh, J. Chandler, J. Chandler.** Northwestern University Feinberg School of Medicine and Northwestern Memorial Hospital.

OA46 **12.46** Students Understanding Principles of Research Education through Medicine, Engineering, and Science (SUPREMES). **B.R. Hoffmann, T. Sobotka.** Medical College of Wisconsin.

OA47 **12.47** TAKE SHAPE: Teaching Engineering and Science through Humor, the Arts, and Play. **J.L. DuBois.** Montana State University.

OA48 **12.48** The Engaged Scientist: Building Capacity in Science Outreach through Trainings. **C. Vrentas.** The Engaged Scientist.

OA49 **12.49** The Generation Rx Laboratory: Pharmacology Education for Science Museum Guests of All Ages. **N.C. Kwiek, C.W. Canan, K. Summers, M. Downing.** Ohio State University.

OA50 **12.50** The March for Science—Initiating, Leading, and Surviving the World's Largest Science Outreach Event. **J.M. Berman.** UTHSCSA.

OA51 **12.51** The Museum of Anatomy: a Tool for Democratization of Science. **A. O. da Rocha, M. P.O. de Moraes, J. M.A. Picanço, G.D. G. R. Thomaz.** Federal University of Health Sciences of Porto Alegre, Brazil.

OA52 **12.52** The Recreation of the Phineas Gage Accident. **D. Heck, D. Donegan, M. Stabio.** Univerisity of Colorado Anschutz Medical Campus.

OA53 **12.53** The Role of Informal Youth STEM Program Participation in Undergraduate Student STEM Interest. **E.E. Goff, L. McGuire, L. McGuire, A. Hartstone-Rose, A. Hartstone-Rose, K.L. Mulvey, K.L. Mulvey, M.J. Irvin, M.J. Irvin, A. Rutland, A. Rutland.** University of South Carolina- School of Medicine, Goldsmiths, University of London, United Kingdom and North Carolina State University.

OA54 **12.54** Understanding ADCY5 Gene Mutation Biology: Patient-driven Rare Disease Scientific Outreach and iPSCs. **S. Grossman, G. Grossman.** ADCY5.org.

OA55 **12.55** University of Arizona ASBMB Student Chapter Outreach Activities. **C.K. Park, A. Tran, H. Fukuzaki, M. Morrow, E. Wu, B. Reilly.** University of AZ.

OA56 Using Brains to Inspire Minds: A Unique Outreach Collaboration with the Boston Museum of Science. **K.J. Babcock, E. Kong, A.C. Zumwalt.** Boston University School of Medicine, Museum of Science and Boston. **(631.5)**

OA57 **12.56** Welcoming Future Scientists: Engaging Puerto Rican High School Students in STEM through Community-based Learning and Outreach. **W. Pacheco, K. Munoz, E. Suarez.** University of Puerto Rico—Ponce.

13. EB SCIENTIFIC HIGHLIGHTS

During the EB Welcome Reception, we will highlight 50 of the over 6000 scientific posters to be presented later in the conference. All disciplines will be represented: anatomy, biochemistry and molecular biology, investigative pathology, pharmacology, and physiology. **Authors will be present at their boards from 7:00 – 8:00 PM.**

Poster

SAT. 7:00 PM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

SH1 Optical Imaging Tools for Elucidating the Roles of Anions in Cellular Signaling. **S. Dodani.** The University of Texas at Dallas. **(124.1)**

SH2 Tissue Factor Enhances the Alveolar Epithelial Barrier Integrity During Acute Lung Injury. **H. Sucharski, N. Putz, C. Shaver, L. Ware, J. Bastarache.** Vanderbilt University. **(745.2)**

SH3 Reinforcing Potency and Effectiveness of Synthetic Cathinones: Potency Versus Selectivity for DAT. **B.M. Gannon, A. Sulima, K.C. Rice, M.H. Baumann, G.T. Collins.** The University of Texas Health Science Center at San Antonio, National Institute on Drug Abuse and National Institute on Alcohol Abuse and Alcoholism, National In, National Institute on Drug Abuse and National Institutes of Health Intramural Research Program. **(681.7)**

SH4 Structure-Based Drug Design to Overcome Temozolomide Resistance in Glioblastoma (GBM) Through a Dual Inhibition of Mgmt and Base Excision Repair. **H. R. Madala, S. R. Punganuru, V. Arutla, K. Srivenugopal.** Texas Tech University Health Sciences Center. **(281.6)**

SH5 CRISPR-Cas9 Knock out of Gravin Variant 1 Impairs in Vitro Angiogenic Sprouting. **A. Ali, A. Spagnolia, M. Hull, M. Geffre, P. Bialk, E. Kmiec, B.D. Grove.** University of North Dakota School of Medicine and Health Sciences and Helen F. Graham Cancer Center and Research Institute. **(518.7)**

SH6 Remodeling of Cardiac Energy Metabolism During Heart Failure. **L. Kalfhues, K. Bottermann, L. Leitner, U. Flögel, A. Gödecke.** Heinrich-Heine University of Düsseldorf, Germany. **(903.2)**

SH7 New RiPP Family Incorporates Alpha-N-Methylations into Ribosomally Encoded Peptide Natural Products. **M. Freeman.** University of Minnesota. **(271.1)**

SH8 Dopamine Transporter Activation Reduces Kv2.1 Activation Potential and Cluster Size. **J. Lebowitz, J.A. Pino Reyes, K. Divita, C. Henckel, M. Lin, G.E. Torres, H. Khoshbouei.** University of Florida College of Medicine. **(553.5)**

SH9 The Muscle-Specific Ubiquitin Ligase MuRF1 Regulates Autophagy via FoxO1/3 Ubiquitination to Inhibit NF-B Signaling and Protect Against Cardiac Inflammation *in Vivo*. **T.L. Parry, J.C. Schisler, J. M. Mwiza, J.K. Durand, A.S. Baldwin, M.S. Willis.** University of North Carolina. **(287.5)**

SH10 Malaria Derived Extracellular Vesicles Inhibit Neutrophils ROS Production and NETs Formation. **K.A. Babatunde, M. Walch, I. Fellay, S. Kharoubi-Hess, L. Filgueira, I. Ghiran, P-Y. Mantel.** University of Fribourg, Switzerland and Harvard Medical School. **(519.1)**

SH11 Examining the Role of Gut Dysbiosis in Neuroinflammation and Hypertension in a Model of Obstructive Sleep Apnea. **D. Durgan, B.P. Ganesh, J. Nelson, J. Eskew, N. Ajami, J. Petrosino, R. Bryan.** Baylor College of Medicine, The University of Texas Health Science Center and Mercer University. **(582.2)**

SH13 Cancer-Associated Fusions of the Protein Kinase C Kinase Domain Are Loss-of-Function. **A-A.N. Van, T.R. Baffi, M.T. Kunkel, C.E. Antal, A.C. Newton.** University of California and San Diego. **(687.6)**

SH14 Non Parenchymal Wnts Regulate Beta-Catenin Signaling in Murine Liver Zonation and Regeneration. **M. Preziosi, H. Okabe, M. Poddar, S. Singh, S. Monga.** University of Pittsburgh. **(415.4)**

SH15 3D Contrast Techniques for Visualizing Anatomy and Their Application for Human Education, Vertebrate Biomechanics and Paleobiology. **C.M. Holliday, F. McGetchie, L. Johnson, C. Hill, K. Sellers, K. Middleton, S. Sullivan, J. Schiffbauer.** University of Missouri. **(642.3)**

SH16 A Conserved Pain Syndrome Resulting from the Acute Activation of TRPA1 by Chemotherapy Drugs. **N. Boiko, E. Montano, K.M. Hargreaves, B.A. Eaton, J.D. Stockand.** The University of Texas Health Science Center at San Antonio. **(750.4)**

SH17 Leveraging Mouse Liver Co-Expression Networks and Human Lipid GWAS Data to Identify and Validate Cholesterol Metabolism Genes. **B.W. Parks, Z. Li, J. Nguyen, F. Leyva-Jaimes.** University of Wisconsin—Madison. **(400.1)**

SH18 Blood-Brain Barrier Penetrant and Orally Bioavailable Antidotes to Organophosphate Poisoning. **Y-J. Shyong, A. Garcia, Y. Sepulveda, Z. Radić, J. Momper, P. Taylor.** Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California and San Diego. **(688.4)**

SH19 Desmosomal Cadherins Desmoglein-2 or Desmocollin-2 Regulate Intestinal Epithelial Barrier Function and Mucosal Repair. **D. Kusters, S. Flemming, A-C. Luissint, R. Hilgarth, C. Parkos, A. Nusrat.** University of Michigan. **(286.10)**

SH20 New in Vivo MicroRNA Biotechnology Reveals Specific Roles for the *miR-200* Family in Craniofacial Development. **M.E. Sweat, W. Yu, S. Eliason, Y.Y. Sweat, H. Cao, L. Hong, B.A. Amendt.** University of Iowa, Craniofacial Anomalies Research Center and University of Iowa College of Dentistry. **(776.13)**

SH21 Metabolic Syndrome and the Role of GLP-1 Receptor Agonists in a Model of Postmenopausal Pcos. **E.D. Torres Fernandez, D.G. Romero, L.L. Yanes Cardozo.** University of Mississippi Medical Center. **(766.2)**

SH22 Cohesin Loss Eliminates All Loop Domains. **S.S. P. Rao, S-C. Huang, B. Glenn St. Hilaire, J.M. Engreitz, E.M. Perez, K-R. Kieffer-Kwon, A.L. Sanborn, S.E. Johnstone, G.D. Bascom, I.D. Bochkov, X. Huang, M.S. Shamim, J. Shin, D. Turner, Z. Ye, A.D. Omer, J.T. Robinson, T. Schlick, B.E. Bernstein, R. Casellas, E.S. Lander, E. Lieberman Aiden.** Stanford University, Baylor College of Medicine, Broad Institute of Massachusetts Institute of Technology and Harvard, Lymphocyte Nuclear Biology, National Institute of Arthritis and Musculoskeletal and Skin Diseases, N and New York University. **(256.1)**

SH23 Determining the Effects of E-Cigarette Vapor on Oral Epithelial Cells in a Cultured Cell Model. **M. Duggar, H. Swanson, M. Hill-Odom.** University of Kentucky and Xavier University of Louisiana. **(692.3)**

SH24 Expression of *SIRP*α Tailless Mutant in Mice Impairs Naïve CD4+ T Cell Adhesion to Immobilized ICAM-1 and TCR Induced Proliferation. **F.E. Velázquez Planas, A.E. Autio, G. Newton, C. Parkos, F.W. Luscinskas.** Brigham and Women's Hospital and University of Michigan. **(280.1)**

SH25 Use of Systematic Stimulation Mapping and Functional/structural Imaging to Improve Localization of Seizure Onset in Patients with Drug-Resistant Epilepsy. **R.C. Blanco Prado, C. Drees, J.A. Thompson.** University of Colorado Anschutz Medical Campus. **(782.4)**

SH26 Ghrelin Directly Stimulates Fatty Acid Oxidation in Skeletal Muscle. **E. Kraft, D. Dyck.** University of Guelph, Canada. **(767.16)**

SH27 Quantitative Phosphoproteomic Analysis of Feedback Networks in T Cell Signaling. **A. Salomon, J. Belmont, Q. Ji.** Brown University. **(261.2)**

SH28 Influence of Liver-Specific Ablation of Gp78 E3-Ligase on Hepatic Cytochrome P450-Dependent Drug Metabolism: Clinical Implications. **D. Kwon, S-M. Kim, M.A. Correia.** University of California, San Francisco. **(833.1)**

SH29 CXCR3 Regulates CD+ T Cell Cardiotropism and Maladaptive Cardiac Remodeling Through Mechanisms Involving ICAM1-Mediated Adhesion. **N. Ngwenyama, A. Salvador, T. Nevers, F. Velázquez, M. Aronovitz, P. Alcaide.** Tufts University and Tufts Medical Center. **(280.3)**

SH30 SLC26A3 (DRA) Deficient Mice Display an Acidic Colonic Ph-Microclimate, Develop a Strongly Altered Microbiome and Colonic Inflammation. **A. Kini, M. Basic, A.K. Singh, B. Riederer, D. Römermann, S. Suerbaum, A. Bleich, T. Strowig, U. Seidler.** Hannover Medical School, Germany and Helmholtz Center for Infection Research, Germany. **(747.1)**

SH31 Interrogating Endogenous Neuromodulatory GPCR Signal Processing by Real-Time Imaging of cAMP Dynamics Through Intact Neuronal Circuits. **B.S. Muntean, S. Zucca, C.M. MacMullen, M.T. Dao, C. Johnston, H. Iwamoto, R.D. Blakely, R.L. Davis, K.A. Martemyanov.** Scripps Research Institute and Florida Atlantic University. **(127.2)**

SH32 Structural Characterization of KRAS with a Novel Interactor, Argonaute 2. **J. Waninger, S. Shankar, R.F. Siebenaler, T.S. Beyett, J.J. Tesmer, A.M. Chinnaiyan.** University of Michigan. **(695.6)**

SH33 Personalized Gene Expression Profile Information Predicts Severity of Systemic Sclerosis Despite Heterogeneity of Disease. **Z.I. Johnson, T. Medsger, T. Li, C. Feghali-Bostwick, Y. Conley, C.C. Yates.** University of Pittsburgh, AccuraScience and Medical University of South Carolina. **(414.10)**

SH34 Can Daytime Measures of Respiratory Sinus Arrhythmia and Breathing Ability Serve as Biomarkers of OSA? **C.M. DeLucia, S. Barreda, J. Vranish, E.F. Bailey**. Univ. of Airzona, Univ. of California, Davis and Univ. of Texas at Arlington. **(913.4)**

SH35 The Effects of Nitric Oxide Synthase Inhibitors on Mitochondrial Respiration in Isolated Mouse Brain Mitochondria. **J.A. Sperling, S.S. V. P. Sakamuri, V.N. Sure, M.H. Dholakia, N.R. Peterson, R. Satou, P.V. G. Katakam.** Tulane University School of Medicine. **(697.9)**

SH36 Chemorepulsion as a Novel Therapeutic Concept to Inhibit Pancreatic Cancer Metastasis. **B. Niclou, X. Li, A. Zessler, R. Adam, D. Briscoe, D. Bielenberg.** Boston Children's Hospital. **(677.12)**

SH37 The Antithrombotic Effects of 12-LOX Derived Metabolites of DPA, ω-6. **A. Chen, J. Yeung, A. Szatkowski, M. Jackson, J. Watson, C. Freedman, A. Das, T. Holman, M. Holinstat.** University of Michigan, University of Illinois at Urbana—Champaign, University of California and Santa Cruz.

SH38 Effect of Metabolic Syndrome and Aging on Coronary Artery Disease Severity and Ca Dysregulation in Coronary Smooth Muscle in Ossabaw Miniature Swine. **J.K. Badin, R.S. Bruning, M. Sturek.** Indiana University School of Medicine. **(770.16)**

SH39 CD99L2 as a Major Regulator in Human Transendothelial Migration. **N.S. Rutledge, W.A. Muller.** Northwestern University. **(280.9)**

SH40 A Redesigned Pharmacology Series Increases Students' Satisfaction and Is Associated with Improved Performance in Therapeutics. **K. Brandl, S. Schneid, S. Tsunoda, L. Awdishu.** Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California and San Diego. **(549.4)**

SH41 Developmental Differences in the Contribution of PKCβ Signaling to Chronic Hypoxia-Induced Pulmonary Arterial Tone. **S. Yan, J.R. Sheak, N.L. Jernigan, B.R. Walker, T.C. Resta.** University of New Mexico Health Sciences Center. **(628.5)**

SH42 Microbiota-Derived Indole Metabolites Provide a Novel Pathway for Regulation of Intestinal Homeostasis. **E.E. Alexeev, D.J. Kao, K.B. Mills, T.R. Lemke, J.M. Lanis, J.S. Lee, A.S. Dowdell, S.P. Colgan.** University of Colorado Anschutz Medical Campus. **(286.8)**

Anatomy

14. CONTINUING EDUCATION IN THE ANATOMICAL SCIENCES: WHERE ARE WE? WHERE SHOULD WE BE? AND HOW CAN WE GET THERE?

Symposium

SAT. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 9

COCHAIRED: W. BROOKS AND A. WILSON

8:30 Supply and Demand: Analysis of Continuing Education at the National Level. **William Brooks.** University of Alabama at Birmingham.

9:00 Gross Anatomy for Teacher Education (GATE): Continuing Education in Human Anatomy to Improve Secondary and Post-Secondary Instruction. **Amanda Swindall.** Jefferson State Community College.

9:30 Expanding the Educational Potential of the Human Anatomy Laboratory. **James Williams.** Rush University.

15. DEVELOPMENT AND DISEASE PHYSIOLOGY PLATFORM

Symposium

SAT. 10:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 11A

CHAIRED: J. RICHTSMEIER

Developmental Biology/Morphology

10:30 Characterization of the Bent Bone Dysplasia Mouse: Conditional Knock-In of Fgfr2^{M391R}. **D. Rigueur, A. Merrill.** University of Southern California. **(776.17)**

10:45 **15.1** *Six2* Regulates Palate Development by Inhibiting Palatal Bone Formation During Development. **Y.Y. Sweat, M. Sweat, M. Mansaray, I. Saadi, S. Lachke, A. Butali, B. Sweat.** University of Iowa, University of Kansas Medical Center, University of Delaware, College of Dentistry and University of Iowa.

11:00 **15.2** Kynurenine, a Tryptophan Metabolite That Increases with Age, Induces Skeletal Muscle Atrophy and Reactive Oxygen Species. **H. Kaiser, K. Yu, B. Mendhe, S. Fulzele, M. Johnson, M. McGee-Lawrence, M.W. Hamrick.** Augusta University.

11:15 **15.3** Deficiency of Leukocyte-Specific Protein 1 (LSP1) Alleviates Asthma in a Mouse Model. **N.P. K. Le, A. Nascimento, D. Schneberger, C.C. Quach, X. Zhang, D. Wojciech, L. Liu, J. Gordon, B. Singh.** Western College of Veterinary Medicine, University of Saskatchewan, Canada, College of Medicine and University of Saskatchewan, Canada.

11:30 **15.4** The Microtubule Networks in Lung Epithelia Are Severed During *Klebsiella Pneumoniae* Infections. **M.D. Chua, C-H. Liou, A.C. Bogdan, H.T. Law, K-M. Yeh, J-C. Lin, L.K. Siu, J.A. Guttman.** Simon Fraser University, Canada, Tri-Service General Hospital, National Defense Medical Center, Taiwan and National Health Research Institutes, Taiwan.

11:45 **15.5** Effects of Chronic Ethanol Intake on High-Fat Diet Induced Metabolic Dysfunction in Mice. **C.R. Coker, S.S. Bingaman, A.C. Arnold, Y. Silberman.** Pennsylvania State University.

16. THE ART OF NEGOTIATION

Symposium

SAT. 10:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 9

CHAIRED: P. HUSMANN

10:30 Don't Solve for (x), Solve for (Why). **Loren Buchanan.** Boston Scientific.

11:00 Money Talks: Navigating Negotiations in Early Career. **Samantha Simet.** University of Nebraska Medical Center.

11:30 The View from the Other Side: Everything is on the Table. **Lawrence Wineski.** Morehouse School of Medicine.

17. NOVEL METHODS FOR COMPREHENSIVE COURSE AND COMPETENCY ASSESSMENT

Symposium

SAT. 10:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 8

CHAIRED: D. BREWER-DELUCE

Education

10:30 **17.1** Clinically-Oriented Verbal Laboratory Assessments in the Gross Anatomy Pre-Clerkship Medical Curriculum That Are Designed to Assess Multiple Competencies. **C.M. Martin.** University of Western Ontario, Canada.

11:00 **17.2** Integrated Self-Study Medical Histology Modules: Innovative Approach. **I. Hajj Hussein.** Oakland University William Beaumont School of Medicine.

11:30 **17.3** Course Evaluations—Are We Gaining Insight, or Feeding Egos? Using Novel Evaluations to Uncover Value. **D. Brewer-Deluce, A. Palombella, J. Rockarts, B.C. Wainman.** Western University, Canada and McMaster University, Canada.

18. CARDIAC REGENERATION: LESSONS FROM NON-MAMMALIAN MODELS HYBRID SYMPOSIUM

Symposium

SAT. 1:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 11B

CHAIRED: P. LAFONTANT

Cardiovascular

1:00 Regenerating a Heart in the Salamander **James Godwin** Mount Desert Island Biological Lab-JAX.

1:30 Polyploidization and Heart Regeneration in Zebrafish. **Juan Manuel Gonzalez-Rosa** Cardiovascular Research Center at Massachusetts General Hospital.

1:45 **18.1** 3D Imaging and Visualization of Zebrafish and Giant Danio Hearts by Serial Block Face Scanning Electron Microscopy. **G. Coffing, K. Hester, P.T. Kyaw, P.J. Lafontant.** DePauw University.

2:00 **18.2** Growth Factor Expression by Cardiac Tissues in the Leopard Gecko (*Eublepharis macularius*). **K. Jacyniak, M.K. Vickaryous.** University of Guelph, Canada.

2:15 **18.3** Neural Crest Derived Cardiomyocytes Regulate Cardiac Trabeculation and Adult Heart Function. **S. Abdul-Wajid, B. Demarest, H.J. Yost.** University of Utah.

19. DECIPHERING CELL BIOLOGY: THE INTERSECTION OF METABOLISM, FORCE TRANSMISSION, AND THE ACTIN CYTOSKELETON

Symposium

Sat. 1:00 pm—San Diego Convention Center, Room 11A

Chaired: K. DeMali

Cell Biology

1:00 Mitochondrial Positioning and Subcellular Energetics – A Mutualism that Governs Cell Migration **Alan Howe.** University of Vermont.

1:30 Metabolic Regulation of Spindle Assembly and Collective Cancer Invasion. **Adam Marcus.** Emory University.

2:00 Links Between Cell-cell Adhesion, Mechanotransduction and Metabolism. **Kris DeMali.** University of Iowa.

20. OUT ON A LIMB: DEVELOPMENT VARIATION DISEASE EVOLUTION

Symposium

Sat. 1:00 pm—San Diego Convention Center, Room 9

Chaired: K. Oberg

Evolution/Anthropology

Bones/Muscle/Connective Tissue

Developmental Biology/Morphology

1:00 **20.1** Role of *Hoxc* Genes in the Development of the Limb Integumentary Organ (Nail, Claw, or Hoof). **M.A. ROS Lasierra, M. Fernández-Guerrero, L. Delisle, N. Yakushiji-Kaminatsui, F. Darbellay, R. Pérez-Gómez, D. Duboule.** Instituto de Biomedicina y Biotecnologia de Cantabria, Spain and Federal Institute of Technology, Switzerland.

1:30 **20.2** Functional Characterization of Gene Regulatory Elements. **N. Ahituv.** University of California, Los Angeles.

2:00 **20.3** Forward Genetics, Cilia, and Limb Development. **S. Weatherbee, N. Shylo, D. Xin, K. Christopher.** Yale University.

21. EDUCATIONAL RESEARCH STUDENT PLATFORM AWARD SESSION

Award Competition

Sat. 1:00 pm—San Diego Convention Center, Room 8

Chaired: S. Greene

Education

Student and Postdoc award finalists present oral presentations to compete for the Educational Platform Award

1:00 **21.1** Effects of Dissection Experience on Medical Student Exam Performance in Gross Anatomy. **S.M. Dunham, P.R. Husmann.** Indiana University.

1:15 **21.2** Do Dissection- and Prosection-Based Laboratories Offer Comparable Learning Experiences? an Exploration of Student Learning in Two Laboratory Cohorts at the University of Guelph. **S.C. McWatt, G.S. Newton, L.C. Jadeski.** University of Guelph, Canada.

1:30 **21.3** The Role of Instructor Accent on Student Learning and Instructor Evaluation in a Digital Learning Environment. **C. Vinovskis, L. Lee.** University of Colorado Anschutz Medical Campus.

1:45 **21.4** Identifying Learning and Study Strategies as Predictors for Academic Performance in Gross Anatomy. **T. Ng, A. Hryniuk, C. Nichols, A.C. Edmondson.** Medical College of Georgia at Augusta University.

2:00 **21.5** Effects of Exam Group Time on Academic Performance. **H.B. Houston, C.A. Nichols, A.C. Edmondson.** Medical College of Georgia at Augusta University.

2:15 **21.6** Efficacy of Collaborative Testing for Long-Term Retention of Medical Knowledge. **K. Kleinberg, J.L. Eastwood, D.W. Rodenbaugh.** Burrell College of Osteopathic Medicine.

22. FRONTIERS IN CARDIOMYOCYTES DEVELOPMENT AND REGENERATION

Symposium

Sat. 3:00 pm—San Diego Convention Center, Room 11B

Cochaired: J. Wang and J. Martin

Cardiovascular

Developmental Biology/Morphology

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

3:00 Signaling Pathways Responsible for Cardiac Patterning in the Early Embryo. **Deborah Yelon.** University of California, San Diego.

3:30 From Tinman to Congenital Heart Disease Gene Discovery. **Rolf Bodmer.** Sanford Burnham Prebys Medical Discovery Institute.

4:00 Cardiomyocyte Development and Regeneration in Zebrafish. **Neil Chi.** University of California, San Diego.

23. THE ANATOMY OF GENDER

Symposium

(*Cosponsored by:* AAA's Committee for Early Career Anatomists)

Sat. 3:00 pm—San Diego Convention Center, Room 11A

Chaired: Y. Carter

Education

Sex Differences and Women's Health

Cell Biology

3:00 Teaching Gender Transition Through Anatomy. **Derek Harmon.** University of California, San Francisco.

3:30 The Clinical Anatomy of Gender Confirmation Surgery. **Maurice Garcia.** Cedars-Sinai Medical Center.

4:00 Trans* Experience of Anatomy: Contributions to Medical School Competencies. **Yasmin Carter.** University of Massachusetts Medical School.

24. THE GENETICS AND DEVELOPMENT OF STRUCTURAL BIRTH DEFECTS

Symposium

(*Cosponsored by:* Joint Session with Society for Craniofacial Genetics and Developmental Biology)

SAT. 3:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 9

CHAIRED: R. MARCUCIO

Developmental Biology/Morphology

Cell Biology

3:00 Fibroblast Growth Factors: Critical Regulators of Osteogenic and Chondrogenic Growth Program**s. David Ornit**z. Washington University.

3:30 The Genetics of Skeletal Dysplasias. **Deborah Krakow.** University of California, Los Angeles.

4:00 **24.1** Mechanoresponsive Skeletal Stem Cells Acquire Primitive Neural Crest Identity During Distraction Osteogenesis. **M. Longaker.** Stanford University.

25. ANATOMY EDUCATION PLATFORM 1—ADVANCES IN EDUCATIONAL TECHNOLOGIES

Symposium

SAT. 3:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 8

COCHAIRED: L. LEE AND J. SHAFFER

Education

3:00 **25.1** Quantifying Two Dimensional (2D) and Three Dimensional (3D) Anatomical Learning Using a Neuroeducational Approach. **S.J. Anderson, H. Jamniczky, O. Krigolson, K. Hecker.** University of Calgary, Canada and University of Victoria, Canada.

3:15 **25.2** Cerebral Aneurysmal Coiling in Virtual Reality—An Overview of Novice Skill Development. **O. Zaika, M. Boulton, R. Eagleson, S. de Ribaupierre.** Western University, Canada.

3:30 **25.3** 3D Neuroanatomy: Using the Hololens for an Augmented Reality Approach in Neuroanatomy Education. **P. Holman, T. Bodnar, M. Ghomi, R. Choi, H. Moukhles, C. Krebs**. University of British Columbia, Canada.

3:45 Monkey-See, Monkey-Do: An Eye-Tracking Study Assessing the Efficacy of Feed-Forward Training in Histology Visual Literacy Development. **H. Koury, C.J. Leonard, P.M. Carry, L.M. J. Lee.** University of Colorado Anschutz Medical Campus, University of Colorado Denver and Children's Hospital Colorado. **(635.38)**

4:00 **25.4** The Use of Voluntary 3-D Technology and Upper-Class Peer-Mentoring to Enhance Anatomy Performance of Under-Represented Minority Students in Physical Therapy. **A. Ortiz, C. Bickley, M. Kliefoth.** Texas Woman's University—Houston.

4:15 **25.5** Studying Histology in 3D: Development and Evaluation of an Interactive Virtual Histology Learning Tool Using a 3D Model of the Renal Corpuscle. **M. Rivero, Y. Mu, J. Roth, T. Wilson, R. Eagleson, M. Sandig.** Western University, Canada and University of Waterloo, Canada.

26. KEYNOTE SPEAKER

Lecture

SAT. 4:45 PM—SAN DIEGO CONVENTION CENTER, ROOM 8

Developmental Biology/Morphology

Welcome and introduction by AAA President, Philip Brauer

4:45 Chair's introduction.

4:55 How Basic Science Can Help to Inform Public Health and Improve Lives Globally. **Jeff Murray.** Bill and Melinda Gates Foundation

Biochemistry and Molecular Biology

27. ASBMB GRADUATE STUDENT AND POSTDOCTORAL FELLOW CAREER DEVELOPMENT EVENT

Society Events

Sat. 9:00 am—San Diego Convention Center, Room 6D

Cochaired: C. Heinen and T. O'Connell

8:30 am begins required check-in in the lobby area outside of room 6A. Invitation only. Required participation for all Graduate and Postdoctoral Travel Award recipients.

28. ASBMB ANNUAL MEETING ORIENTATION FOR UNDERGRADUATE STUDENTS

Society Events

Sat. 11:30 am—San Diego Convention Center, Room 6C

Chaired: J. Provost

Feeling overwhelmed by all the options? Not sure what sessions to attend? This meeting orientation will help you craft your personal game plan to get the most out of your national meeting experience.

29. ASBMB JUDGES' ORIENTATION FOR THE UNDERGRADUATE POSTER COMPETITION

Award Competition

Sat. 11:30 am—San Diego Convention Center, Room 6E

Chaired: K. Cornely

Cochaired: K. Dickson and P. Ortiz

Volunteer judges (Undergraduate faculty and PI's) should report to Room 6E for this orientation/training session. Drop-in's welcome (Faculty and PI's only) and must check-in with organizers during this orientation session.

30. ASBMB UNDERGRADUATE STUDENT RESEARCH POSTER COMPETITION

Award Competition

Sat. 1:00 pm—San Diego Convention Center, Room 6B

Chaired: K. Cornely

Cochaired: K. Dickson and P. Ortiz

Advance competitor registration required. Competitor check-in begins at 12:00 pm .

31. ASBMB EXPLORING CAREERS SPEED NETWORKING FOR UNDERGRADUATES

Workshop

Sat. 4:45 pm—San Diego Convention Center, Room 6A

Scientists from a variety of career fields will meet with students and share advice about their career paths. All undergraduate student, ASBMB members and biochemistry registrants are welcome and encouraged to attend.

Pathology

32. MEET THE MENTOR BREAKFAST

Society Events

(*Sponsored by the ASIP Committee for Career Development and Diversity)*

SAT. 7:30 AM—SAN DIEGO CONVENTION CENTER, ASIP OFFICE CORRIDOR

CHAIRED: T. PARRY

33. NEXTGEN SCIENCE: NEW DISCOVERIES OF GRADUATE STUDENTS AND POST-DOCTORAL FELLOW RISING STARS

Poster Discussion

(*Sponsored by the ASIP Committee for Career Development and Diversity)*

SAT. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 2

CHAIRED: T. REAVES

COCHAIRED: E. MEDINA

8:30 Welcome and Introduction.

Postdoctoral Fellow Oral Presentations.

8:35 Opposite Effects of Knocking Out MT1 and MT2 Melatonin Receptor on Senescence and Fibrosis of Cholangiocytes and Hepatic Stellate Cells During Cholestatic Liver Injury. **N. Wu, K. Kyritsi, J. Venter, F. Meng, P. Invernizzi, F. Francesca Bernuzzi, K. Sato, E. Gaudio, T. Zhou, H.L. Francis, P. Onori, A. Franchitto, G. Alpini, S.S. Glaser.** Texas A&M Health Science Center, Baylor Scott & White Health, Humanitas Clinical and Research Center, Italy, Histological, and Forensic Medicine and Orthopedic Sciences, Italy and Eleonora Lorillard Spencer Cenci Foundation, Italy. **(415.10)**

8:45 Endothelial Cell IQGAP1 Is Required to Support Efficient Leukocyte Transmigration Both in Vitro and in Vivo. **D.P. Sullivan, P.J. Dalal, W.A. Muller.** Northwestern University. **(280.2)**

Postdoctoral Fellow Poster Presentations.

P2 Bi-Directional Macrophage-Fibroblast Crosstalk Directs Wound Resolution Factors. **Z.I. Johnson, S. LoPresti, B. Lantonio, A. Wells, N. Ismail, B.N. Brown, C.C. Yates.** University of Pittsburgh. **(414.2).**

P4 Biotin Deficiency Induces Th1 and Th17 Mediated Inflammatory Response in CD4+T Lymphocytes via Activation of mTOR Signaling Pathway. **A. Elahi, S. Sabui, A. Agrawal, H.M. Said.** University of California. **(280.6).**

P6 Mechanisms of Concanavalin A-Induced Mediators of Hepatocyte Damage in Hepatic Stellate Cells: A Dual Role of Interferon Regulatory Factor-1. **R. Rani, S. Kumar, C.R. Gandhi.** Cincinnati Children's Hospital Medical Center. **(150.2)**

Graduate Students Oral Presentations.

9:35 PRAP1: A Novel Epithelial Secreted Protein. **A. Wolfarth, A. Neish.** Emory University. **(406.8)**

9:55 Multiplexed Immuno-Profiling of the Colorectal Carcinoma Microenvironment Using Archival Human Tissue. **J. Borowsky, J.A. Nowak, A. da Silva, T. Hamada, T. Morikawa, T.S. Twombly, K. Nosho, R. Nishihara, J.K. Lennerz, M. Giannakis, A.T. Chan, J.A. Meyerhardt, C.S. Fuchs, S. Ogino.** Dana-Farber Cancer Institute, Brigham and Women's Hospital and Harvard Medical School, Dana-Farber Cancer Institute and Harvard Medical School, The University of Tokyo, Japan, Sapporo Medical University School of Medicine, Japan, Massachusetts General Hospital and Harvard Medical School and Yale Cancer Center. **(818.4)**

10:05 IL-36γ Promotes Alveolar Macrophage Survival During Influenza Infection, Limiting Morbidity and Mortality. **A.N. Wein, P. Dunbar, S.R. McMaster, T.L. Denning, J.E. Kohlmeier.** Emory University and Georgia State University. **(280.10)**

10:15 Elevated Thrombospondin-2 Contributes to Delayed Wound Healing in Diabetes. **B. Kunkemoeller, T.R. Kyriakides.** Yale University. **(414.3)**

Graduate Students Poster Presentations.

P3 Developing a New Polymeric System for Release of Immunomodulators for Treatment of Heart Failure. **F.d. J. Salazar-Ramírez, O. Lozano, H. Chapoy-Villanueva, G. Torre-Amione, G. García-Rivas.** Cátedra de Cardiología y Medicina Vascular, Escuela de Medicina and Tecnológico de, Mexico. **(675.13).**

P5 Inflammatory Mediators and Fibroblasts. **L. T. James, T.A. Reaves.** Medical University of South Carolina. **(414.7).**

P7 A Novel Fiji Workflow Demonstrates Dynamic Changes in Postnatal Respiratory Nuclei Innervation by *Nkx.2-* and *Olig3* derived Neurons. **J. Liu, S. Fair, B. Kaya, J. Zuniga, H. Mostafa, M. Alves, C. Czeisler, J. Otero.** The Ohio State University. **(545.15).**

P9 Protease Activated Receptor-2 Mediates *Giardia*-Induced Disruptions of the Intestinal Mucus Barrier. **E.R. Fekete, C. Amat, T. Allain, M. Hollenberg, K. Chadee, A. Buret.** University of Calgary, Canada. **(286.11).**

P11 Structure-Based Drug Design to Overcome Temozolomide Resistance in Glioblastoma (GBM) Through a Dual Inhibition of mGmT and Base Excision Repair. **H. R. Madala, S. R. Punganuru, V. Arutla, K. Srivenugopal.** Texas Tech University Health Sciences Center. **(281.6).**

P13 Probiotic *Lactobacillus rhamnosus GG* Culture Supernatant Improves Energy Expenditure and Glucose Tolerance in High-Fat-High-Fructose Fed Mice Exposed to Chronic Intermittent Hypoxia Through Regulation of Intestinal Microbiota and Bile Acid Homeostasis. **Q. Liu, C. McClain, W. Feng.** University of Louisville. **(41.1).**

P15 Chemorepulsion as a Novel Therapeutic Concept to Inhibit Pancreatic Cancer Metastasis. **B. Niclou, X. Li, A. Zessler, R. Adam, D. Briscoe, D. Bielenberg.** Boston Children's Hospital. **(677.12).**

P17 Clinical Relevance of VM-M3 in Modeling Cancer Cachexia. **A.P. Koutnik, A.M. Poff, J. Deblasi, N.M. Ward, D.P. D'Agostino.** University of South Florida and Moffitt Cancer Center. **(281.3)**

11:20 Concluding Remarks.

34. MOLECULAR AND CELLULAR BASIS OF CANCER SYMPOSIUM: EMT, AN EVER-CHANGING PROCESS OF CANCER PROGRESSION

Symposium

Sat. 8:30 am—San Diego Convention Center, Room 3

Chaired: D. Stairs

Neoplasia

Epithelial and Mucosal Pathobiology

8:30 Liver Microenvironment Regulates Metastasis and Chemoresistance. **A. Wells.** Univ. of Pittsburgh.

9:05 Kaiso as a Master Regulator of EMT in Breast and Prostate Cancers. **C. Yates.** Tuskegee Univ.

9:40 NFκB Controls Twist2 in Esophageal Squamous Cancer. **D. Stairs.** Penn State College of Medicine.

10:15 Selective Autophagy in Mammary Carcinoma Differentiation and Metastasis. **J. Debnath.** Univ. of California, San Francisco.

10:50 Epithelial-Mesenchymal Plasticity in Carcinoma Metastasis. **J. Yang.** UCSD.

35. GO WITH THE FLOW: CARDIOVASCULAR BIOLOGY AND PATHOLOGY

Symposium

Sat. 8:30 am—San Diego Convention Center, Room 4

Chaired: T. Kyriakides

Cochaired: D. Karunakaran

Cardiovascular

8:30 **35.1** Atg7-Dependent Autophagy Is Essential for Cardiac Function with High Fat Diet. **M. Tong, T. Saito, P. Zhai, S. Oka, J. Sadoshima.** Rutgers New Jersey Medical School.

8:45 **35.2** Antenatal Exposure to Secondhand Smoke Impacts Growth and Cardiopulmonary Energetics in 4-Week-Old Mice. **K.M. Hirschi, K. Egbert, C. Clark, N. Mella, E. Plothow, J.F. Mejia, J.A. Arroyo, P.R. Reynolds.** Brigham Young University.

9:00 **35.3** Uremic Toxins Are Conditional Danger- or Homeostasis-Associated Molecular Patterns, Which Are Highly Selective Increase Rather Than Purely Passive Accumulation, in Chronic Kidney Disease and Coronary Arteria Disease. **Y. Sun, Y. Lu, G. Nanayakkara, Y. Li, H. Fu, C. Johnson, Y. Shao, W.Y. Yang, H. Wang, R. Li, X. Yang.** Lewis Katz School of Medicine, Temple University and Shanxi Provincial People's Hospital, People's Republic of China.

9:15 **35.4** Histopathologic Correlates of Irreversible Renal Injury in Renal Artery Stenosis. **M. Osman, K. Sonu, O. Kaya, Z. Hu, L. Karen, J.P. Grande.** Mayo Clinic and Inönü University, Turkey.

9:30 **35.5** Aberrant Retinal Angiogenesis, Structure, and Synaptic Morphology in an *in Vivo* Mouse Model of Rop. **O.J. Mezu-Ndubuisi, E. Macke, R. Kalavacherla, A. Nwaba, A. Ikeda.** University of Wisconsin—Madison and Vanderbilt University.

9:45 **35.6** Pre-Clinical Identification of Potential Molecular Diagnostic Biomarkers of Secondary Ischemia in Microvascular Fasciocutaneous Flaps. **E. Aksamitiene, V. Christopher, C. Mitchell Waters, E. Juskeviciute, S. Addiya, J.B. Hoek, R.N. Heffelfinger, E. Pribitkin.** Thomas Jefferson University.

10:00 **35.7** VEGF Is Required for the Initiation of Cerebral Cavernous Malformations. **A. Glading, P. DiStefano, T. Chen, H. Su, K. Whitehead.** University of Rochester, University of Utah, University of California, San Francisco.

10:15 **35.8** Caspase-Dependent Septic Pulmonary Microvascular Endothelial Cell Barrier Dysfunction Is Associated with Vascular Endothelial-Cadherin Disruption. **S.E. Gill, L. Wang, J. Chung, S. Mehta.** Lawson Health Research Institute, Canada.

10:30 **35.9** Rapid Flow-Induced $G\alpha_{q/11}$ activation Occurs Upstream of Piezo1 Activation. **N.G. Dela Paz, J.A. Frangos.** La Jolla Bioengineering Institute.

10:45 **35.10** Prolonged Activation of STAT3 Mediates the IL-Induced Loss of Stress Fibers and Increase in Endothelial Permeability. **H. Alsaffar, N. Martino, K. Leyden, A. Adam.** Albany Medical College.

37. XVIIITH ANNUAL WORKSHOP ON GRADUATE EDUCATION IN PATHOLOGY: WELLNESS FOR STUDENTS AND FACULTY

Workshop

(*Sponsored by the ASIP Education Committee and the Association of Pathology Chairs)*

Sat. 11:45 am—San Diego Marriott Marquis & Marina, Marina Ballroom Salon G

Chaired: R.N. Mitchell

Cochaired: B. Ducatman

Registration Required

11:50 Lessons Learned from Wellness Programs in Residency and Clinical Fellowships. **Wesley Naritoku.** University of Southern California.

12:05 Wellness in Research Training Programs. **Alana Iglewicz.** University of California, San Diego.

12:20 Concepts in Wellness and Mindfulness in Training Programs. **Rhonda Mason.** San Diego, CA.

2:35 Q+A

38. BLOOD VESSEL CLUB™: INFLAMMATION, SURVIVAL, AND DEATH IN ATHEROSCLEROSIS

Symposium

Sat. 2:00 pm—San Diego Convention Center, Room 2

Chaired: J. Homeister

Cochaired: D. Karunakaran

Cardiovascular

Inflammation/Immunity

Metabolism and Metabolic Disease

2:00 Inflammation and Human Atherosclerosis. **James Stone.** Massachusetts General Hospital.

2:45 Understanding Atherosclerosis Using Genetic Approaches in Mice. **Aldons Lusis.** University of California, Los Angeles.

3:30 **RIP** Kinases in Cardiometabolic Diseases **Denuja Karunakaran** University of Ottawa

4:15 **Regulation** of T Cells in Cardiovascular Disease. **Andrew Lichtman.** Brigham & Women's Hospital.

39. BREAST CANCER AND GENE REGULATION WORKSHOP: ROLE OF CHROMATIN LANDSCAPE IN CANCER CAUSATION AND TREATMENT

In Conjunction with the Molecular and Cellular Basis of Cancer Program

Workshop

Sat. 2:00 pm—San Diego Convention Center, Room 3

Chaired: P. Iannaccone

Cochaired: D.C. Williams and Q. Yan

Breast Cancer

Gene Expression

Chromatin, Epigenomics

2:00 Transcription-Based Approaches to Identify Regulatory Networks in Cancer. **M. Green.** Univ. of Massachusetts Medical School.

2:30 Chromatin Regulation of p53 in Cancer**. S. Lauberth**. UCSD.

3:00 Long-Range Chromatin Interactions in the Mammalian Genome**. B. Ren**. UCSD.

3:30 Targeting Gene Transcription in Cancer. **W.L. Kraus.** Univ. of Texas Southwestern Medical Ctr.

4:00 **39.1** The *PAX-5* Transcript Is Submitted to 3'UTR Editing Which Regulates Its Oncogenic Expression in Cancer Cells. **G.A. Robichaud, A-P. Beauregard, R. Guerrette, N. Crapoulet, N. Finn, È. St-Hilaire.** Université de Moncton, Canada, Atlantic Cancer Research Institute, Canada and Dr. Léon-Richard Oncology Centre, Canada.

4:15 **39.2** Mammary Epithelium-Specific Conditional Expression of Human Mutant Ki-Ras in Mice Generates Estrogen Receptor Alpha (ER)-Positive Mammary Adenocarcinomas. **S. Ando, R. Malivindi, S. Catalano, P. Rizza, I. Barone, S. Panza, D. Rovito, C. Emprou, J-M. Bornert, G. Laverny, D. Metzger.** University of Calabria, Italy and Université de Strasbourg, France.

4:30 **39.3** Transcriptomics Profiling of Breast Cancer Cells, MDA-MB-231, Exposed to TNF-α: Focus on Pro-Survival and Pro-Inflammatory Regulated Pathways. **D.F. Bauer, E.A. Mazzio, K.F. Soliman.** Florida A&M University.

4:45 **39.4** Transcriptomic Hallmarks of Tumor-Stromal Interactions in Brain Metastasis. **D. Nguyen.** Yale School of Medicine.

40. MECHANISMS OF NEUROLOGICAL DISEASE

Symposium

Sat. 2:00 pm—San Diego Convention Center, Room 4

Chaired: W. Tourtellotte

Cochaired: J. Otero

Neuroscience

2:00 **40.1** Excessive UBE3A Dosage Impairs Retinoic Acid Signaling and Synaptic Plasticity in Autism Spectrum Disorders. **R. Hu.** Shanghai Institute of Biochemistry & Cell Biology.

2:15 **40.2** Molecular Targets Underlying the Anti-Inflammatory Effects of Thymoquinone in LPS Activated BV-2 Cells. **E. Taka, P. Mendonca, E.A. Mazzio, S.D. Reed, R. Reams, K.F. Soliman.** Florida A&M University.

2:30 **40.3** Tyrosine Kinase in Ulcerative Colitis Associated Compromised Microglial Functions. **N. Kumar, P. Kumar, J. Mishra.** Texas A&M University College of Pharmacy.

2:45 **40.4** The Attenuating Effects of 1,2,3,4,6 Penta-O-Galloyl-β-D-Glucose (PGG) on the Expression of Proteins Involved in Alzheimer's Disease in LPS/IFNγ Activated BV-2 Microglial Cells. **P. Mendonca, E. Taka, K.F. Soliman.** Florida A&M University.

3:00 **40.5** ELP1-Dependent SHP1 Phosphatase Regulation and Its Essential Role in Familial Dysautonomia Pathogenesis. **W. Tourtellotte.** Cedars-Sinai Medical Center.

3:15 **40.6** Determining the Effect of the Wnt/βcatenin Pathway on the Ischemic Blood-Brain Barrier Using Induced Pluripotent Stem Cells. **S. Page, A. Al-Ahmad.** Texas Tech University Health Sciences Center.

3:30 **40.7** The Functional Role of Arginase 1 and Neutrophil Proteomics in Predicting Ischemic Stroke Outcome. **A.B. Petrone, K. Steele, R. Eisenman.** West Virginia University.

3:45 **40.8** New Prion Strain Generation Through Splenic Replication. **C.J. Sigurdson, P. Aguilar-Calvo, C. Bett, A. Sevillano, T.D. Kurt, J. Lawrence, K. Soldau, P. Hammarstrom, K. P.R. Nilsson.** University of California, San Diego and Linkoping University, Sweden.

4:00 **40.9** CHCHD2 Knockout Alters Mitochondrial Metabolism, Increases Sensitivity to Sulfasalazine, and Decreases Proliferation and Invasive Potential of Glioblastoma Cells Expressing EGFRvIII. **J. Lumibao, J-w.E. Chen, B. Harley, H.R. Gaskins.** University of Illinois at Urbana—Champaign.

4:15 **40.10** Mechanisms of the IDH1/2 Mutations and Its Association with Contradictory Survival of Glioblastoma Patients Versus AML Patients. **C. Van Noorden.** Cancer Center Amsterdam and VUmc, Netherlands.

41. METABOLISM AND DISEASE: FROM MITOCHONDRIA AND mTOR TO MALIGNANCY

In Conjunction with the Molecular and Cellular Basis of Cancer Program

Symposium

SAT. 2:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 5A

CHAIRED: E. WHITLEY

COCHAIRED: R.N. MITCHELL

Metabolism and Metabolic Disease

Neoplasia

2:00 **41.1** Probiotic *Lactobacillus rhamnosus GG* Culture Supernatant Improves Energy Expenditure and Glucose Tolerance in High-Fat-High-Fructose Fed Mice Exposed to Chronic Intermittent Hypoxia Through Regulation of Intestinal Microbiota and Bile Acid Homeostasis. **Q. Liu, C. McClain, W. Feng.** University of Louisville.

2:15 Differential Expression of mTOR Related Molecules in the Placenta of Gestational Diabetes Mellitus (GDM), Intrauterine Growth Restriction (IUGR) and Preeclampsia Patients. **K. Price, B. Kimbler, N. Knowlton, L. Franson, K.M. Hirschi, P.R. Reynolds, J.A. Arroyo.** Brigham Young University. **(676.4)**

2:30 **41.2** Ketones Drive Mitochondrial Uncoupling in Adipose Tissue. **C. Walton, B.T. Bikman.** Brigham Young University.

2:45 **41.3** Insulin and Ketones Elicit Disparate Effects on Mitochondrial Uncoupling in Adipose Tissue. **B.T. Bikman.** Brigham Young University.

3:00 **41.4** Liquid Sucrose Consumption Promotes Liver Lipid Accumulation, Fat Mass, and Glucose Intolerance Without Altering Circulating Insulin Levels. **S.J. Burke, H.M. Batdorf, T.M. Martin, D.H. Burk, R.C. Noland, W.D. Johnson, C.R. Cooley, M.D. Karlstad, J.J. Collier.** Pennington Biomedical Research Center and University of Tennessee Health Science Center.

3:15 **41.5** Molecular Mechanisms of Beta Cell Adaptation to Hyperlipidemia. **M.C. Poffenbarger, D.R. Lathen, H.A. Ricks, A.M. Barlow, Z.F. Roth, B.T. Bikman, J.S. Tessem.** Brigham Young University.

3:30 **41.6** Glucose Limited Enhance the Cancer Stem Cell Population Through PKM2/AMPK-Dependent Signaling. **Y-C. Yang, M-H. Chien, M. Hsiao.** Taipei Medical School, Taiwan, Genomics Research Center and Academia Sinica, Taiwan.

3:45 **41.7** Significant Reduction in Full Metabolic Syndrome in Saudi Subjects with Elevated Fasting Glucose Through an Intensive Lifestyle Monitoring Programme of 12 Months. **H.A. Alfawaz, N.M. AL-Daghri.** King Saud University, Saudi Arabia.

4:00 **41.8** Type-I Interferon-Mediated Akt/mTORC2 Signaling Regulates Autophagy and Inflammasome Activation in Mouse Liver Injury/Sepsis Model. **J. Wells, M. Kader, K. Tamama, C. Yates, M. Scott, N. Ismail.** University of Pittsburgh School of Medicine and University of Pittsburgh School of Nursing.

4:15 **41.9** Effects of Epicatechin and Its Gut Metabolites on Beta Cell Function, Survival and Proliferation. **J.S. Tessem, T.J. Rowley IV, J.D. Ray, J.A. Herring, K.B. Kener, B.F. Bitner, M. Ross, M. Lopez, B.T. Bikman, A.P. Neilson.** Brigham Young University and Virginia Polytechnic Institute and State University.

42. THE HISTOCHEMICAL SOCIETY (HCS) COUNCIL MEETING

Society Events

SAT. 5:00 PM—OFF-SITE LOCATION, GREYSTONE STEAKHOUSE, 685 5TH AVENUE, SAN DIEGO, CA 92101

Workshops & Events

By Invitation Only

43. AJP EDITORIAL DINNER

Society Events

SAT. 6:30 PM—SAN DIEGO MARRIOTT MARQUIS & MARINA, PALOMAR

Workshops & Events

By Invitation Only

Pharmacology

44. TEACHING INSTITUTE: FLIPPING NOT FLOPPING: ACTIVE LEARNING STRATEGIES FOR GRADUATE AND HEALTHCARE PHARMACOLOGY

Symposium

(*Sponsored by:* ASPET Division for Pharmacology Education (DPE))

Sat. 10:30 am—San Diego Convention Center, Room 14B

Chaired: A.L. Gorman

Cochaired: S. Rahman

Education

10:30 Best Practices in Active Learning of Pharmacology. **L. Gorman.** Univ. of Central Florida Col. of Med.
10:50 Active Learning Techniques in Graduate Education. **D. Ponnoth.** Long Island Univ. AMS Col. of Pharmacy.
11:10 Training in How Learners Learn. **N. Kwiek.** Ohio State Univ. Col. of Pharmacy.
11:30 Student and Faculty Perspectives on Active Learning Strategies. **K. Brandl.** Skaggs Sch. of Pharmacy and Pharmaceutical Sciences.
11:50 Let's Get Active TBL.
12:50 Panel discussion.

45. ASSESSING PHARMACOLOGY IN INTEGRATED CURRICULA

Symposium

(*Sponsored by:* ASPET Division for Pharmacology Education (DPE))

Sat. 1:30 pm—San Diego Convention Center, Room 14B

Chaired: R. Carrier

Cochaired: J. Reuben

Education

Career and Professional Development

1:30 Introduction.
1:35 Utilizing Outcomes and Objectives to Improve Student Learning and Exam Development. **R. Carrier.** West Virginia Sch. of Osteopathic Med.
2:00 Pharmacology Blooms in Assessment. **J. Reuben.** Texas A & M Univ.
2:25 Assessing and Mapping Higher Order Thinking and Soft Skills. **S. Earle.** Univ. of Findlay.
2:50 Impact of Integration on Learner Outcomes. **H. Gottlieb.** Univ. of the Incarnate Word Feik Sch. of Pharmacy.
3:15 Question Development Session.
3:55 Conclusion.

46. CLINICAL PATHS FOR SOLUBLE EPOXIDE HYDROLASE INHIBITORS

Symposium

(*Sponsored by:* ASPET Division for Drug Discovery and Development (DDD))

Sat. 1:30 pm—San Diego Convention Center, Room 17A

Chaired: J. Imig

Cochaired: B. Hammock

Drug Discovery and Development

Neuroscience

Cardiovascular

Drug Metabolism and Disposition

1:30 Introduction. **B. Hammock.** Eicosis and Univ. of California Davis.
1:40 Soluble Epoxide Hydrolase Inhibitors as Treatments for Renal Fibrosis and Chronic Kidney Disease. **J. Imig.** Medical Col. of Wisconsin.
2:05 Soluble Epoxide Hydrolase Inhibitors to Treat Depression and other CNS Related Disorders. **K. Hashimoto.** Chiba Univ.
2:30 Anti-Nociceptive Mechanisms of Action for Soluble Epoxide Hydrolase Inhibitors. **K. Wagner.** Univ. of California, Davis.
2:55 Clinical Path for Soluble Epoxide Hydrolase Inhibitors to Treat Neuropathic Pain. **W. Schmidt.** EicOsis.
3:20 Soluble Epoxide Hydrolase and Lipid Mediators in Sepsis and Inflammation. **D. Panigraphy.** Harvard Univ., Beth Israel Deaconess Medical Ctr.
3:45 Panel discussion.

47. GRADUATE STUDENT—POSTDOCTORAL COLLOQUIUM: TOOLS AND TRICKS FOR SUCCESS IN SCIENCE

Workshop

(*Sponsored by:* ASPET Mentoring and Career Development Committee)

Sat. 1:30 pm—San Diego Marriott Marquis & Marina, Grand Ballroom 1-3

Chaired: J. Clark

Career and Professional Development

Education

1:30 Introduction. **J. Clark.** National Inst. of Mental Health.
1:35 Perfecting Your Profile: Optimizing LinkedIn To Land Your Dream Job. **K. Leonard.** Taylor-Leonard Corporation.
2:45 Succeed in Science: Focusing on the Question. **L. Fricker.** Albert Einstein Col. of Med.
3:55 Conclusion.

48. ASPET BUSINESS MEETING AND AWARDS PRESENTATION

Business Meeting

Sat. 4:30 pm—San Diego Convention Center, Room 16AB

Hear updates on Society activities and initiatives and join us in recognizing excellence in pharmacology as we present the ASPET 2018 Scientific Achievement Awards, Travel Awards, and PhRMA Foundation Awards.

Physiology

49. REFRESHER COURSE ON GI PHYSIOLOGY: NOT JUST THE GUT ANYMORE

Symposium

Made possible, in part, by APS Strategic Partner ADInstruments

(*Sponsored by:* APS Education Committee)

SAT. 8:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 20A

CHAIRED: J.M. SASSER

COCHAIRED: E.K. MERRITT

Education

Made possible in part by APS Strategic Partner: ADInstruments

8:00 Strategies to teach GI physiology. **D. Speck.** Univ. of Kentucky Med. Ctr.

9:00 Intestinal epithelial function. **J. Dominguez-Rieg.** Univ. of South Florida.

10:00 Strategies for investigating the interaction between the microbiota and the gut brain axis. **S. Collins.** McMaster Univ. Hlth. Sci. Ctr.

11:00 Immune interactions in the intestinal epithelium. **K. Edelblum.** Rutgers New Jersey Med. Sch.

50. ETG PRE-MEETING

Symposium

(*Sponsored by:* Epithelial Transport Group)

SAT. 9:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 25A

Metabolism and Metabolic Disease

Nutrition/Obesity

51. MCS PRESIDENT'S SYMPOSIUM: BIOMEDICAL ENGINEERING APPROACHES FOR STUDYING THE MICROCIRCULATION

Symposium

(*Sponsored by:* Microcirculatory Society (MCS))

SAT. 9:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 24AB

CHAIRED: S. PEIRCE-COTTLER

COCHAIRED: G. SCHMID-SCHÖNBEIN

Cardiovascular

9:30 Listening with light: photoacoustic microscopy of the microcirculation in vivo engineering microvasculature for investigation of health and disease. **A. Gonzalez.** Yale Univ.

10:00 Engineering microvasculature for investigation of health and disease. **F. Mac Gabhann.** Johns Hopkins Univ.

10:30 Computational systems pharmacology for microvascular disease. **S. Hu.** Univ. of Virginia.

11:00 A new view for old questions: rediscovering angiogenesis and lymphangiogenesis. **W. Murphy.** Univ. of Florida.

52. CEREBROMICROVASCULAR MECHANISMS IN COGNATIVE IMPAIRMENT: FROM AGING TO NEURODEGENERATION

Symposium

(*Sponsored by:* Microcirculatory Society (MCS)

SAT. 1:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 24AB

CHAIRED: Z. UNGVARI

COCHAIRED: V. GALVAN

Cardiovascular

1:00 Cerebromicrovascular dysfunction in Alzheimer's disease. **V. Galvan.** Univ. of Texas Hlth. Sci. Ctr., San Antonio.

1:20 Role of senescence in cerebromicrovascular impairment: a translational perspective. **A. Yabluchanskiy.** Univ. of Oklahoma Hlth. Sci. Ctr.

1:40 Microvascular damage and cerebral microhemorrhages in aging: new mechanisms. **S. Tarantini.** Univ. of Oklahoma Hlth. Sci. Ctr.

2:00 Assessing Mitochondrial Respiratory Function in Isolated Mouse Brain Microvessels Using Seahorse Xfe Analyzer: Role of Neuronal Nitric Oxide Synthase. **V.N. L. R. Sure, S.S. V. P. Sakamuri, J.A. Sperling, I. Merdzo, W.R. Evans, I. Rutkai, D.W. Busija, P.V. G. Katakam.** Tulane University School of Medicine. **(577.5)**

2:15 Optogenetic Stimulation of Pericytes Lacking Alpha Smooth Muscle Actin Produces a Decrease in Capillary Blood Flow in the Living Mouse Brain. **D. Hartmann, R.I. Grant, S.A. Harrill, T. Noonan, A. Lauer, A.Y. Shih.** Medical University of South Carolina and College of Charleston. **(708.1)**

2:30 Nrf2 Deletion Is Associated with Impaired BK_{Ca} Channel Expression and Function in Rat Cerebral Arterial Muscle Cells. **D. Gebremedhin, D.R. Harder, J.H. Lombard.** Medical College of Wisconsin. **(575.7)**

2:45 **A.M. Sackheim, N. Villalba, A. Bonev, M. Nelson, K. Freeman.** University of Vermont. **(703.4)**

53. THE ROLE OF TIEG1 IN DISEASE PROCESSES: FROM BENCH TO BEDSIDE

Symposium

(*Sponsored by:* American Federation for Medical Research (AFMR))

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

CHAIRED: N. RAJAMANNAN

COCHAIRED: J. HAWSE

1:00 The Immune Regulation of TIEG1. **Subramaniam Malayannan.** Mayo Clinic.
1:30 The Role of TIEG1 Tendons. **Sabin Bensamoun.** Univ. Technol. Compiègne, France.
2:00 The Role of TIEG1 in osteoporosis. **John Hawes.** Mayo Clinic.

54. AVOIDING COMMON PITFALLS IN PRECLINICAL ANIMAL RESEARCH DESIGN

Symposium

(*Sponsored by:* Animal Care and Experimentation Committee)

SAT. 1:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 25B

CHAIRED: D. MICHELE

COCHAIRED: K. URAY

Science Policy/Public Engagement

1:00 Selecting the appropriate animal model in preclinical research. **James Fox.** MIT.
1:30 Translational preclinical research: What the FDA wants to know. **Valerie Hamilton.** Merck Sharp and Dohme Corp.
2:00 Addressing appropriate biological variables in NIH grant applications. **Tom Cheever.** NIAMS/NIH.

55. SEX AND AGE AS BIOLOGICAL VARIABLES IN PHYSIOLOGY RESEARCH

Workshop

SAT. 1:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 28B

CHAIRED: G. YOSTEN

COCHAIRED: G. KOLAR

Science Policy/Public Engagement

Sex Differences and Women's Health

1:00 Incorporating sex as a biological variable. **Jane Reckelhoff.** Univ. of Mississippi Med. Ctr.
1:30 Incorporating age as a biological variable. **Steven Austad.** Univ. of Alabama.
2:00 Sex and age in physiology research: The NIH perspective. **Christine Maric-Bilkan.** NHLBI/NIH.
2:30 Rigor and reproducibility in sex- and age-related physiology research. **Barbara Alexander.** Univ. of Mississippi Med. Ctr.

56. 5TH ANNUAL PHYSIOLOGICAL GENOMICS CONFERENCE

Symposium

(*Sponsored by:* Physiological Genomics Group)

SAT. 1:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 28A

57. WEH TRAINEE AWARD FINALISTS AND DATA DIURESIS

Award Competition

(Supported by Data Sciences International, Portland Press and the Juan Carlos Romero Fund)

(*Sponsored by:* Water and Electrolyte Homeostasis Section)

SAT. 2:15 PM—SAN DIEGO CONVENTION CENTER, ROOM 26AB

Hypertension

Salt

Trainee Award Finalists Competition

Sponsored by Portland Press

CHAIRED: P. BIE AND M. MADHUR

2:15 The Role of Mitochondrial Oxidative Stress in the Pathophysiology of Preeclampsia. **V.R. Vaka, K. McMaster, T. Ibrahim, D. Cornelius, L. Amaral, K. Wallace, B. LaMarca.** University of Mississippi Medical Center. **(729.7)**
2:30 CD14 as a Novel Negative Modulator of Immune System-Dependent Renal Damage and Salt-Sensitive Hypertension. **D.J. Fehrenbach, J.M. Abais-Battad, J. H. Dasinger, H. Lund, A.M. Geurts, D.L. Mattson.** Medical College of Wisconsin. **(870.2)**
2:45 Absence of the Na-Glucose Cotransporter SGLT1 Ameliorates Kidney Recovery in a Murine Model of Acute Kidney Injury. **J. Nespoux, R. Patel, W. Huang, H. Koepsell, B. Freeman, V. Vallon.** University of California, San Diego and VA San Diego Healthcare System and University of Würzburg, Germany. **(849.5)**

Postdoctoral Award Finalists Presentations

Supported by the Juan Carlos Romero Fund

3:00 Effects of Parental Dietary Protein Source on Hypertension, Renal Injury, and Renal Inflammation. **J. Abais-Battad, H. Lund, J.H. Dasinger, D. Fehrenbach, D. Mattson**. Med. Col. of Wisconsin. (883.2)
3:15 TNF Impairs Cerebral Blood Flow Autoregulation in Pregnant Rats. **J.W. Duncan, J.P. Warrington, H.A. Drummond, J.P. Granger, M.J. Ryan.** University of Mississippi Medical Center. **(922.5)**
3:30 Three-Dimensional Analysis of Potassium Deprivation-Induced Tubular Remodeling Using Optical Clearing. **T. Saritas, V. Puelles, J. McCormick, D. Ellison.** Oregon Health & Science University and University Hospital RWTH Aachen, Germany. **(844.2)**
3:45 **Mingle with Open Bar**

Data Diuresis Brief

Sponsored by DSI

Chaired: P. O'Connor and A. Polichnowski

4:15 Effects of Vagus Nerve Stimulation in a Murine Model of Systemic Lupus Erythematosus. **K.W. Mathis, H. Stauss, G.S. Pham, S.S. Kim, D.V. Kulp.** Univ. of North Texas Hlth. Sci. Ctr., Ft Worth and Univ. of Iowa **(870.8)**

4:20 Kidney-Specific KO of the Circadian Clock Protein BMAL1 Lowers Blood Pressure in Male C57BL/6J Mice. **L.G. Douma, K-Y. Cheng, I.J. Lynch, M. Holzworth, S. Masten, D. Barral, A. Miller, K.A. Esser, C.S. Wingo, M.L. Gumz.** Univ. of Florida and North Florida/South Georgia VA Hlth. System, Gainesville. **(905.6)**

4:25 Envigo's Female Salt-Sensitive Rapp Rats are now Spontaneously Hypertensive and have Higher Frequencies of CD4+, CD4+ CD25+ and CD4+ CD25+ FoxP3+ T cells compared to Normotensive Salt-resistant Rapp Rats. **A.V. Pai, C.A. West, A. Souza, P.S. Kadam, E.J. Pollner, D.A. West, Jr., H. Ji, X.S. Wu, C. Baylis, K. Sandberg.** Georgetown Univ. and Univ. of Florida. **(870.5)**

4:30 Role of the Renal Nerves in Renal Damage and Immune Cell Infiltration in Dahl Salt-Sensitive Rats. **A.J. Alsheikh, H. Lund, J.H. Dasinger, J.M. Abais-Battad, D.J. Fehrenbach, D.L. Mattson.** Med. Col. of Wisconsin. **(870.3)**

4:35 Reduced Placental Expression of Regulator of G-Protein Signaling-2 (RGS2) and Preeclampsia. **K.J. Perschbacher, G. Dent, J.A. Sandgren, L.C. Saenz, D.A. Santillan, E.J. Devor, G.L. Pierce, M.K. Santillan, R.A. Fisher, K.N. Gibson-Corley, J.L. Grobe.** Univ. of Iowa. **(911.6)**

4:40 Hypertension Precedes Metabolic Syndrome in the ALMS1 (Alstrom Syndrome 1) Knockout Rat. **K.N. King-Medina, P.A. Ortiz.** Henry Ford Hlth. System and Wayne State Univ. Sch. of Med. **(906.7)**

4:45 **Mingle with Open Bar**

58. THE MEVALONATE PATHWAY: A FUNDAMENTAL PLAYER IN HUMAN DISEASE

Symposium

(*Sponsored by:* American Federation for Medical Research (AFMR))

Sat. 3:00 pm—San Diego Convention Center, Room 27AB

Chaired: A. Zeki

Cochaired: S. Ghavami

3:00 Mevalonate pathway regulation of cell fate: autophagy, apoptosis, and ER stress. **Saeid Ghavami.** Univ. of Manitoba.

3:30 Mevalonate signaling, COPD, and cancer: The statins and beyond. **Robert Young.** Univ. of Auckland.

4:00 Targeting the mevalonate pathway and oxidized phosphatidylcholines in asthma: A new role for lipids in airway disease. **Andrew Halayko.** Univ. of Manitoba.

59. TRANSFORMATIVE TECHNOLOGIES ENABLING ECOLOGICAL ASSESSMENT OF HUMAN AND WILDLIFE PHYSIOLOGY

Workshop

Sat. 3:00 pm—San Diego Convention Center, Room 28B

Chaired: K. Sandberg

Cochaired: D. Crossley

Emerging Technologies

3:00 Biotelemetry from the laboratory to the field and back. **Michael Axelsson.** Univ. of Gothenburg.

3:30 What have human studies using commercial wearable device technology taught us and where can we go from here? **Scott Collier.** Appalachian State Univ.

4:00 Walking the tightrope between stability and change: biologging reveals phenological and physiological plasticity in an artic hibernator. **C. Loren Buck.** Northern Arizona Univ.

4:30 Helping teens choose2Snooze: Developing a mobile sleep app for teens. **Tyish Hall Brown.** Howard Univ. Col. of Med.

60. COMMUNICATIONS COMMITTEE SYMPOSIUM: SOCIAL MEDIA FOR THE PROFESSIONAL SCIENTIST

Symposium

(*Sponsored by:* APS Communications Committee)

Sat. 3:00 pm—San Diego Convention Center, Room 25C

Chaired: B. Goodman

Science Policy/Public Engagement

Career and Professional Development

In this 90-minute interactive session organized by tthe APS Communications Committee, we'll discuss why social media remains a popular option for researchers who want to connect with colleagues about science and the unique discussions that social platforms enable among the research community. Established and emerging platforms popular with researchers, the use of analytics to measure social impact and best practices of popular scientists on social media will also be addressed.

61. DATA NCARNATION

Award Competition

(*Sponsored by:* Neural Control and Autonomic Regulation Section)

SAT. 3:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 22

CHAIRED: A.J. MILLER

COCHAIRED: Y. JIANG

Neuroscience

3:00 CCL2-CCR2 Signalling in the Hypothalamic Paraventricular Nucleus Elicits Sympathetic-Mediated Blood Pressure Elevations Through Monocyte and Lymphocyte Recruitment. **K. Elsaafien, W.S. Korim, C.N. May, S.T. Yao.** The Florey Institute of Neuroscience and Mental Health, Australia. **(735.1)**

3:10 Reduced Bone Marrow Adrenergic Receptor Signaling Is Protective Against Weight Gain and High Fat-Induced Hypertension. **N. Ahmari, T. Yang, W. Malphurs, C.J. Martyniuk, J. Zubcevic.** University of Florida. **(918.8)**

3:20 Splenic 6-Hydroxydopamine Worsens Renal Inflammation and Injury in a Murine Model of Systemic Lupus Erythematosus. **G.S. Pham, B. Osazuwa, O. Thomas, S.S. Vedantam, D.L. Fancher, K.W. Mathis.** University of North Texas Health Science Center, Texas Southern University and Texas Christian University. **(736.4)**

3:30 Dynamic Cerebral Autoregulation Impairment Persists Past Resolution of Symptoms in Collegiate Athletes Following Concussion. **J. Frantz, S. Sedaghat, L. Ryan, M. Wainman, S. Lyng, T. Sabo, K. Bell, S. Purkayastha.** Southern Methodist University, Northwestern University and The University of Texas Southwestern Medical Center. **(920.3)**

3:40 Extinction of Blood Pressure and Heart Rate Responses to Conditioned Fear. **A.P. Swiercz, J. Park, C.N. Young, P.J. Marvar.** The George Washington University and Emory University School of Medicine and Atlanta VA Medical Center. **(737.4)**

3:50 How Do the Carotid Chemoreceptors Modulate Ventilatory Control and Cardiovascular Regulation at Rest and During Exercise in COPD? **D. Phillips, S. Collins, C. Steinback, T. Bryan, E. Wong, M.S. McMurtry, M. Bhutani, M. Stickland.** University of Alberta, Canada. **(884.2)**

4:00 Hypertensive Actions of Long Chain Fatty Acids Are Paralleled by Toll-Like Receptor 4 Upregulation and Nuclear Factor-KB (NFKB) Activation in the Subfornical Organ. **C. Hurr, B.J. Ritchie, H. Simonyan, C.N. Young.** George Washington University. **(591.2)**

4:10 'Identifying Brain Networks Controlling Micturition and Continence in Mouse'. **A.M. J. Verstegen, N. Klymko, J.C. Geerling, J. Mathai, V.G. VanderHorst, P.M. Fuller, M.L. Zeidel.** Beth Israel Deaconess Medical Center and University of Iowa Hospitals and Clinics. **(734.3)**

4:20 Corticotropin-Releasing Hormone Receptor 2 in the Nucleus of the Solitary Tract Contributes to the Intermittent Hypoxia Induced Hypertension. **L. Wang, D. Nguyen, S. Cross, S. Mifflin.** University of North Texas Health Science Center. **(885.11)**

4:30 Epidural Spinal Cord Stimulation Acutely Reduces Efferent Postganglionic Sympathetic Nerve Activity in Humans. **S.W. Holwerda, M.T. Holland, C.G. Reddy, G.L. Pierce.** University of Iowa. **(596.6)**

4:40 Spinal Contusion Injury Induces Long-Lasting Changes in Homecage Activity and Respiration Which Correlate with Spontaneous and Evoked Indices of Neuropathic Pain. **H. Kloefkorn, S. Idlett, M. Halder, S. Hochman.** Emory University. **(887.2)**

4:50 TRPA1-Induced Pulmonary Spinal Sympathetic Afferent Activation Is Attenuated in Rats with Chronic Heart Failure. **R.J. Adam, Z. Xia, J.A. Shanks, G.J. Rozanski, S.J. Lisco, I.H. Zucker, H-J. Wang.** University of Nebraska Medical Center. **(593.1)**

62. EMERGING TOPICS IN MICROVASCULAR RESEARCH

Symposium

(*Sponsored by:* Microcirculatory Society (MCS))

SAT. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 24AB

CHAIRED: P. STAPLETON

COCHAIRED: T. SECOMB

Cardiovascular

3:30 Probing for the role of fluid mechanical forces in controlling vascular permeability using microfluidic biomimicry. **J. Song.** The Ohio State Univ.

3:45 Cell transplantation impacts on microvascular growth and function. **Trevor Cardinal.** California Polytech. State Univ.

4:00 The pericyte microenvironment. **John Chappell.** Virginia Tech Carillon Res. Inst.

4:15 Emerging paradigms in microbiota dysbiosis and lymphatic inflammatory mechanisms. **Sanjukta Chakraborty.** Texas A&M Col. of Med.

4:30 Anti-inflammatory-pro-resolving strategies to abrogate a pro-thrombotic blockage. **F. Gavins.** LSU Health, Shreveport.

4:45 VE-cadherin controls mechanotransduction signaling in embryonic and postnatal lymphatic valves. **J. Scallan.** Univ. of South Florida.

5:00 Lymphatics in chronic disease: new functions and implications. **J. Rutkowski.** Texas A&M Col. of Med.

5:15 Bone microvascular dysfunction: a potential nexus between age-related cardiovascular and bone disease. **R. Brisby.** Univ. of Texas at Arlington.

63. MCS POSTER DISCUSSION AND RECEPTION

Symposium

(*Sponsored by:* Microcirculatory Society (MCS))

SAT. 6:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 23ABC

CHAIRED: J. TWYNSTRA

COCHAIRED: J. SCALLAN AND P. STAPELTON

Cardiovascular

SUNDAY, APRIL 22

Across Societies

64. POSTER/ORAL PRESENTATION PRACTICE & MENTORING SESSIONS

Workshop

Sun. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, Peer Mentor Pod

Career and Professional Development

FASEB Diversity Resources Program will sponsor Presentation Practice & Mentoring Sessions beginning Saturday, April 21, to provide FASEB DREAM poster/oral presentation travel award recipients and other interested EB2018 student/postdoc attendees with an opportunity to practice their presentations and obtain feedback from designated Workshop Mentors/Coaches. If you would like to participate in the poster/oral presentation & mentoring sessions, sign-up by using the following link, http://bit.ly/EB18SignUp1on1Session.

65. CAREER CORNER SESSIONS WITH DR. ADAMS

Workshop

Sun. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, Career Corner

Career and Professional Development

Drop in or sign-up for one-on-one or group sessions for career counseling/career planning sessions with Dr. Howard G. Adams in between his presentations in the EB2018 Career Center. Dr. Adams will be available in the "Career Corner" in the EB2018 Career Center located in Hall D beginning on Saturday, April 21. Sign-up by using the following link, http://bit.ly/EB18SignUp1on1Session.

66. ONE-ON-ONE RESUME CRITIQUE/CV, CAREER COUNSELING, ESSAY PERSONAL STATEMENT ASSESSMENTS

Workshop

Sun. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, Career Counseling Room

Career and Professional Development

Drop in or sign-up for one-on-one sessions for CV/resume critiques, career counseling, and essay/personal statement assessments will begin on Saturday, April 21. If you're interested in a one-on-one, advance sign up will start on Sunday, April 1. Sign-up by using the following link, http://bit.ly/EB18SignUp1on1Session.

67. HOW TO CHOOSE YOUR IDEAL CAREER

Workshop

Sun. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

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, especially since there are so many different directions scientists can go with their careers? There are more than FIFTY career options available to biomedical sciences PhD's. If you'd like to see a list of these career options, while learning about how to select the best option for you, then don't miss this thought-provoking and interactive workshop! Here you will learn about a logical, step-by-step process for exploring your career options and deciding which will provide the best fit for your own set of skills, values and interests.

9:00 Speaker. **B. Lindstaedt.** UCSF.

68. GET UP WITH SOMETHING ON YOUR MIND

Workshop

Sun. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

Planning for academic/career/personal success is a process—a mode of striving to excel at any and all endeavors one undertakes. It is an ongoing process of planning, reviewing, refining, adjusting and/or changing goals, strategies and tactics to realize planned outcomes—achievement, success, recognition, rewards, power, etc. This seminar is designed to encourage individual responsibility for: 1) taking charge of one's own success; 2) focusing on being proactive; 3) being open and responsive to change; 4) applying strategies to assess one's skills, interests, and values on an ongoing basis; and 5) building support systems through effective utilization of mentoring and networking. Key topics: The Success Mind-set, Defining Purpose, Performance Curve, The Personal Audit, Academic/Career/Planning for Academic/Career/Life Success.

9:00 Speaker. **H. Adams.** H.G. Adams & Assoc., Norfolk, VA.

69. CAREER BUILDING: HOW TO MAXIMIZE ONE'S PARTICIPATION IN A SCIENTIFIC CONFERENCE

Workshop

Sun. 9:30 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

First impressions count: Are you ready? This interactive workshop will help you to put your best foot forward and make the most of your time at the Experimental Biology meeting. Scientific conferences provide more than an opportunity to learn

about the latest research in your field, they can help you make connections that will build your career both now and into the future. In this workshop you will learn how to define your goals for a meeting, prepare for the conference, and plan your agenda so that you can maximize your experience both scientifically and professionally. Participants will also develop strategies for identifying and capitalizing on important networking opportunities and for maintaining and nurturing the relationships they establish during a conference. Don't miss this opportunity to learn how you can accelerate your future at the Experimental Biology meeting!

9:30 Speaker. **H. Dillon.** The Jackson Laboratory.

70. NEGOTIATION STRATEGIES FOR SCIENTISTS

Workshop

Sun. 10:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

This session introduces effective methods of negotiating with potential employers. Topics: The basic elements of successful negotiation, contexts of gender and culture, avoiding common pitfalls, leveraging your strengths, handling multiple offers, and closing the deal.

10:00 Speaker. **D. Behrens.** Univ. of California, Berkeley.

71. UNDERSTANDING FACULTY SEARCH COMMITTEES & FINDING JOB ADS

Workshop

Sun. 11:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

Are Postdocs Always Essential? What do search committees look for? How do I find academic jobs offered in my field, or within a specific geographical area? Answers to these and other questions presented by Andrew Green, a veteran of the academic job search and numerous search committees.

11:00 Speaker. **A. Green.** Univ. of California, Berkeley.

72. MAKING MISTAKES WHEN SPEAKING: HOW TO HANDLE THEM

Workshop

Sun. 11:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

Much attention, time and money are spent on polishing our interview behaviors. But when it comes to the real thing, we frequently find ourselves saying afterwards, "I can't believe I said that or did this." Dr. Blumenthal will teach you how to identify "triggers", antecedents to behaviors that cause us to say things or behave in ways we wish we didn't. She will teach you how to identify triggers before they happen and increase your chance of demonstrating the right behaviors for winning the job.

11:00 Speaker. **J. Blumenthal.** Montgomery Col., Rockville, MD and Univ. of Maryland Univ. Col., Adelphi, MD.

73. CAREER OPPORTUNITIES IN SCIENCE COMMUNICATIONS

Workshop

Sun. 11:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

Do you enjoy talking about science more than doing it? Are you the person your labmates ask to edit their manuscripts? Are you a podcast junkie, and wonder how they do it? This career session will explore careers in science communication. In science journalism, institutional communication and multimedia careers, you use your science training to make a living talking about science. If it sounds like a dream come true, then this workshop is for you."

11:00 Speaker. **E. Hayden.** Univ. of California, Santa Cruz.

74. JOB HUNTING IN BIOTECH PART 1: FINDING & APPLYING FOR SCIENTIST POSITIONS

Workshop

Sun. 1:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

In this seminar, you will learn how to prepare resumes and cover letters so you will be ready to search for research jobs in the biotech/pharma industry. Then, you will learn how to find and connect with scientists working at companies. Finally, you will learn how to execute job search strategies necessary for success on the biotech/pharma job market. After this seminar you will understand how to conduct the four job hunting techniques that comprise a comprehensive job search in the biotech industry.

1:00 Speaker. **B. Lindstaedt.** UCSF.

75. NETWORKING WITH STRANGERS IS REQUIRED FOR YOUR FUTURE

Workshop

Sun. 1:00 pm—San Diego Convention Center, Hall D EB 2018 Career Center, CRC-2

Career and Professional Development

Networking is a crucial dimension of a job offer; from developing a resume to interviewing to the job offer. Where do I begin? What do I take for granted? How do I communicate the right behaviors for the job? And to whom? 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?

1:00 Speaker. **J. Blumenthal.** Montgomery Col., Rockville, MD and Univ. of Maryland Univ. Col., Adelphi, MD.

76. CREATING EFFECTIVE CV'S, COVER LETTERS, RESEARCH & TEACHING STATEMENTS

Workshop

Sun. 1:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

Most of the cuts in the applicant pool are made solely on the basis of your written application materials. Do yours represent you in the strongest possible fashion? How should a cover letter and CV for Stanford differ from one addressed to faculty at San Jose State? And what exactly is a Statement of Teaching Philosophy. Advice will be provided on creating these documents and more for the academic job search.

1:00 Speaker. **A. Green.** Univ. of California, Berkeley.

77. BUT I HAVE NO SKILLS! EXPLODING MYTHS & EXPLORING CAREER OPTIONS FOR PHDS

Workshop

Sun. 2:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

Are the skills you developed in graduate training really useful outside of the academic lab? Many PhD candidates and postdocs exploring careers beyond the academy assume—incorrectly—that employers will not find them or their skills attractive. In this session you will have the opportunity to identify skills that you currently possess, and also to find career fields that might be a good fit for these skills.

2:00 Speaker. **J. Lombardo.** LifeWork Choices.

78. CAREER OPPORTUNITIES IN SCIENCE COMMUNICATIONS

Workshop

Sun. 2:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

Do you enjoy talking about science more than doing it? Are you the person your labmates ask to edit their manuscripts? Are you a podcast junkie, and wonder how they do it? This career session will explore careers in science communication. In science journalism, institutional communication and multimedia careers, you use your science training to make a living talking about science. If it sounds like a dream come true, then this workshop is for you.

2:00 Speaker. **E. Hayden.** Univ. of California, Santa Cruz.

79. NETWORKING: A REQUIRED LIFE SKILL

Workshop

Sun. 2:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

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.

2:00 Speaker. **H. Adams.** H.G. Adams & Assoc., Norfolk, VA.

80. JOB HUNTING IN BIOTECH PART 2: INTERVIEWING FOR SCIENTIST POSITIONS

Workshop

Sun. 3:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

This seminar is designed to help you improve your interview skills so that you will be better prepared to land a scientist position in the industry. At the end of the seminar, you will be able to:

- Respond effectively to the most common questions asked during industry interviews
- Answer behavior-based questions in an organized manner,
- Begin and end the interview experience with poise and professionalism.

(This is part 2 of a 3-part series. Each seminar can be taken separately, but together they provide comprehensive information about the industry job search process.)

3:00 Speaker. **B. Lindstaedt.** UCSF

81. MAKING THE GRADE: JOB TALK/CHALK TALK

Workshop

Sun. 3:30 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

Participants will learn to plan, structure and deliver an effective job talk. This seminar will key elements of the job talk and finally, how to capture the interest of a diverse (faculty, administrators, students) audience.

3:30 Speaker. **D. Behrens.** Univ. of California, Berkeley.

82. NAILING THE JOB TALK & INTERVIEW PREP

Workshop

Sun. 4:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

Going Live: Conference Interviews, On-Campus Interviews, The All-Important Job Talk, and Negotiating the Offer.

4:00 Speaker. **A. Green.** Univ. of California, Berkeley.

Anatomy

83. THE GENETICS OF ANATOMICAL DEVELOPMENT: NOBEL LESSONS FROM INVERTEBRATES PLENARY

Lecture

Sun. 8:30 am—San Diego Convention Center, Room 8

Chaired: P. Trainor

Developmental Biology/Morphology

Cell Biology

8:30 Chair's introduction.

8:35 **83.1** Gene Activity and Cell Mechanics during *Drosophila* Embryonic Development. **E. Wieschaus.** Princeton University.

9:15 **83.2** Determining Neuronal Fate in *C. elegans*. **M. Chalfie.** Columbia University.

9:55 Discussion.

84. MORPHOLOGICAL SCIENCES AWARD HYBRID SYMPOSIUM

Symposium

Sun. 10:30 am—San Diego Convention Center, Room 11B

Chaired: K. Tamura

Developmental Biology/Morphology

Morphological Sciences Award Lecture featuring 2018 Young Investigator Award Recipient, Bhart-Anjan Bhullar

10:30 **84.1** The Origin of the Avian Head as told by Transformations in the Fossil Record and Embryonic Development. **B-A.S. Bhullar.** Yale University.

11:00 **84.2** Olfaction at Depth: Cribriform Plate Size Declines with Dive Depth and Duration in Aquatic Arctoids. **D.J. Bird, I. Hamid, B. Van Valkenburgh.** University of California, Los Angeles.

11:15 **84.3** How and Why to Scan All the Vertebrates—Open Access Data as a Transformative Tool. **A.P. Summers.** University of Washington.

11:30 **84.4** Functional Anatomy of the Masticatory Muscles in a Caviomorph Rodent, *Cavia porcellus*. **R.E. Druzinsky, A. Ulm, C.J. Vinyard, J. Iriarte-Diaz.** University of Illinois at Chicago and Northeast Ohio Medical University.

11:45 **84.5** New Fossil Discoveries from the Miocene Santa Cruz Formation of Argentina. **J.M. G. Perry, N. Toledo.** John Hopkins University School of Medicine and Museo de La Plata, Argentina.

85. CELL BIOLOGY AWARD HYBRID SYMPOSIUM

Symposium

Sun. 10:30 am—San Diego Convention Center, Room 11A

Chaired: G. Brar

Cell Biology

R.R. Bensley Award Lecture in Cell Biology featuring 2018 Young Investigator Award Recipient, Elcin Unal

10:30 **85.1** Organelle Segregation and Quality Control During Meiotic Differentiation. **E. Ünal, E. Sawyer, G. King, J. Goodman.** University of California, Berkeley.

11:00 **85.2** CDC42 Activation by Endothelin Regulates Neural Crest Cell Migration in the Cardiac Outflow Tract. **L.B. Ruest, K.R. Fritz, E.P. Jansen.** Texas A&M College of Dentistry.

11:15 **85.3** Electrophysiological Consequences of Congenital Heart Defects Shaped by Primary Cilia-Dependent Cardiac Developmental Processes. **L.A. Fitzsimons, J. Forrester, K. Budziszewski, A.M. Moran, A.J. Davidoff, K.L. Tucker.** University of Maine, Graduate School of Biomedical Science & Engineering, University of New England, College of Osteopathic Medicine, Maine Medical Center.

11:30 **85.4** Cold-Inducible RNA Binding Protein (CIRP) in Inflammation and Breast Cancer. **D.A. Lujan, N. Perrone-Bizzozero, E.J. Beswick, D.F. Kusewitt, R.S. Hartley.** University of New Mexico Health Sciences Center.

11:45 **85.5** Investigating the Synaptic Regulation of Kisspeptin/Neurokinin B/Dynorphin (KNDy) Neurons in a Mouse Model of Polycystic Ovarian Syndrome. **A.M. Moore, L.M. Coolen, M.N. Lehman.** University of Mississippi Medical Center.

86. EPITHELIAL DYSFUNCTION IN WOUND HEALING AND STRUCTURAL BIRTH DEFECTS

Symposium

Sun. 10:30 am—San Diego Convention Center, Room 9

Chaired: I. Saadi

Developmental Biology/Morphology

10:30 **86.1** Novel Regulators of Epithelial Migration and Differentiation. **M. Dunnwald.** University of Iowa.

11:00 **86.2** Growing Evidence That Periderm Is Essential for Orofacial and Epidermal Development. **B.C. Schutte.** Michigan State University.

11:30 **86.3** SPECC1L: A Novel Cytoskeletal Regulator of Epithelial Organization in Craniofacial Morphogenesis. **I. Saadi.** University of Kansas Medical Center.

87. ANATOMY EDUCATION ROUNDTABLE ON LEARNING ANALYTICS

Workshop

Sun. 10:30 am—San Diego Convention Center, Room 7AB

Education

This will be an interactive session introducing learning analytics and techniques and how it can be leveraged by faculty and program directors in their research projects (for example: quality improvement, compliance and outcomes analysis projects).

Continental breakfast will be provided, based on availability
S. Toufeeq Ahmed, Vanderbilt University Medical Center

88. REGENERATION OF THE SPINAL CORD, LIMBS AND MUSCULOSKELETAL SYSTEM

Symposium

Sun. 2:00 pm—San Diego Convention Center, Room 11B

Chaired: R. Fisher

Bones/Muscle/Connective Tissue

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Neuroscience

2:00 **88.1** Tendon Developmental Plasticity and Functional Regeneration. **J.L. Galloway, X. Niu, R.R. Shah, N.L. Nerurkar, M. Noedl.** Massachusetts General Hospital and Columbia University.

2:30 **88.2** The Mammalian Blastema and Induced Regeneration in Mice. **K. Muneoka.** Texas A&M University.

3:00 **88.3** Molecular Mechanisms of Spinal Cord Regeneration. **K. Echeverri.** University of Minnesota.

89. ANATOMICAL VARIATION: DOES THE VITRUVIAN MAN EXIST?

Symposium

Sun. 2:00 pm—San Diego Convention Center, Room 11A

Chaired: J. Dennis

Evolution/Anthropology

2:00 **89.1** Variation: Anatomical Constant, Clinical Imperative, Educational Dilemma. **D.F. Royer.** University of Colorado School of Medicine.

2:30 **89.2** Iliocapsularis and Long Head of Triceps Brachii Innervation: Not Such "Textbook" Cases. **A. Breckling, M.W. Jonees, C. Ferrigno.** University of Illinois at Chicago and Rush University.

2:45 **89.3** Rare Congenital Anomaly of the Serratus Posterior Superior Muscle. **G. Granite-Cohn, K.S. Lashley.** Uniformed Services University of the Health Sciences.

3:00 **89.4** Situs Inversus Totalis in a 96-Year-Old Female Cadaver: Genetic Insights. **M. Jenkins, A. Frolov, Y. Tan, D. Daly, C. Lawson, J. Martin.** Saint Louis University School of Medicine.

3:15 **89.5** Correlated Vascular Asymmetries in the Circle of Willis. **J. Cooperman, S. Cooperman, M. Habib.** University of Southern California.

90. HOW TISSUES ARE SHAPED: MULTICELLULAR DYNAMICS DURING DEVELOPMENT

Symposium

Sun. 2:00 pm—San Diego Convention Center, Room 9

Chaired: A. Czirok

Developmental Biology/Morphology

Cell Biology

Imaging

2:00 Neuronal Regulation of Organogenesis and Regeneration. **Sarah Knox.** University of California, San Francisco.

2:30 Delineating Mechanisms of Gradient Formation by BMPs in Zebrafish Embryo Development. **David Umulis.** Purdue University.

3:00 How are Collective Fluid-solid Transitions in Confluent Tissues Created by Cellular Processes? **Matthias Merkel.** Syracuse University.

91. PROMISE VS PERFORMANCE IN REALITY TECHNOLOGY

Symposium

Sun. 2:00 pm—San Diego Convention Center, Room 8

Chaired: J.M. McBride

Education

2:00 **91.1** Incorporating Technology in Anatomy Education to Align with Educational Outcomes. **J. McBride.** Cleveland Clinic Lerner College of Medicine.

2:30 **91.2** Virtual Unreality—Promise vs. Performance of Technology in Anatomy Education. **B. Wainman, G. Pukas, L. Wolak, E. Zheng, G. Norman.** McMaster University, Canada and University of Toronto, Canada.

3:00 **91.3** Anatomy Educational Advances: From a Third Dimension to a New Frontier–Virtual Reality. **P.G. McMenamin.** Monash University, Australia.

92. BIOMECHANICS AND THE EVOLUTION OF HUMAN LOCOMOTION

Symposium

Sun. 4:00 pm—San Diego Convention Center, Room 11B

Chaired: C.V. Ward

Evolution/Anthropology

Vertebrate Paleontology

4:00 **92.1** What Fossils Can and Can't Tell Us About Hominin Locomotor Evolution: Insights from Experimental Skeletal Biomechanics. **I.J. Wallace, N.B. Holowka.** Harvard University.

4:30 **92.2** Using Experimental Biomechanics to Reconstruct the Evolution of Hominin Locomotor Postures. **D.A. Raichlen, A.D. Gordon.** University of Arizona, University at Albany and State University of New York.

5:00 **92.3** Fossil Evidence for the Evolution of Hominin Locomotion. **C.V. Ward.** University of Missouri.

93. TRANS-SYNAPTIC TALES: APPLICATIONS OF NEW VIRAL AND GENETIC APPROACHES IN NEURAL CIRCUIT MAPPING

Symposium

Sun. 4:00 pm—San Diego Convention Center, Room 11A

Chaired: X. Xu

Neuroscience

Cell Biology

4:00 **93.1** New Hippocampal Circuit Organization Revealed by Viral-genetic Tracing and Functional Circuit Mapping. **X. Xu.** University of California, Irvine.

4:30 **93.2** Optogenetic, Tissue Clearing, and Viral Vector Approaches to Understand and Influence Whole-Animal Physiology and Behavior. **V. Gradinaru.** California Institute of Technology.

5:00 **93.3** Viral-genetic Mapping of Neural Circuit Organization of Nociceptive Neurons in the Thalamus. **M. Umorin.** Texas A&M University College of Dentistry.

94. THE RELEVANCE OF SCALE IN BIOENGINEERING AND IMAGING OF CELLS, TISSUES AND ORGANS

Symposium

Sun. 4:00 pm—San Diego Convention Center, Room 9

Cochaired: L. Opperman and S. Simon

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Imaging

Cell Biology

4:00 **94.1** A Multiscale Analysis of Early Cardiogenesis Following VEGF Perturbations. **B.J. Rongish, A. Aleksandrova, M.B. Filla, E. Kosa, C.D. Little, A. Petersen, A. Czirok, S. Rugonyi, G. Rykiel, R. Lansford.** University of Kansas Medical Center, Oregon Health & Science University and Children's Hospital Los Angeles.

4:30 **94.2** Multiscale Regulation of Mechanosensing in Soft Tissues. **R. Kaunas.** Texas A&M University.

5:00 **94.3** Bio-Inspired Micropattern Modulates Stem Cell Fate and Directs Well-Ordered Tubular Tissue Formation. **X. Liu.** Texas A&M College of Dentistry.

95. ANATOMY: WHAT IS IT GOOD FOR? UNCOVERING THE HIDDEN IMPACTS OF ANATOMY EDUCATION

Symposium

Sun. 4:00 pm—San Diego Convention Center, Room 8

Cochaired: A. Wilson and M. Lazarus

Education

4:00 **95.1** Professional Identity: What Is It, When Is It Formed, and What Is the Role of Anatomy in This Developmental Process? **J.N. Byram.** Indiana University School of Medicine.

4:30 **95.2** Who Am I? Investigating the Impact of Anatomy Education on Healthcare Students' Professional Identity. **M. Lazarus, S. Paynter, G. Stephens, C. Rees.** Monash University, Australia.

5:00 **95.3** Synergizing Non-technical Skill Development in Medical Education: From Anatomy Classroom to the In-Hospital Patient Setting and Back. **C. Wittich.** Mayo Clinic.

Biochemistry and Molecular Biology

96. WAKE-UP! IT'S TRIVIA TIME

Society Events

(*Sponsored by:* ASBMB Membership Committee)

Sun. 7:00 am—San Diego Convention Center, Room 6B

Calling all trivia junkies! Join your colleagues for a daily dose of trivia, music, fun and prizes! It's a lively way to jump-start your day—the complimentary coffee and nosh also helps. Prize values increase over the course of the meeting, so come back each morning! ASBMB members and biochemistry registrants welcome. Space is limited with first come, first served.

97. ASBMB BUSINESS MEETING

Business Meeting

Sun. 8:00 am—San Diego Convention Center, Room 6B

98. ASBMB OPENING LECTURE: HERBERT TABOR RESEARCH AWARD

Lecture

Sun. 8:00 am—San Diego Convention Center, Room 6B

8:00 ASBMB Business Meeting and awardee introduction.
8:20 **98.1** Nutrient Regulation of Signaling and Transcription. **G.W. Hart.** Johns Hopkins University School of Medicine.

99. FASEB EXCELLENCE IN SCIENCE AWARD

Lecture

(*Sponsored by:* Federation of American Societies for Experimental Biology)

Sun. 9:00 am—San Diego Convention Center, Room 6B

9:00 Awardee introduction.
9:05 **99.1** Nonsense-Mediated mRNA Decay and Human Disease: Genome Guardian and Executor. **L.E. Maquat.** University of Rochester Medical Center.

100. WALTER A. SHAW YOUNG INVESTIGATOR AWARD IN LIPID RESEARCH

Lecture

(*Sponsored by:* Avanti Polar Lipids, Inc.)

Sun. 10:00 am—San Diego Convention Center, Room 6F

This award lecture is presented in the session, "Lipid signaling and metabolism," beginning at 10:00 a.m. Refer to session 103 for details.

10:00 Awardee introduction.
10:05 Probing the Structure, Dynamics and Regulation of Lipid Signalling Enzymes and Their Role in Human Disease. **J. Burke.** University of Victoria, Canada. **(103.1)**

101. BIOCHEMICAL COMMUNICATION BETWEEN THE MICROBIOME AND THE HOST

Symposium

Sun. 10:00 am—San Diego Convention Center, Room 6C

Chaired: L.V. Hooper

10:00 **101.1** Host Microbe Interactions in the Primate Gut: Implications for Human Origins. **A. Gomez, M. Torralba, K.E. Nelson, R. Stumpf, R. Blekhman, K. Petrzelkova.** University of Minnesota, **J. C**raig Venter Institute, University of Illinois and Czech Academy of Sciences, Czech Republic.
10:30 **101.2** Metabolism, the Microbiome, and the Circadian Clock. **L.V. Hooper, Y. Wang, Z. Kuang.** The University of Texas Southwestern Medical Center.
11:00 **101.3** The Diet-Microbiota-Mucus Layer Axis as a Mediator of Intestinal Health and Disease. **E. Martens.** University of Michigan Medical School.
11:30 **101.4** The Gut Microbiome Connection to Parkinson's Disease. **S.K. Mazmanian.** California Institute of Technology.

102. INTRINSICALLY DISORDERED PROTEINS AND THEIR REGULATION AND FUNCTION

Symposium

SUN. 10:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 6E

CHAIRED: J. DYSON

10:00 **102.1** Alpha-Synuclein Binds to Neuron-Specific Glycans. **E. Rhoades, M. Birol.** University of Pennsylvania.
10:30 **102.2** The Role of Disordered Regions in GPCR-G Protein Signaling. **M.M. Babu.** Medical Research Council Laboratory of Molecular Biology, United Kingdom.
11:00 **102.3** Disordered Regions as Regulators of Phase Transitions in Multivalent Proteins. **R.V. Pappu.** Washington University in St. Louis.
11:30 **102.4** How Do Intrinsically Disordered Viral Proteins Hijack the Cell? **H.J. Dyson.** Scripps Research Institute.

103. LIPID SIGNALING AND METABOLISM

Symposium

SUN. 10:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 6F

CHAIRED: M. WAKELAM

10:00 Walter A. Shaw Young Investigator Award in Lipid Research awardee introduction.
10:05 **103.1** Probing the Structure, Dynamics and Regulation of Lipid Signalling Enzymes and Their Role in Human Disease. **J. Burke.** University of Victoria, Canada.
10:30 **103.2** A Golgi Lipid Signaling Pathway That Controls Neural Stem Cell Polarity in the Developing Neocortex. **V. Bankaitis, Z. Xie.** Texas A&M Health Science Center.
11:00 **103.3** Fatty Acid Compartmentalization. **R. Coleman.** University of North Carolina.
11:30 **103.4** Endosomal Lipids in Trafficking and Signaling. **J. Gruenberg.** University of Geneva, Switzerland.
12:00 **103.5** Using Lipidomics Pathway Analysis to Identify Potential Therapeutic Targets. **M. Wakelam, A. Nguyen, Q. Zhang.** Babraham Institute, United Kingdom.

104. NOVEL ENZYMOLOGY

Symposium

SUN. 10:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 6D

CHAIRED: R.T. RAINES

10:00 **104.1** Ribonuclease: From K_{cat}/K_m to the Clinic. **R. Raines.** Massachusetts Institute of Technology.
10:30 **104.2** How Do Enzymes Evolve? **D.S. Tawfik.** Weizmann Institute of Science, Israel.
11:00 **104.3** Citrullination Inhibits Serpin Activity. **P.R. Thompson.** University of Massachusetts Medical School.
11:30 **104.4** Connecting Chemistry to Biology to Understand Why O-GlcNAc Transferase Is Essential. **S. Walker.** Harvard Medical School.

105. RNA FORM AND FUNCTION

Symposium

(*Sponsored by:* ASBMB Minority Affairs Committee)

SUN. 10:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 1AB

10:00 **105.1** tRNA Methylation Controls Bacterial Multi-Drug Resistance. **I. Masuda, R. Matsubara, T. Christian, E.R. Rojas, S.S. Yadavalli, M. Goulian, K.C. Huang, Y-M. Hou.** Thomas Jefferson University, Stanford University and University of Pennsylvania.
10:30 **105.2** How to Balance the Many Roles of tRNAs During the Creation of New Genetic Codes. **A. Ellington, A. Maranhao, K. Baldridge, D. Tack, R. Thyer, L. Contreras.** The University of Texas at Austin.
11:00 **105.3** Bridging the Gap Between RNA Editing and Modification: A 10-Year Solution to a 25-Year Problem. **J.D. Alfonzo.** The Ohio State University.
11:30 **105.4** Functional Characterization and Design of Regulator RNAs Using Novel High-Throughput Tools. **L.M. Contreras, K. Haning, A.N. Leistra.** The University of Texas at Austin.

106. STRATEGICALLY BUILDING YOUR CV AT EVERY CAREER STAGE

Symposium

(*Sponsored by:* ASBMB Education and Professional Development Committee)

SUN. 10:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 6A

CHAIRED: M. PAYNE

With the diverse career options available for scientists as well as the rapid increase in the use of online profiles, it is important to not only gain appropriate skills and experience in support of career development, but also to present a professional profile to the public and/or prospective employers that helps promote specific career objectives. In this session, speakers from both academia and industry will present strategies that students, trainees, faculty, and industrial scientists can use to ensure that their experiences are leading to the career path that they desire and that they are marketing themselves in the best possible manner to achieve their career goals. Presentations will be followed by a discussion panel.

10:00 Chair's introduction.
10:05 Career visualization and execution. **N. Blake.** UT Health San Antonio.
10:25 Finding your inner extrovert for career growth**. M. Canady.** Comprendia, LLC and San Diego Biotechnology Network.
10:45 An unplanned career: from research to regulation.**R. To.** Bayer HealthCare.
11:05 Panel discussion.

107. SYNTHETIC BIOLOGY

Symposium

SUN. 10:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 14A

CHAIRED: P. STAMBROOK

10:00 Playing with the molecules of life. **Peter Schultz.** Scripps.
10:25 A cargo-sorting DNA robot. **Lulu Qian.** Cal Tech.
10:50 Teaching ancient molecules new tricks: unlocking the potential of RNA synthetic biology. **Julius Luks.** Northwestern Univ.
11:15 Engineering membrane-bound microsystems as artificial cells. **Yuval Elani.** Imperial Col., London.
11:40 General discussion.

108. CREST (CONNECTING RESEARCHERS, EDUCATORS AND STUDENTS) CONVERSATIONS

Society Events

(Supported by National Science Foundation)

SUN. 12:15 PM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

CHAIRED: T. HERMAN

This event is located in the ASBMB Lounge, across from the ASBMB exhibit booth, #1316. CREST research teams will meet with Herbert Tabor Research Award lecturer, Gerald Hart and colleagues, to present protein models that will be used to aid in-depth discussions.

109. ASBMB MEET THE SPEAKERS

Society Events

SUN. 12:30 PM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Visit the ASBMB Lounge, across from ASBMB Booth #1316, to meet the morning the presenters and continue the scientific discussion—a GREAT networking opportunity for all. Also visit the daily posters while you're in the exhibit hall.

110. ASBMB ADVOCACY TOWN HALL MEETING

Society Events

(*Sponsored by:* ASBMB Public Affairs Advisory Committee)

SUN. 12:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 6A

Join ASBMB's Public Affairs Advisory Committee (PAAC) for a town hall forum open to all EB registrants to address the impact of the current and future political climate on the life science research enterprise.

Doors will open at 12:20 p.m. and boxed lunches will be provided to the first 75 event participants, first come, first served.

111. SEBM SPECIAL TOPICS IN SCIENCE, STUDENT-ORGANIZED SYMPOSIUM

Symposium

Sun. 1:00 pm—San Diego Convention Center, Room 14A

Chaired: D. Boothman

Featuring presentations by:

- **I. Verma**, Salk Inst.,
- **K. Lamia**, Scripps,
- **P. Mischel**, UCSD

112. ASBMB MEET THE SPEAKERS

Society Events

Sun. 1:30 pm—San Diego Convention Center, Exhibit Halls A-D

Visit the ASBMB Lounge, across from ASBMB Booth #1316, to meet the morning presenters and continue the scientific discussion—a GREAT networking opportunity for all. Also visit the daily posters while you're in the exhibit hall.

113. ASBMB AWARD FOR EXEMPLARY CONTRIBUTIONS TO EDUCATION

Lecture

(*Sponsored by:* ASBMB Education and Professional Development Committee)

Sun. 2:30 pm—San Diego Convention Center, Room 6C

Undergraduate Student Research Poster Competition award winners and Honor Society inductees will be announced / presented during this lecture.

2:30 Awardee introduction.

2:35 **113.1** Promoting Hypothesis-Driven Thinking in the Undergraduate Biochemistry Lab. **P.A. Craig.** Rochester Institute of Technology.

114. ADVANCED BIOPHYSICAL AND BIOCHEMICAL APPROACHES TO MEMBRANE DYNAMICS (I)

Symposium

Sun. 2:30 pm—San Diego Convention Center, Room 31B

Chaired: C. Schlieker

2:30 ESCRT Membrane Scission Revealed by Optical Tweezers. **J. Schöneberg, S. Yan, A.H. Bahrami, M. Righini, I-H. Lee, M-R. Pavlin, L-A. Carlson, D. Goldman, G. Hummer, C. Bustamante, J. Hurley.** University of California, Berkeley and Max Planck Institute of Biophysics, Germany. **(542.2)**

2:45 Nano-Scale Size Holes in ER Sheets Provide an Alternative to Tubules for Highly-Curved Membranes**. S. Bahmanyar, L. Schroeder, A. Barentine, S. Schweighofer, D. Baddeley, J. Bewersdorf**. Yale University and Yale School of Medicine. **(542.7)**

3:00 Biomechanical Control of Lysosomal Secretion via the VAMP7 Hub: A Tug-of-War Mechanism Between VARP and LRRK1**. T. Galli, G. Wang, S. Nola, S. Bovio, M. Coppey-Moisan, F. Lafont**. Institut National de la Santé et de la Recherche Médicale (INSERM) U894, Institute of, France, Institut Pasteur de Lille, National Center for Scientific Research UMR 8204-INSERM U1019, Centre H, France, Metropolitan, National Center for Scientific Research UMR7592 and Institut Jacques Monod, France. **(542.10)**

3:15 The Role of the Escrt Pathway in Prion Disease. **J. Lawrence.** University of California and San Diego. **(542.14)**

3:30 **114.1** Dynamic Functional Assembly of the Torsin AAA+ ATPase and Its Modulation by LAP1: A Novel Mode of Regulation for AAA+ ATPases. **C. Schlieker, A.R. Chase, E.R. Laudermilch, J. Wang, H. Shigematsu, T.R. Yokoyama.** Yale University and RIKEN Center for Life Science Technologies, Japan.

115. ADVANCES IN MITOCHONDRIAL BIOCHEMISTRY

Symposium

Sun. 2:30 pm—San Diego Convention Center, Room 31A

Chaired: E.L. Seifert

2:30 **115.1** Loss of Mitochondrial Phosphate Carrier in Skeletal Muscle: Dissociation of Muscle Dysfunction from Lower ADP Phosphorylating Potential. **E.L. Seifert, L. Anderson-Pullinger, Y. Sharpadskaya.** Jefferson College of Biomedical Sciences.

2:45 Cytoplasmic PFK-2 Activity Affects Mitochondrial PDK4 Levels in the Heart. **M.F. Newhardt, M. Kinter, K.M. Humphries.** Oklahoma Medical Research Foundation. **(536.9)**

3:00 Oxidative Phosphorylation Complex Interactions in Intact Mitochondria**. B.M. Rabbitts, F. Liu, P. Lossl, R.S. Balaban, A.J. R. Heck**. National Heart, Lung, and Blood Institute, National Institutes of Health, FMP Berlin, Germany and University of Utrecht, Netherlands. **(536.19)**

3:15 The L Type Calcium Channel $Ca_v1.2$ Modulates Mitochondrial Calcium Homeostasis and Cell Death. **M. Noterman, M-K. Shin, E. Vazquez-Rosa, C. Cintrón-Pérez, A. Rajadhyaksha, E. Taylor, A. Pieper.** University of Iowa, Weill Cornell Medicine and Cornell University. **(538.12)**

3:30 Sirtuin 4 Controls Leucine Metabolism and Insulin Secretion by Reversing Effects of Reactive Metabolites. **F.K. Huynh, K.A. Anderson, J.D. Stuart, Z. Lin, M.D. Hirschey.** Duke University Medical Center. **(670.23)**

116. CANCER SIGNALING

Symposium

SUN. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 30E

2:30 The Aggressive Nature of Prostate Cancer of African Americans Is Correlated with Massive Down-Regulation of Many Immunoregulatory Genes of Microenvironment. **F. Rahmatpanah, X. Zi, A. Sawyers, A. Agrawal, M. Lilly, M. McClelland, D. Mercola.** University of California, Irvine and Medical University of South Carolina. **(804.60)**

2:45 LIMD2 Is an Intracellular Activator of Integrin Linked Kinase(ILK) Activity and GSK-3/Akt/β-Catenin Signaling. **S. Dedhar, S. Awrey.** University of British Columbia, Canada and BC Cancer Research Centre, Canada. **(666.1)**

3:00 A Genome-Wide CRISPR-Cas9 Screen Identifies Importin-β11 as a Required Factor for β-Catenin Signaling in Colon Cancer. **M. Mis, Z. Steinhart, S. Angers.** University of Toronto, Canada. **(804.11)**

3:15 Effects of Resveratrol in Cell Migration and Invasion by Studying the CXCR4-CXCL12 Axis in Breast Cancer Cell Lines. **G.A. Arroyo-Martinez, M. Figueroa, K. Muñoz-Forti, G. Trossi, J. Robles, A.A. Maldonado, E. Suarez, A. Ruiz.** University of Puerto Rico at Ponce, Pontifical Catholic University of Puerto Rico and University of Puerto Rico at Mayagüez. **(667.1)**

3:30 Regulatory Mechanisms Controlling the Subcellular Localization and Activity of the RhoA GEF Net1 in Breast Cancer. **J.A. Frost, Y. Zuo, A. Ulu.** The University of Texas Health Science Center at Houston. **(533.53)**

117. GLYCOPOLYMER PROBES

Symposium

SUN. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 30D

CHAIRED: J. KRAMER

2:30 Roles of Glycosaminoglycans in the Ang/Tie Signaling Axis. **M.E. Griffin, G.M. Miller, A.W. Sorum, L.C. Hsieh-Wilson.** California Institute of Technology. **(673.14)**

2:45 Harnessing Glycocalyx Interactions to Modulate Differentiation and Development**. M.L. Huang, A.L. Michalak, E.M. Tota, R.A. Smith, G.W. Trieger, K. Godula**. University of California and San Diego. **(673.16)**

3:00 Probing the Role of Peptidoglycan Metabolism in *Helicobacter pylori* Helical Shape**. J.A. Taylor, B.P. Bratton, K.E. DeMeester, H. Liang, H.M. Jacobs, E. Kuru, Y.V. Brun, M.S. VanNieuwenhze, W. Vollmer, J.W. Shaevitz, C.L. Grimes, N.R. Salama**. University of Washington, Princeton University, University of Delaware, Indiana University, Newcastle University, United Kingdom and Fred Hutchinson Cancer Research Center. **(673.27)**

3:15 Mucus-Inspired Low-Fouling Barriers Based on Self-Assembled Glycopeptide Nanofibers. **G. Hudalla, A. Restuccia.** University of Florida. **(673.13)**

3:30 **117.1** Glycocalyx Engineering with Tunable Synthetic Glycopolypeptides. **J. Kramer.** University of Utah.

118. HERBERT TABOR YOUNG INVESTIGATOR AWARD SYMPOSIUM

Symposium

(*Sponsored by:* Journal of Biological Chemistry)

SUN. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 31C

CHAIRED: G. DEMARTINO

2:30 **118.1** Structural and Functional Studies of the Streptococcal Fibrillar Adhesin CshA. **C. Back, V. Higman-Davies, M. Sztukowska, M. Till, M. Crump, R. Lamont, H. Jenkinson, A. Nobbs, P. Race.** University of Bristol, United Kingdom and University of Louisville School of Dentistry.

2:45 **118.2** Sensing Changes in Cellular Iron Metabolism: Regulation of IRP1 by Fbxl5 and Cytosolic Iron-Sulfur Cluster Assembly. **N.B. Johnson.** University of Wisconsin—Madison.

3:00 **118.3** Selective Imaging of Internalized Proteopathic α-Synuclein Seeds in Primary Neurons Reveals Mechanistic Insight into Transmission of Synucleinopathies. **R.J. Karpowicz, C.M. Haney, T.S. Mihaila, R.M. Sandler, E.J. Petersson, V.M-Y. Lee.** University of Pennsylvania.

3:15 **118.4** Asymmetric Configurations in a Reengineered Homodimer Reveal Multiple Subunit Communication Pathways in Protein Allostery. **M.F. Lanfranco, F. Garate, A. Engdahl, R. Maillard.** Georgetown University.

3:30 **118.5** Complex Interplay of Kinetic Factors Governs the Synergistic Properties of HIV-1 Entry Inhibitors. **K. Ahn, M. Root.** Northwestern University and Thomas Jefferson University.

119. MOTION IS LOTION: NEW ROLES OF MOTION IN ENZYME FUNCTION

Symposium

Sun. 2:30 pm—San Diego Convention Center, Room 30C

Chaired: J. Hardy

2:30 The Structure and Mechanism of a Viral Genome Packaging Motor**. J.A. Hayes, B.J. Hilbert, N.P. Stone, C.M. Duffy, B. Sankaran, B.A. Kelch**. University of Massachusetts Medical School and Lawrence Berkeley National Laboratory. **(792.18)**

2:45 Small Compounds Modulating Bi-Directional Allostery in Protein Kinases: A New Grip with an Old Trick**. R.M. Biondi, J.O. Schulze, E. Süß, L. Pietsch, K. Busschots, G. Saladino, F.L. Gervasio, M. Raab, M. Sanhaji, K. Strebhardt**. IBioBA-CONICET—Partner Institute of the Max Planck Society, Argentina, Frankfurt University Hospital, Germany and University College London, United Kingdom. **(797.2)**

3:00 Investigating Carrier Domain Positioning During Catalytic Turnover in Pyruvate Carboxylase. **J. Hakala, M. St. Maurice.** Marquette University. **(526.39)**

3:15 **119.1** Caspase-6 Self-Activation Enables Distinct Helix-Strand Interconversion Upon Substrate Binding. **J.A. Hardy, D.J. MacPherson, K.B. Dagbay.** University of Massachusetts Amherst.

3:30 Evolution of Caspase Allostery and Enzyme Specificity. **C. Clark, R. Grinshpon, M.E. Thomas III, L. Yao, S. Shrestha.** The University of Texas at Arlington and North Carolina State University. **(528.10)**

120. PLANT BIOACTIVE NATURAL PRODUCTS: DISCOVERY, ENGINEERING AND APPLICATIONS

Symposium

Sun. 2:30 pm—San Diego Convention Center, Room 30B

Chaired: L. Hicks

2:30 **120.1** Natural Product Bioactive Peptide Discovery Using Pepsavi-Ms. **L. Hicks.** University of North Carolina at Chapel Hill.

2:45 Mitochondria-Targeting Peptide from *Hibiscus sabdariffa*. **S. Loo, A. Kam, J.P. Tam.** Nanyang Technological University, Singapore. **(530.10)**

3:00 Investigating Gibberellin Phytohormone Biosynthesis by Plant-Associated Bacteria**. R.J. Peters**. Iowa State University. **(533.67)**

3:15 Type III Polyketide Synthase Involved in Tropane and Granatane Alkaloid Biosynthesis. **N. Kim, J.C. D'Auria.** Texas Tech University. **(537.3)**

3:30 Montmorency Tart Cherry Anthocyanins: Dose-Dependent Antioxidant Activity Against Cholesterol Oxidation. **I.G. Medina Meza, M.D. Schweiss, C. Barnaba.** Michigan State University and University of Michigan. **(656.30)**

121. RNA RECOGNITION AND REGULATION

Symposium

Sun. 2:30 pm—San Diego Convention Center, Room 30A

Chaired: A.E. Hargrove

2:30 Cisplatin Induces Differential Expression of Snornas and Affects Ribosome Methylation. **E. Reister, V.J. DeRose.** University of Oregon. **(525.17)**

2:45 Enzymatic Site-Specific Labeling of RNA for Affinity Isolation of RNA-Protein Complexes**. K.N. Busby, N.K. Devaraj**. University of California and San Diego. **(790.2)**

3:00 Multiple Mechanisms Driving Alternative Polyadenylation of Cyclin D1 (*Ccnd1*) Pre-mRNA Processing. **C.P. Masamha, E. Wagner**. Butler University and The University of Texas Medical Branch. **(650.12)**

3:15 Structure and Mechanism of a Bacterial t6A Biosynthesis System. **A. Luthra, W. Swinehart, S. Bayooz, P. Phan, B. Stec, D. Iwata-Reuyl, M. Swairjo.** San Diego State University and Portland State University. **(790.1)**

3:30 **121.1** Small Molecule Differentiation of RNA Structures Using Pattern Recognition. **A.E. Hargrove.** Duke University.

122. CAN WE TARGET AGING?

Symposium

SUN. 3:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 14A

CHAIRED: N. BARZILAI

Aging

3:00 Does targeting senescent cells target aging? **Judith Campisi.** Albert Einstein Col. of Med.
3:25 Young blood for old brains. **Tony Wyss-Coray.** Stanford Univ. Sch. of Med.
3:50 Title tba. **Ana Marie Cuervo.** Albert Einstein Col. of Med.
4:15 General discussion.

123. ADVANCED BIOPHYSICAL AND BIOCHEMICAL APPROACHES TO MEMBRANE DYNAMICS (II)

Symposium

SUN. 4:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 31B

CHAIRED: J. XIAO

4:00 mTOR-Dependent Selective Translation Rapidly Expands Lysosome Biogenesis, Volume and Retention Capacity During Phagocyte Activatio. **R. Botelho, V. Hipolito, K. Tandoc, I. Topisirovic.** Ryerson University, Canada and McGill University, Canada. **(542.6)**
4:15 Effects of the Cell Cycle on Vacuole Size in *S. cerevisiae* Yeast**. J.C. Sims**. San Francisco State University. **(542.9)**
4:30 Deciphering Trapp Complex Function in Yeast**. A. Joiner, C. Fromme**. Cornell University. **(542.17)**
4:45 Myosin IIA Is the Most Important Effector of Zyxin in Camp-Mediated Endothelial Exocytosis. **G. Wei, P. Li, L. Chen, J. Luo.** Peking University, People's Republic of China. **(542.28)**
5:00 **123.1** Spatial Organization of RNA Polymerase in *E. coli* Cells. **J. Xiao.** John Hopkins University School of Medicine.

124. CHEMICAL BIOLOGY

Symposium

SUN. 4:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 31A

CHAIRED: B. DICKINSON

4:00 Anaerobic 4-Hydroxyproline Metabolism by a Widespread Microbial Glycyl Radical Enzyme**. Y.Y. Huang, L. Backman, B. Gold, R.T. Raines, C.L. Drennan, E.P. Balskus**. Harvard University and Massachusetts Institute of Technology. **(534.16)**
4:15 Ligand Gated Split Lysine Acetyl Transferases (KATs) and Kinases**. C.S. de Silva, J. Castillo-Montoya, E. Restituyo, I. Ghosh**. University of Arizona. **(530.23)**
4:30 Expanding the Druggable Proteome: Ligand and Target Discovery by Fragment-Based Screening in Cells. **C.G. Parker.** Scripps Research Institute. **(530.19)**
4:45 **124.1** Optical Imaging Tools for Elucidating the Roles of Anions in Cellular Signaling. **S. Dodani.** The University of Texas at Dallas.
5:00 **124.2** Chemical Approaches to Probe Signaling by Dynamic Proteome Lipidation. **B. Dickinson.** University of Chicago.

125. EMERGING PERSPECTIVES ON METABOLISM AND CELL FATE DECISIONS

Symposium

SUN. 4:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 30E

CHAIRED: E. TAYLOR

4:00 **125.1** Loss of Mitochondrial Pyruvate Carrier Activity Short Circuits Hepatocellular Tumorigenesis. **E. Taylo**r. University of Iowa.
4:15 Fine-Tuning of Hepatocyte Calcium Signaling and Liver Regeneration by the Mitochondrial Calcium Uniporter. **A. Noronha Antony, M. Katona, E. Juskeviciute, J.W. Elrod, G. Hajnóczky, J.B. Hoek.** Thomas Jefferson University, Lewis Katz School of Medicine and Temple University. **(536.10)**
4:30 Unconventional Pathways of Nitrogen Metabolism in Lung Cancer**. J. Kim**. The University of Texas Southwestern Medical Center. **(811.9)**
4:45 Understanding the Impact of IDH2 Mutations on the Redox Balance of Cancer Cells. **S.J. Gelman, L. McKenzie, M.G. Chheda, G.J. Patti.** Washington University in St. Louis. **(811.13)**
5:00 Targeting Glycolytic Metabolism in Cancer. **S. Telang, J. Trent, J. Chesney, A. Mojesky.** University of Louisville. **(811.6)**

126. MOLECULAR CHAPERONES AND PROTEASE SYSTEMS

Symposium

Sun. 4:00 pm—San Diego Convention Center, Room 30D

Chaired: A.L. Lucius

4:00 Proteasomal ATPases Hard at Work: The Inner Workings of a Protein Destruction Machine. **A.M. Snoberger, D.M. Smith.** West Virginia University. **(526.42)**

4:15 Dual Function of the Trigger Factor Chaperone in Nascent Protein Folding**. C. Kaiser, K. Liu, K. Maciuba**. Johns Hopkins University. **(793.1)**

4:30 Molecular Chaperones Disperse Pab1 Hydrogel More Quickly Than Misfolded Aggregates**. H. Yoo, E. Pilipenko, D.A. Drummond**. University of Chicago. **(793.16)**

4:45 Dysregulation of Human Mitochondrial Clpp Protease Activity by Acyldepsipeptides Analogs Leads to Apoptotic Cell Death. **W.A. Houry.** University of Toronto, Canada. **(653.3)**

5:00 **126.1** Molecular Mechanisms of Enzyme Catalyzed Protein Unfolding and Translocation by Class 1 AAA+ Motors. **A.L. Lucius.** University of Alabama at Birmingham.

127. PHYSIOLOGICAL REGULATION BY CELL SIGNALING

Symposium

Sun. 4:00 pm—San Diego Convention Center, Room 30C

Chaired: R. Berdeaux

4:00 **127.1** Promotion of Muscle Satellite Cell Proliferation by cAMP-Induced Transcription. **R. Berdeaux, D. Akhmedov.** McGovern Medical School at The University of Texas Health Science Center.

4:15 **127.2** Interrogating Endogenous Neuromodulatory GPCR Signal Processing by Real-Time Imaging of cAMP Dynamics Through Intact Neuronal Circuits. **B.S. Muntean, S. Zucca, C.M. MacMullen, M.T. Dao, C. Johnston, H. Iwamoto, R.D. Blakely, R.L. Davis, K.A. Martemyanov.** Scripps Research Institute and Florida Atlantic University.

4:30 The Function of WNK1/OSR1 in Cell Migration and Angiogenesis. **A. Jaykumar, S. Earnest, K. McGlynn, S. Gallolu Kankanamalage, S. Stippec, G. Pearson, M. Cobb.** The University of Texas Southwestern Medical Center and Georgetown University. **(533.49)**

4:45 FOXA2 Promotes Prostate Cancer Bone Colonization. **Z.M. Connelly, S. Yang, A.W. Orr, X. Yu.** Louisiana State University Health Sciences Center—Shreveport. **(804.15)**

5:00 Passing on Signals to Compass: A Novel Intramolecular Interactions in PAS Kinase Controls the Stem Cell Fate via Regulating Compass Protein Complexes. **C.K. Kikani, X. Wu, J. Rutter.** University of Utah and Fred Hutchinson Cancer Institutute. **(533.56)**

128. READING, WRITING AND ERASING EPIGENETIC MARKS

Symposium

Sun. 4:00 pm—San Diego Convention Center, Room 30B

Chaired: C. Chatterjee

4:00 Histone Chaperone Nap1 Facilitates Histone Dynamics in the Nucleosome. **T-H. Lee, J. Lee.** Pennsylvania State University. **(523.3)**

4:15 Stoichiometry of Multi-Protein Complexes Containing Rtt109, Vps75, and Histone H3-H4. **S. D'Arcy, N. Akhavantabib, D. Krzizike.** The University of Texas at Dallas and Fox Chase Cancer Center. **(524.13)**

4:30 Revealing Chromatin State Organization on the Single-Molecule Scale**. B. Fierz.** École Polytechnique Fédérale de Lausanne, Switzerland. **(523.4)**

4:45 Biochemical Characterization of the Set1 H3k4 Methyltransferase Complexes. **J. Kim.** Korea Advanced Institute of Science and Technology, Republic of Korea. **(524.8)**

5:00 **128.1** Chemical Tools to Investigate Gene Regulation by Histone Sumoylation. **C. Chatterjee.** University of Washington.

129. STRUCTURE AND MECHANISMS REGULATING RNA FUNCTION

Symposium

Sun. 4:00 pm—San Diego Convention Center, Room 30A

Chaired: R. Spitale

4:00 Probing RNA Structure and Dynamics in the HIV-1 5′UTR Using Ensemble and Single Molecule Approaches. **K. Musier-Forsyth, B. Brigham, J. Kitzrow, J-P.C. Reyes, J. Munro.** The Ohio State University and Tufts University School of Medicine. **(650.4)**

4:15 Role of RNA Binding Protein RBM15 in m^6A RNA Methylation During Megakaryocytic Differentiation**. N. Ayala-Lopez, R. Ross, S. Halene, P. Limbach, D.S. Krause**. Yale University and University of Cincinnati. **(790.9)**

4:30 Different Classes of RNA Require Distinct Mex67 Paralogs for Processing and Nucleocytoplasmic Export in Trypanosomes**. S. Obado, B. Chait, M. Field, M. Rout**. The Rockefeller University and University of Dundee, United Kingdom. **(789.8)**

4:45 m^6A Facilitates Hippocampus-Dependent Learning and Memory Through Ythdf1. **H. Shi, X. Zhang, Z. Lu, Y. Liu, Y-L. Weng, Z. Lu, J. Li, P. Hao, Y. Zhang, J. Delgado, M. Patel, X. Cao, X. Huang, Y. Su, G-L. Ming, X. Zhuang, H. Song, C. He, T. Zhou.** The University of Chicago, ShanghaiTech University, People's Republic of China, University of Pennsylvania and East China Normal University, People's Republic of China. **(787.6)**

5:00 **129.1** Chemo-Transcriptomic Methods to Measure RNA Structure Inside Living Cells. **R. Spitale.** University of California, Irvine.

130. BMB PROFESSIONAL DEVELOPMENT: ADVANCING SUCCESSFUL CAREERS

Symposium

(*Sponsored by:* ASBMB Education and Professional Development Committee)

Sun. 4:15 pm—San Diego Convention Center, Room 31C

Chaired: R. Booth

4:15 Leadership Skill Development in an Undergraduate Biochemistry Lab**. D.E. Rhoads**. Monmouth University. **(535.3)**

4:30 Effects of a Data Analysis Intensive Course on Student Critical Thinking Skills, Confidence, and Post-Graduation Success**. K.K. Resendes**. Westminster College. **(663.3)**

4:45 Graduate Student Professional Development and a Cure-Style Course and Peer-Reviewed Student Publications. **J. Baumgartner, J. Lee, M.L. Kuhn.** San Francisco State University. **(535.28)**

5:00 **130.1** Predictors of Success on the MCAT for Post-Baccalaureate Pre-Medicine Students. **Y. Dobrydneva, L. Schwartz.** George Washington University School of Medicine and Health Sciences.

131. ORGANIZING A SUCCESSFUL ASBMB STUDENT CHAPTER

Workshop

(*Sponsored by:* ASBMB Student Chapters Committee)

Sun. 5:30 pm—San Diego Convention Center, Room 31C

Learn about the ASBMB Student Chapters program and how to maintain an active chapter. Network with existing faculty advisers and student members as they share their chapter activities.

132. THE ART OF THE 3D CELL CULTURE, FROM ORGANOIDS TO ORGANS-ON-A-CHIP

Workshop

Sun. 5:30 pm—San Diego Convention Center, Room 31B

Cochaired: T. Kwok and S. Lelièvre

When 3D cell culture is properly done the cells behave in a manner that allows their organization and function as in vivo. In this workshop participants will become familiar with the concepts used to place cells in an environment appropriate for their needs and for the study of interest, from simple contexts with one cell type, to complex tissue organization, with multiple cellular compartments. They will participate in interactive observations/analyses of cells in 3D culture and build platforms for organs-on-a-chip from kits. Upon completing the workshop, participants will understand why there can be many cell culture models depending on the scientific queries and technical capabilities, with materials ranging from sophisticated polymers to paper; and they will be better prepared to choose a model convenient for their needs.

133. CRYOEM AND CRYO-ET: STEP-BY-STEP

Workshop

Sun. 5:30 pm—San Diego Convention Center, Room 31A

Cochaired: A. Leschziner and E. Villa

The "resolution revolution" has propelled Cryo-electron microscopy (cryoEM) and single-particle approaches as the structural technique of choice for tackling many biological problems. Similarly, technical advances are enabling cryo-electron tomography (Cryo-ET) to provide previously unachievable, high-resolution views of the cell interior. The two techniques are ushering a new era in structural biology, both at the molecular and cellular level. In this workshop, the advances that have made the revolution possible will be briefly introduced, and the workflow in each technique will be explained, step-by-step, using real data.

134. STORYTELLING AND THE ART OF GIVING A GOOD PRESENTATION

Workshop

(*Sponsored by:* ASBMB Public Outreach Committee)

Sun. 5:30 pm—San Diego Convention Center, Room 6B

Storytelling is an essential component of communication, used by everyone from journalists to comedians to musicians to bring esoteric subjects to broad audiences. Mastering this skill requires not only topical knowledge but also creative flexibility and dexterity with language. This interactive session presented by the ASBMB Public Outreach Committee will lead participants through hands-on storytelling training, based on one of the modules from ASBMB's training course, "The Art of Science Communication."

135. STRATEGICALLY BUILDING YOUR CV AT EVERY CAREER STAGE

Workshop

(*Sponsored by:* ASBMB Education and Professional Development Committee)

Sun. 5:30 pm—San Diego Convention Center, Room 6A

Chaired: R. Booth

Join in this hands-on workshop where attendees can discuss past or future experiences and how they link to a specific career path along with the best tools for marketing themselves. Workshop participants will be divided into groups based on their interests and career level and session speakers will facilitate the discussions within each group. While all career stages can benefit from this workshop, students, post-docs and early-career scientists are urged to attend. Your next job could depend on it.

136. YOUR DATA, MAGNIFIED: SUCCESS IN SCIENTIFIC PUBLISHING

Workshop

Sun. 5:30 pm—San Diego Convention Center, Room 30E

Chaired: K. Sakabe

Are you confident your data will stand the test of time?

Are you writing in a clear and compelling manner to engage readers?

Are you reaching the audience you and your research deserve?

Join us for this 90-minute workshop to get tips on collecting and presenting data, editing text for clarity and reach, and sharing your work. JBC wants to help you achieve your publication goals as part of our mission to bring enduring research to the scientific community.

137. ASBMB ANNUAL MEETING NETWORKING RECEPTION

Society Events

Sun. 7:00 pm—San Diego Convention Center, Foyer outside of rooms 30A-E.

Join us so we may thank you for being an ASBMB member or share with you the benefits of joining the Society! Meet and mingle with members of the ASBMB leadership, including Natalie Ahn, ASBMB President, Gerald Hart, ASBMB President-elect, and editorial board members from JBC, JLR and MCP, the Society's three journals. Enjoy light refreshments while exploring research posters from recipients of the ASBMB Graduate Student Travel Awards, sponsored by the ASBMB Minority Affairs Committee. ASBMB Members and Biochemistry registrants welcome.

Pathology

138. COMMITTEE FOR CAREER DEVELOPMENT AND DIVERSITY WORKSHOP AND BREAKFAST: MENTOR/MENTEE RELATIONSHIP: A TWO-WAY STREET

Workshop

(*Sponsored by:* the ASIP Committee for Career Development and Diversity)

Sun. 7:00 am—San Diego Marriott Marquis & Marina, Marina Ballroom Salon F

Chaired: M. Preziosi

Cochaired: V. Contreras-Shannon

Career and Professional Development

Workshops & Events

Registration Required

7:00 Introduction of the Mentor/Sponsor/Mentee Dynamics by the Moderator. **C. Yates.** Univ. of Pittsburgh School of Nursing.

7:15 10-minute Panel Discussions: Panelists will introduce themselves followed by Q&A session: **Diane Bielenberg, PhD (MENTEE), Patricia D'Amore, PhD (MENTOR), Traci Parry, PhD (MENTEE), Monte Willis, MD, PhD, MBA (MENTOR), Morgan Preziosi, PhD (MENTEE), Satdarshan (Paul) Singh Monga, MD (MENTOR).** Harvard Med. Sch., Children's Hospital, Schepens Eye Research Institute, Univ. of North Carolina at Chapel Hill, Univ. of North Carolina at Chapel Hill, Univ. of Pittsburgh School of Medicine, Univ. of Pittsburgh School of Medicine.

7:45 Concluding Remarks by the Moderator. **Cecelia Yates, PhD.** Univ. of Pittsburgh School of Nursing.

139. PATHOBIOLOGY COURSE FOR RESEARCH SCIENTISTS: INFECTIOUS PATHOGENS AND CANCER

In Conjunction with the Molecular and Cellular Basis of Cancer Program

Symposium

(*Sponsored by:* the ASIP Education Committee)

Sun. 8:30 am—San Diego Convention Center, Room 2

Chaired: W. Coleman

Cochaired: D. Bielenberg

Bacteria, Parasitology, Microbiome, Antibiotics

Neoplasia

Cancer and Therapy

8:30 Role of MyD88 in Helicobacter Infection-Driven Gastric Carcinogenesis. **M. Obonyo.** UCSD.

9:15 Human Papillomavirus in Oropharyngeal Cancer. **K. Gold.** UCSD.

10:00 Viral Mechanisms in Primary Liver Cancer. **S. Monga.** Univ. of Pittsburgh.

10:45 Challenges in Hepatitis C Virus Vaccine Development. **M. Law.** Scripps Research Inst.

140. LIVER PATHOBIOLOGY WORKSHOP: HEPATOBILIARY DISEASE

Workshop

Sun. 8:30 am—San Diego Convention Center, Room 3

Chaired: K. Nejak-Bowen

Liver Pathobiology

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Cell and Tissue Injury

8:30 Adiponectin-FGF15/19 Signaling in Alcoholic Fatty Liver Disease. **M. You.** Northeast Ohio Medical Univ.

9:00 Neuroendocrine Regulation of Biliary Damage and Liver Fibrosis. **G. Alpini.** Texas A&M Health Science Ctr.

9:30 Polyploid Hepatocytes in Liver Injury and Repair. **A. Duncan.** Univ. of Pittsburgh.

10:00 Bile Acids amd Sphingosine-1 Phosphate Receptor 2 in Cholestatic Liver Injury. **H. Zhou.** Virginia Commonwealth Univ.

10:30 Mechanisms Underlying Fatty Liver Disease. **J. Maher.** San Francisco General Hospital.

11:00 Endogenous Mechanisms Limiting Liver Fibrosis. **C. Gandhi.** Cincinnati Children's Hospital Medical Ctr.

141. VAMP SYMPOSIUM: INFLAMMATION, IMMUNOPATHOLOGY, AND MUCOSAL DISEASE MECHANISMS

Symposium

Sun. 8:30 am—San Diego Convention Center, Room 4

Chaired: A. Nusrat

Cochaired: F.W. Luscinskas

Epithelial and Mucosal Pathobiology

Immunopathology

Neoplasia

Microbiome

8:30 Monocyte Subsets in Cancer Metastasis. **C. Hedrick.** La Jolla Inst. for Allergy and Immunology.

9:10 Microbiome and Immune Function. **N. Lukacs.** Univ. of Michigan.

9:50 Understanding CD47–SIRPα interaction in adaptive immune cell function. **F. Luscinskas.** Brigham & Women's Hospital.

10:30 Annexin A1 Paradigm in Resolving Inflammation and Promote Repair. **M. Perretti.** Queen Mary Univ. of London.

11:10 The Unfolded Protien Response Regulator, ATF6, Promotes Mesodermal Differentiation. **Heike Kroeger.** University of California, San Diego.

142. ASMB LECTURE

In Conjunction with the Minisymposium: The Matrix Reloaded: Mediators of Deposition and Remodeling

Lecture

Sun. 8:30 am—San Diego Convention Center, Room 5A

Matrix Pathobiology

Workshops & Events

8:30 Engineering the Extracellular Matrix: Tools and Technologies for Disease Modeling. **A. Engler.** UCSD.

143. THE MATRIX RELOADED: MEDIATORS OF DEPOSITION AND REMODELING

Symposium

Sun. 8:30 am—San Diego Convention Center, Room 5A

Chaired: T. Kyriakides

Cochaired: Z. Johnson

Matrix Pathobiology

9:30 **143.1** Disturbed Blood Flow Induces Arterial Stiffening Through Thrombospondin-1. **S. Kumar, H. Jo, L.P. Brewster.** Emory University and Georgia Institute of Technology and Emory University.

9:45 **143.2** Biological Function of TIMP-2 Is Regulated by the Composition of the Tissue Microenvironment. **D. Peeney, W. Stetler-Stevenson.** National Cancer Institute and National Institutes of Health.

10:00 **143.3** Men Are from Mars, Women Are from Venus. Gender Specific Changes in Pulmonary Function in 1-Year Old Rats After Neonatal Hyperoxia Exposure. **R.K. Braun, D.F. Pegelow, K.N. Goss, M. Eldridge.** University of Wisconsin—Madison.

10:15 **143.4** Telomerase Expression in Myeloid Cells Is Essential for Pulmonary Fibrosis. **T. Liu, F. Gonzalez De Los Santos, Y. Zhao, Z. Wu, S.H. Phan.** University of Michigan Medical School.

10:30 **143.5** Semi-Synthetic Glycosaminoglycan Ethers Decrease Receptors for Advanced Glycation End-Products and Increase AXL Receptor in the Lung from Secondhand Smoke Treated Mice. **A. Ostergar, K. Egbert, C. Clark, P. Hall, T. Davis, K.M. Hirschi, J.A. Arroyo, P.R. Reynolds.** Brigham Young University.

10:45 **143.6** Fibrinolytic Activity of Cysteine Cathepsins and Role of Fibrin as a Reservoir to Sustain Proteolysis. **S.A. Douglas, S.E. LaMothe, T.S. Singleton, R. Averett, M.O. Platt.** Georgia Institute of Technology and University of Georgia.

144. MEET AND GREET THE ASIP EXECUTIVE OFFICER, WILLIAM COLEMAN, PHD

Society Events

Sun. 11:30 am—San Diego Convention Center, ASIP Lounge

Workshops & Events

145. XVIIITH ANNUAL ASIP/AAA CAREER DEVELOPMENT AND MENTORING PROGRAM AND LUNCH: THE IDP: HIGHWAY TO SUCCESS

Society Events

(*Sponsored by:* the ASIP Committee for Career Development and Diversity and the American Association of Anatomists)

Sun. 11:45 am—San Diego Marriott Marquis & Marina, Marina Ballroom Salon F

Chaired: A. Duncan

Cochaired: N. Rutledge

Career and Professional Development

Workshops & Events

Registration Required

11:45 Introduction to the Individual Development Plan. **A. Duncan, Nakisha Rutledge.** Univ. of Pittsburgh, Northwestern University.

12:00 How to Write, Revise and Adapt Your Most Effective IDP. **E. Bearer.** Univ. of New Mexico Health Science Ctr.

12:30 Testimonials: Senior Trainees Share Personal Experiences with their IDP. **N. Rutledge, Z. Johnson, C. Walesky.** Northwestern Univ., Univ. of Pittsburgh, Brigham and Women's Hosp./Harvard Med. Sch.

1:00 Interactive Table Sessions (Attendees will rotate through tables hosted by mentors who will help attendees write their first IDP or edit/improve an existing IDP)

1:40 Wrap-Up. **Andrew Duncan.** Univ. of Pittsburgh.

146. THE HISTOCHEMICAL SOCIETY (HCS) JOURNAL OF HISTOCHEMISTRY AND CYTOCHEMISTRY MEET THE EDITOR

Society Events

Sun. 12:00 pm—San Diego Convention Center, Exhibit Hall, Booth 320

Workshops & Events

1:00 pm-2:00 pm Meet and great Martha furie

146A. MEET AND GREET THE ASIP AJP EDITOR-IN-CHIEF, MARTHA FURIE, PHD

Society Events

Sun. 1:00pm-2:00pm San Diego Convention Center, ASIP Lounge

Workshops & Events

147. MOLECULAR AND CELLULAR BASIS OF CANCER SYMPOSIUM: CELLULAR ADAPTIVE RESPONSE IN TISSUE INJURY, TUMORIGENESIS, AND CANCER PROGRESSION

Symposium

Sun. 2:00 pm—San Diego Convention Center, Room 2

Chaired: W-X. Ding

Cochaired: L. Wang

Neoplasia

Cancer and Therapy

Cell and Tissue Injury

Immunopathology

2:00 Role of p62 in NASH-Mediated Liver and Pancreatic Tumorigenesis. **M. Karin.** UCSD.
2:30 Autophagy and mTOR in Liver Tumorigenesis. **W. Ding.** Univ. of Kansas Medical Ctr.
3:00 Role of SHP2/PTPN11 in Liver Metabolism and Tumorigenesis. **G. Feng.** UCSD.
3:30 Mitochondria Metabolic Reprogramming in Hepatic Apoptosis and Injury. **L. Wang.** Univ. of Connecticut.
4:00 ER Stress in Pancreatitis. **A. Lugea.** UCLA.
4:30 Mitochondrial Stress in Drug-Induced Liver Injury. **N. Kaplowitz.** USC School of Medicine.

148. PRESIDENTIAL SYMPOSIUM: INFLAMMATION KNOWS NO BORDERS

Symposium

Sun. 2:00 pm—San Diego Convention Center, Room 3

Chaired: D. Remick

Inflammation/Immunity

2:00 Host/pathogen Interactions in the Nematode *C. elegans*. **E. Troemel.** UCSD.
3:00 Mild Traumatic Brain Injury Augments Innate Immunity. **D. Remick.** Boston Univ. School of Medicine.

149. ASIP ROUS-WHIPPLE AWARD LECTURE

In Conjunction with the Presidential Symposium: Inflammation Knows No Borders

Lecture

Sun. 4:00 pm—San Diego Convention Center, Room 3

Award Lectures

Inflammation/Immunity

4:00 Decoding Novel Resolution Mediators and Mechanisms in Infectious Inflammation and Tissue Regeneration. **C. Serhan.** Brigham & Women's Hospital.

150. MOLECULAR BASIS OF CHRONIC LIVER INJURY

Symposium

Sun. 2:00 pm—San Diego Convention Center, Room 4

Chaired: M.L. Tomasi

Cochaired: T. Pradhan-Sundd

Liver Pathobiology

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Cell and Tissue Injury

2:00 **150.1** Dysregulated Bile Transporters and Impaired Tight Junctions Promote Chronic Liver Injury in Mice. **T. Pradhan, R. Vats, J. Russell, S. Singh, S. Watkins, P. Sundd, S. Pal Monga.** University of Pittsburgh.
2:15 **150.2** Mechanisms of Concanavalin A-Induced Mediators of Hepatocyte Damage in Hepatic Stellate Cells: A Dual Role of Interferon Regulatory Factor-1. **R. Rani, S. Kumar, C.R. Gandhi.** Cincinnati Children's Hospital Medical Center.
2:30 **150.3** Janus Kinase 3 Modulates the Tolerogenic Immunology of Liver Through Kupffer Cells. **N. Kumar, J.K. Das, J. Mishra.** Texas A&M University College of Pharmacy.

2:45 **150.4** Regulation of Oxidative Liver Injury by the Probiotic *Lactobacillus rhamnosus* GG. **B.J. Saeedi, B. Robinson, J. Owens, K. Liu, L. Luo, T. Darby, D. Jones, R. Jones, A. Neish.** Emory University.

3:00 **150.5** Age-Induced Hepatic Steatosis and Inflammation of Murine Livers Is Influenced by Mcp-1. **E. Stahl, S. LoPresti, E. Delgado, F. Alencastro, P. Wilkinson, A.W. Duncan, B.N. Brown.** University of Pittsburgh.

3:15 **150.6** Hepatocyte-Specific Depletion of Augmenter of Liver Regeneration (ALR) Protein Alters miRNA Signature Linked to Lipid Homeostasis Leading to Excessive Steatosis. **S. Kumar, R. Rani, R. Karns, B.K. Sharma, C.R. Gandhi.** Cincinnati Children's Hospital Medical Center.

3:30 **150.7** Hepatocyte-Specific High-Mobility Group Box 1 (HC-HMGB1) Protects Against Liver Fat Accumulation and Cellular Stress During High Fat Diet Feeding. **M.J. Lin, M.J. Deng, T.R. Billiar, M.J. Scott.** University of PIttsburgh.

3:45 **150.8** A-Kinase Anchoring Protein Phosphorylation as a Therapeutic Target for Alcohol Liver Injury. **K. Ramani, M.L. Tomasi, J. Berlind, N. Mavila, Z. Sun.** Cedars-Sinai Medical Center and Johns Hopkins University School of Medicine.

4:00 **150.9** Glycine/Sarcosine Ratio as Novel Biomarker for Alcohol-Induced Liver Fibrosis Under Sumoylation Control. **M.L. Tomasi, C. Cossu, K. Ramani, A. Floris.** Cedars-Sinai Medical Center.

4:15 **150.10** Hepatocyte miRNA-21-Deficiency Promotes Hepatic Lipid Accumulation but Ameliorates Alcohol-Induced Liver Injury by Targeting DUSP16. **Y. Zhao, J. Wu, D-J. Shin, L. Wang.** University of Connecticut.

151. BREAST CANCER: PATHOGENESIS AND PATHWAYS TO THERAPY

Symposium

Sun. 2:00 pm—San Diego Convention Center, Room 5A

Chaired: S. Ando

Cochaired: G. Robichaud

Breast Cancer

Neoplasia

2:00 Introduction

2:10 **151.1** Correlation of Securin and Ki67 in Invasive Breast Carcinoma. **I.M. Talaat, R.A. Hamoudi, N.M. Soliman, N.Y. Oweiss, A.M. Omar.** College of Medicine, University of Sharjah, United Arab Emirates, Faculty of Medicine and Alexandria University, Egypt.

2:35 **151.2** Anticancer and Pro-Apoptotic Effects of Triphala Extract in Human Breast Cancer MCF-7 Cells. **M.S. Murthy.** MS Junior College, India.

3:00 **151.3** Role of Farnesoid X Receptor Activation in Counteracting Tumor-Promoting Functions of Cancer-Associated Fibroblasts in Breast Cancers. **I. Barone, V. Vircillo, C. Giordano, R. Tarallo, A. Rinaldi, G. Bruno, B. Gyorffy, D. Bonofiglio, S. Andò, S. Catalano.** University of Calabria, Italy, University of Salerno, Italy and Semmelweis University, Hungary.

3:25 **151.4** Star-Related Lipid Transfer Protein 10 as Novel Key Player in Ethanol-Induced Erbb2 Breast Cancer Progression. **A. Floris, C. Cossu, K. Ramani, M.L. Tomasi.** Cedars-Sinai Medical Center.

3:50 **151.5** Leptin Modulates Exosome Biogenesis in Breast Cancer Cells: An Additional Mechanism in Cell-to-Cell Communication. **C. Giordano, L. Gelsomino, I. Barone, S. Panza, G. Augimeri, D. Bonofiglio, S. Catalano, S. Andò.** University of Calabria, Italy.

4:15 **151.6** C/EBPα Is Crucial Determinant of Epithelial Homeostasis by Preventing Epithelial-to-Mesenchymal Transition. **P. Coffer, A-R. Lourenco, C. Frederiks, D. Seinstra, A. Margarido, G. Roukens, J. van Rheenen.** University Medical Center Utrecht, Netherlands and Netherlands Cancer Institute, Netherlands.

4:40 Q+A.

152. THE HCS BUSINESS MEETING, AWARDS PRESENTATIONS, AND RECEPTION

Society Events

Sun. 6:00 pm—Off-site Location, Horton Grand Hotel, 311 Island Avenue, San Diego, CA 92101

Workshops & Events

Pharmacology

153. JOHN J. ABEL AWARD IN PHARMACOLOGY LECTURE

Lecture

SUN. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 16A

Award Lectures

The John J. Abel Award in Pharmacology, named after the founder of ASPET, was established in 1946 to stimulate fundamental research in pharmacology and experimental therapeutics by young investigators.

8:30 Introduction.
8:35 Molecular Control of G Protein Signaling. **K. Martemyanov.** The Scripps Research Inst.

154. ASPET PRESIDENTIAL SYMPOSIUM: DEADLY LIAISONS: SQUEEZING THE LIFE OUT OF CANCER

Symposium

SUN. 9:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 16A

CHAIRED: J. SCHUETZ

COCHAIRED: M-A. BJORNSTI

Cancer and Therapy

9:30 Introduction.
9:35 Precision Medicine of Childhood Acute Lymphoblastic Leukemia: From Discovery to Translation. **W. Evans.** St. Jude Children's Research Hosp.
10:10 Taxol®, Tubulin and Tumors: A Story of Drug Development. **S.B. Horwitz.** Albert Einstein Col. of Med.
10:45 Identification of New Therapies to Treat Pediatric Medulloblastoma. **M. Roussel.** St. Jude Children's Research Hosp.
11:20 Discovery of Inhibitors of the Interaction of UBC12 and DCN1. **R.K. Guy.** Univ. of Kentucky Sch. of Pharmacy.
11:55 Conclusion.

155. NANCY ZAHNISER MEMORIAL SYMPOSIUM: THE DOPAMINE TRANSPORTER IN HEALTH AND DISEASE

Symposium

(*Sponsored by:* ASPET Division for Neuropharmacology (NEU))

SUN. 9:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 16B

CHAIRED: L. DAWS

COCHAIRED: H. KHOSHBOUEI

Neuroscience

Metabolism and Metabolic Disease

Behavioral Pharmacology

Dr. Zahniser pioneered research elaborating our understanding of how dopamine and glutamate contribute to individual differences in cocaine-induced brain plasticity and addiction-like behavior, and how dopamine transporters are rapidly regulated. Her findings underscore the overall importance of dopamine transporters in contributing to enhanced vulnerability to cocaine addiction and relapse. Dr. Zahniser was strongly committed to mentoring young scientists, and to ASPET. In tribute of her many accomplishments, this symposium captures the most recent advances in understanding dopamine transporter function and regulation, and its important role in health, disease, and addiction. Importantly, this symposium highlights novel targets for treating dopamine-linked pathologies.

9:30 Introduction.
9:32 Dopamine Transporters and Psychostimulant Action: Lessons from Nancy. **S. Amara.** NIMH.
9:57 Dopamine Transporters: Linking Obesity to Diabetes to Psychiatric Disorders. **A. Galli.** Univ. of Alabama-Birmingham.
10:17 Altered Dopamine Transporter Function and Immunoregulation in PD Macrophages. **P. Mackie, A. Gopinath, L. Saadatpour, J. Pino, H. Khoshbouei.** University of Florida. **(693.4)**
10:27 An Unsuspected Role for Organic Cation Transporter 3 in the Actions of Amphetamine. **F.P. Mayer, A.W. Owens, S. Boehm, U. Gether, W. Koek, L.C. Daws, H.H. Sitte.** Institute of Pharmacology, Medical University of Vienna, Austria, The University of Texas Health Science Center at San Antonio, University of Copenhagen and Panum Institute, Denmark. **(820.8)**
10:37 DATS Not All: Organic Cation Transporters in the Actions of Psychoactive Drugs. **L. Daws.** Univ. of Texas Health Science Ctr. at San Antonio.
10:57 Modulation of Stimulant Actions by the Intertwining Activities of D2 Autoreceptors and PKCbeta. **M. Gnegy.** Univ. of Michigan.
11:17 Moving from Neuronal Transporter Structures to Clinically Relevant Therapeutics for Neurodegenerative Disorders. **U. Gether.** Univ. of Copenhagen.
11:37 General Discussion and Questions.
11:57 Conclusion.

156. RAY FULLER LECTURE AND SYMPOSIUM: STATE-OF-THE-ART ON REGENERATIVE PHARMACOLOGY: THE FUTURE IS NOW

Symposium

(*Sponsored by:* ASPET Division for Translational and Clinical Pharmacology (TCP))

SUN. 9:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 17A

CHAIRED: G. CHRIST

COCHAIRED: K. MARRA

Translational and Clinical Pharmacology

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Cardiovascular

Emerging Technologies

9:30 Presentation of the Ray Fuller Award to Dr. George Christ.
9:35 Ray Fuller Lecture: Regenerative Pharmacology for Muscle Repair. **G. Christ.** Univ. of Virginia.

10:10 Keratin Biomaterials as an Implantable Device, As Well As a Platform for Cell and Drug Delivery for Tissue Repair and Regeneration. **L. Burnett.** Keranetics LLC.
10:45 Stem Cell Engraftment through Enhanced Vascular Integration with Functionalized Biomaterials. **K. Healy.** Univ. of California, Berkeley.
11:20 Therapeutic Angiogenic Materials for Tissue Repair and Regeneration. **T. Segura.** Univ. of California, Los Angeles.
11:55 Q&A.

157. HUMANIZED IN VITRO AND IN VIVO MODELS IN DRUG DISCOVERY AND DEVELOPMENT

Symposium

(*Sponsored by:* ASPET Division for Drug Metabolism and Disposition (DMDD))

SUN. 9:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 15B

CHAIRED: X. DING

COCHAIRED: A. SAWANT-BASAK

Drug Metabolism and Disposition

Emerging Technologies

Metabolism and Metabolic Disease

Drug Discovery and Development

9:30 Introduction. **A. Sawant-Basak.** Pfizer Inc.
9:35 Capturing Liver Function In Vitro: Micro-engineered Biomimetic Liver Platforms for Drug Metabolism and Inter-organ Interactions. **S.S. Bale.** Draper Laboratories.
10:03 Quantitative DMPK Applications of Microphysiological Systems. **M. Cirit.** MIT—Translational Ctr. of Tissue Chip Technologies.
10:31 Human Liver Chimeric Mice to Predict Human Drug Metabolism and Toxicity: The Chances and Challenges. **K.D. Bissig.** Baylor Col. of Med.
10:59 Glucuronidation in Humanized and Conditional Knockout Animal Models. **S. Chen.** Univ. of California, San Diego.
11:27 Industrial Perspectives of Microphysiological Systems in Drug Discovery and Development. **P. Bajaj.** Takeda Pharmaceuticals.
11:55 Summary. **X. Ding.** Univ. of Arizona.

158. PLACENTAL XENOBIOTIC METABOLISM AND TRANSPORT

Symposium

(*Sponsored by:* ASPET Division for Toxicology (TOX))

SUN. 9:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 15A

CHAIRED: Q. MAO

COCHAIRED: L. ALEKSUNES

Toxicology

Metabolism and Metabolic Disease

Drug Discovery and Development

Drug Metabolism and Disposition

9:30 Introduction.
9:34 Placental Metabolism of Drugs and Impacts on Fetal Exposure. **M. Ahmed.** Univ. of Texas—Medical Branch, Galveston.
10:04 Placental Transporter Regulation and Environmental Toxicant Interactions. **L. Aleksunes.** Rutgers Univ.
10:34 Fetal Exposure to Drugs: Role of Placental Transporters. **Q. Mao.** Univ. of Washington.
11:04 PBPK Modeling and Simulation to Predict Fetal Exposure to Drugs and Xenobiotics. **M. De Sousa Mendes.** Simcyp.
11:34 Effects of Cannabinoids on Trophoblast Cell Growth and Syncytialization. **N.K. Neradugomma, Q. Mao.** University of Washington. **(692.4)**
11:46 Translocation of Engineered Nanomaterials from the Maternal Lungs to the Fetal Compartment After Instillation. **P. Stapleton**, **J. D'Errico, S. Fournier,** Rutgers University. **(830.5)**
11:58 Conclusion.

159. ASPET DAILY DATABLITZ

Poster Discussion

SUN. 1:00 PM—SAN DIEGO CONVENTION CENTER,
EXHIBIT HALLS A-D
ASPET POSTER DISCUSSION AREA BOOTH 820

CHAIRED: C.A. PARONIS

Experience the daily ASPET datablitz, a rapid-fire oral presentation of research in the ASPET poster discussion lounge in the poster hall. These brief snippets of research are an introduction to their full presentations that will take place at their poster boards afterwards. You won't want to miss this fast-paced overview of the most exciting science of the day.

1:00 Dopamine Transporter Activation Reduces Kv2.1 Activation Potential and Cluster Size. **J. Lebowitz, J.A. Pino Reyes, K. Divita, C. Henckel, M. Lin, G.E. Torres, H. Khoshbouei.** University of Florida College of Medicine. **(553.5)**

1:05 Anti-Methamphetamine Antibody Gene Therapy Ameliorates Methamphetamine-Induced Locomotor Effects in Mice for 8 Months After a Single Treatment. **C.E. Hay, L.E. Ewing, M.D. Hambuchen, P. Margaritis, S.M. Owens, E.C. Peterson.** University of Arkansas for Medical Sciences and The Children's Hospital of Philadelphia. **(550.5)**

1:10 The Role of Distal Helix 5 as a Determinant of GPCR-G Protein Coupling Selectivity. **N. Okashah, Q. Wan, A. Inoue, N. Lambert.** Augusta University and Tohoku University, Japan. **(555.2)**

1:15 Inhibitor of Soluble Epoxide Hydrolase Attenuates Decline in Learning and Memory of Diabetic Rats. **S.K. Goswami, N. Minaz, R. Razdan, B.D. Hammock.** Drexel University, Al-Ameen College of Pharmacy, India and University of California. **(559.1)**

1:20 Characterization of a Novel Inhibitor of Soluble Epoxide Hydrolase and Role in Ocular Neovascularization. **B. Park, S. P. B. Sardar Pasha, Y. Si, S.O. Meroueh, S-Y. Seo, T.W. Corson.** Indiana University School of Medicine and Gachon University, Republic of Korea. **(561.1)**

1:25 Break.

1:30 Proximal Tubule Beta-2 Adrenergic Receptor Is Responsible for Recovery of Renal Function Following Ischemia Reperfusion Injury. **R.B. Cameron, E. Simmons, S. Miller, W. Gibbs, R. Schnellmann.** University of Arizona. **(562.4)**

1:35 Physical Organization of Heme Oxygenase 1, NADPH Cytochrome P450 Reductase, and the Cytochromes P450 in the Endoplasmic Reticulum. **J.P. Connick, W.L. Backes.** Louisiana State University Health Sciences Center—New Orleans. **(564.6)**

1:40 Role of Glutathione-S-Transferases in the Metabolism of the Anti-Cancer Agent and Aromatase Inhibitor, Exemestane. **I.L. Teslenko, G. Chen, Z. Xia, P. Lazarus.** Washington State University. **(566.10)**

1:45 Mitochondrial DNA Activates NLRP3 Inflammasome and Contributes to Endothelial Dysfunction and Inflammation in Type 1 Diabetic Mice. **C.A. Pereira, N.d. S. Ferreira, C.Z. Zanotto, D. Carlos, R. Tostes.** University of Sao Paulo, Brazil. **(569.5)**

1:50 The Antithrombotic Effects of 12-LOX Derived Metabolites of DPA, ω-6. **A. Chen, J. Yeung, A. Szatkowski, M. Jackson, J. Watson, C. Freedman, A. Das, T. Holman, M. Holinstat.** University of Michigan, University of Illinois at Urbana—Champaign, University of California and Santa Cruz. **(571.5)**

1:55 Discussion.

160. GOODMAN AND GILMAN AWARD IN RECEPTOR PHARMACOLOGY LECTURE

Lecture

SUN. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 16A

Award Lectures

The Louis S. Goodman and Alfred Gilman Award in Receptor Pharmacology was established in 1980 to recognize and stimulate outstanding research in pharmacology of biological receptors, leading to a better understanding of the mechanisms of biological processes and providing the basis for the discovery of drugs useful in the treatment of diseases.

2:30 Introduction.

2:35 Physiological and Therapeutic Implications of GPCR Functional Selectivity/Biased Signaling. **M. Caron.** Duke Univ.

161. ADHESION GPCRS AS NEUROTHERAPEUTIC TARGETS

Symposium

(*Sponsored by:* ASPET Division for Molecular Pharmacology (MP))

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 16A

CHAIRED: G. TALL

COCHAIRED: X. PIAO

Molecular Pharmacology

Cancer and Therapy

Cardiovascular

Neuroscience

3:30 GPR56 Regulation of Glial Cell Development. **X. Piao.** Harvard Univ.

3:58 Structural and Functional Studies of Adhesion GPCRs. **D. Arac.** Univ. of Chicago.

4:26 BAI Regulation of Synaptic Function and Involvement in Neurological Disease. **R. Hall.** Emory Univ.

4:54 New Probe Compounds to Investigate Adhesion GPCR Activation Mechanisms. **G. Tall.** Univ. of Michigan.

5:22 Adhesion-GPCR Function in Synapses. **T. Sudhof.** Stanford Univ. Sch. of Med.

162. EPIGENETICS IN DRUG DISCOVERY

Symposium

(*Sponsored by:* ASPET Division for Drug Discovery and Development (DDD))

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 15B

CHAIRED: V. VAKA

COCHAIRED: J.J. JILEK

Drug Discovery and Development

Cancer and Therapy

Gene Expression

Neuroscience

3:30 Epigenetic Drug Discovery Beyond Cancer. **P. Woster.** Medical Univ. of South Carolina Col. of Pharmacy.

3:55 Therapy Acceleration via Precision Medicine. **S. Verma.** Johns Hopkins Sch. of Med.

4:20 MicroRNA Epigenetics & Therapy: Are We Using the Right Agents? **A.M. Yu.** Univ. of California, Davis.

4:45 Pathway Based Chemical Screen Identifies New Components of Epigenetic Gene Repression as Potential New Cancer Therapeutics. **N. Hathaway.** UNC Eshelman Sch. of Pharmacy.

5:10 Exosome Mediated Intercellular Communication in Pain. **S. Ajit.** Drexel Univ. Col. of Med.

5:35 Targeting of the Histone 3 Lysine 9 Methyltransferase Pathway in KRAS-Induced Cell Growth and Pancreatic Cancer. **G. Lomberk, G. Urrutia, M. Colon Caraballo, A. Salmonson, M. Missfeldt, A. Mathison, S. Tsai, N.V. Adsay, D. Evans, J. Iovanna, R. Urrutia.** Medical College of Wisconsin and Institut National de la Santé et de la Recherche Médicale (INSERM), France. **(826.11)**

5:48 Crosstalk Between PTBP1 and miR-101/AGO2 on Targeting MCL1—a Novel Post-Transcriptional Mechanism for MCL1 Expression. **J. Cui, W.J. Placzek.** The University of Alabama at Birmingham. **(826.4)**

163. PRO-PSYCHOTIC EFFECTS OF DRUGS OF ABUSE

Symposium

(*Sponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

Sun. 3:30 pm—San Diego Convention Center, Room 16B

Chaired: M.D. Berquist

Cochaired: M. Wood

Behavioral Pharmacology

Neuroscience

Drug Discovery and Development

3:30 Beyond Dopamine: Neuropharmacology of Atypical Antipsychotics. **M. Wood.** Circuit Therapeutics, Inc.

4:00 Becoming Unglued: Glutamate Dysfunction and Psychosis. **B. Moghaddam.** Oregon Health & Sciences Univ.

4:30 A Trip Down the Rabbit Hole: Hallucinogens and Psychosis. **S. Powell.** Univ. of California, San Diego.

5:00 Reefer Madness: Insights from Cannabinoid-Induced Psychosis. **P. Skosnik.** Yale Univ.

5:30 There's a Cat in the Colony Room: Modeling Psychosis in Rodents. **M. Berquist.** Univ. of Arkansas for Medical Sciences.

164. THE MICROBIOME AND CANCER

Symposium

(*Sponsored by:* ASPET Division for Cancer Pharmacology (DCP))

Sun. 3:30 pm—San Diego Convention Center, Room 15A

Chaired: M-A. Bjornsti

Cochaired: H. Jeong

Cancer and Therapy

Microbiome

Inflammation/Immunity

Metabolism and Metabolic Disease

3:30 Introduction.

3:35 The Role of the Microbiota in Public Health. **R. Knight.** Univ. of California, San Diego.

4:10 Postnatal Microbial Strategies Inhibit Cancer Later in Life. **S. Eardman.** MIT.

4:45 The Carcinogenic Potential of Bacterial Biofilms. **J. Drewes.** Johns Hopkins Med.

5:20 Investigating Microbial Influences in Cancer. **A. Ojesina.** Univ. of Alabama at Birmingham.

5:55 Conclusion.

165. UPDATE ON THE GASEOUS SIGNALING MOLECULES NO, H_2S, AND CO

Symposium

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology (CVP))

Sun. 3:30 pm—San Diego Convention Center, Room 17A

Chaired: A. Papapetropoulos

Cochaired: N.S. Bryan

Cardiovascular

Nutrition/Obesity

Molecular Pharmacology

3:30 Introduction to Gasotransmitters: An Update. **A. Papapetropoulos.** National and Kapodistrian Univ. of Athens.

3:40 Life after the Nobel Prize: Novel Mechanisms of eNOS Regulation Impacting Cardiovascular Function. **I. Fleming.** Goethe Univ.

4:05 Hydrogen Sulfide Therapy in Heart Failure. **D. Lefer.** Louisiana State Univ.

4:30 Regulation of Carotid Body Activity by the Heme Oxygensase/CO Pathway. **N. Prabhakar.** Univ. of Chicago.

4:55 Natural Product Chemistry and Nitric Oxide Production: New Strategies for NO Based Therapeutics. **N. Bryan.** HumanN, Inc.

5:20 Dietary Nitrate Improves Cardiovascular Health in Humans. **A. Ahluwalia.** Queen Mary Univ. of London.

5:45 Delayed Therapy with a Hydrogen Sulfide Donor, JK1, Protects Against Pressure Overload-Induced Heart Failure. **Z. Li, J. Kang, M. Xian, D.J. Lefer.** Louisiana State University Health Sciences Center—New Orleans and Washington State University. **(698.1)**

5:55 Concluding Remarks—Future Directions.

166. ASPET STUDENT/POSTDOC POSTER COMPETITION

Award Competition

Sun. 6:30 pm—San Diego Convention Center, Room 20BC

Undergraduates, graduate and post-baccalaureate students, and postdoctoral scientists present their posters in this annual competition. Join us to view the top student/postdoc posters.

Physiology

167. 2018 MENTORING SYMPOSIUM: RECOGNIZING AND RESPONDING TO IMPLICIT BIAS IN SCIENCE I

Symposium

(*Sponsored by:* APS Women in Physiology Committee)

Sun. 7:00 am—San Diego Convention Center, Room 25C

Chaired: D. Al Alam

Cochaired: K. Wallace and D.H. Ho

Diversity in Science

Career and Professional Development

7:00 Implicit and explicit bias in science and science education. **Charlotte Tate.** San Francisco State Univ.

7:30 General discussion.

168. DO IT AGAIN: HOW TO ACHIEVE RIGOROUSLY REPRODUCIBLE RESEARCH I

Symposium

(*Sponsored by:* Trainee Advisory Committee)

Sun. 7:00 am—San Diego Convention Center, Room 25A

Chaired: R. Downey

Cochaired: I. Obi

Career and Professional Development

7:00 Data management and storage for rigor and reproducibility. **Shai Silberberg.** NINDS/NIH.

169. HALLMARKS OF GROUND RULES FOR PRODUCTIVE COLLABORATIONS IN SCIENCE. DEVINING AND ESTABLISHING COLLABORATIONS

Symposium

(*Sponsored by:* APS Careers in Physiology Committee)

Sun. 7:00 am—San Diego Convention Center, Room 25B

Chaired: J. Brandauer

Cochaired: B. Becker

Career and Professional Development

7:00 Defining and establishing collaborations. **S. Watts.** Michigan State Univ.

7:20 Defining and establishing collaborations. **C. Northcott.** Pfizer, Inc.

7:40 Panel discussion.

170. ISCHEMIC AND HYPOXIC CONDITIONING: POTENTIAL FOR PROTECTION OF VITAL ORGANS

Symposium

(*Sponsored by:* Integrative Physiology Symposium Series)

Sun. 8:30 am—San Diego Convention Center, Room 20A

Chaired: C.A. Rickards

Cochaired: J.D. Sprick

Cardiovascular

8:30 Intermittent, normobaric hypoxia training exerts robust cerebroprotection against ischemic injury. **Robert Mallet.** Univ. of North Texas Hlth. Sci. Ctr.

9:00 Prolonged global ischemia and consequences of resuscitation to the heart and brain. **Demitri Yannopoulos.** Univ. of Minnesota.

9:30 Remote ischemic conditioning: Trials, tribulations and clinical translation. **Karin Przyklenk.** Wayne State Univ. Sch. of Med.

171. TOO HOT TO HANDLE: CONTROVERSIES IN EXERTIONAL HEAT STROKE PREVENTION AND TREATMENT

Symposium

(*Sponsored by:* Environmental and Exercise Physiology Section)

Sun. 8:30 am—San Diego Convention Center, Room 25C

Chaired: O. Laitano

Cochaired: M.A. King

Cardiovascular

Inflammation/Immunity

Metabolism and Metabolic Disease

8:30 Exertional heat stroke: Underlying physiology and misconceptions. **Michael Sawka.** Georgia Institute of Technology.

8:50 NSAIDs and Heat Stroke: Evidence from animal models suggesting NSAIDS increase Heat Stroke morbidity. **Lisa Leon.** United States Army Research Insitute of Environmental Medicine.

9:10 Impact of NSAIDS on thermoregulatory responses in the aged. **Lacy Alexander.** Pennsylvania State University.

9:30 Exertional heat stroke: A clinical perspective on a condition with complex etiology and current controversies regarding prevention and treatment. **William Roberts.** University of Minnesota.

172. INFLAMMATION AND SODIUM REABSORPTION

Symposium

(*Sponsored by:* Water and Electrolyte Homeostasis Section)

Sun. 8:30 am—San Diego Convention Center, Room 27AB

Chaired: D. Lee

Cochaired: A.V. Pai

Salt

Inflammation/Immunity

Ion Channels and Transporters

8:30 Regulation of epithelial sodium channel in salt-sensitive hypertension via inflammation-induced reactive oxygen species production. **Tengis Pavlov.** Henry Ford Hospital.

8:50 Getting inflamed with the sodium chloride cotransporter. **Robert Hoover, Jr.** Emory University.

9:10 Na+/H+ exchanger regulatory factor in age-dependent salt-sensitive hypertension and renal inflammation. **Syed Khundmiri.** Howard University.

9:30 The role of CD8+ T cells in the pathogenesis of salt-sensitive hypertension. **Shengyu Mu.** University of Arkansas for Medical Sciences.

173. BUILDING EPITHELIAL ORGANS IN VITRO TO STUDY PHYSIOLOGY AND PATHOGENESIS OF DISEASE

Symposium

(*Sponsored by:* Epithelial Transport Group)

Sun. 8:30 am—San Diego Convention Center, Room 25A

Chaired: R. Nørregaard

Emerging Technologies

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Metabolism and Metabolic Disease

8:30 Engineering human organs on a chip. **Donald Ingber.** Wyss Inst. for Biologically Inspired Engineer., Harvard Med. Sch.

9:00 Making mini-human intestine in a dish from intestinal biopsies. **Mark Donowitz.** Johns Hopkins Medical School.

9:30 Using kidney organoids to study cystogenesis in ADPKD. **Owen Woodward.** University of Maryland School of Medicine.

174. OF MICE AND MEN: WHAT HAVE WE REALLY LEARNED ABOUT THE REGULATION OF CORONARY VASCULAR FUNCTION IN HEALTH AND DISEASE?

Symposium

(*Sponsored by:* Cardiovascular Section)

Sun. 8:30 am—San Diego Convention Center, Room 23ABC

Chaired: S. Phillips

Cochaired: A. Goodwill

Cardiovascular

8:30 Mechanisms of vasodilation in the human coronary micro-circulation in diabetes. **Frank Selke.** Brown Medical School.

8:50 Mechanisms of coronary flow control in swine models of health and disease. **Adam Goodwill.** Indiana University School of Medicine.

9:10 Age-related coronary microvascular dysfunction in murine models. **Amanda LeBlanc.** University of Louisville School of Medicine.

9:30 Multi-scale modeling of supply-demand matching in myocardial oxygen delivery. **Dan Beard.** University of Michigan.

175. ADDRESSING HIGHER LEVELS OF BLOOM'S TAXONOMY IN THE TEACHING AND LEARNING OF PHYSIOLOGY

Symposium

(*Sponsored by:* Teaching of Physiology Section)

Sun. 8:30 am—San Diego Convention Center, Room 28B

Chaired: H. Clements-Jewery

Cochaired: M. Hopper

Education

Career and Professional Development

8:30 Fostering higher-order cognitive skills in the teaching and learning of physiology. **Janet Casagrand.** Univ. of Colorado, Boulder.

8:52 Using Bloom's Taxonomy to monitor assessment changes after flipping a course. **Lara DeRuisseau.** LeMoyne Col.

9:14 Addressing higher levels of Bloom's Taxonomy: Does student performance match perception? **Mari Hopper.** Univ. of Indiana, Evansville.

9:36 Using the Phys-MAPS to understand changes in students' ability to apply core physiology concepts. **Katharine Semsar.** Univ. of Colorado, Boulder

176. MAINTENANCE AND REMODELING OF THE NEUROMUSCULAR JUNCTION IN HEALTH AND DISEASE

Symposium

(*Sponsored by:* Muscle Biology Group)

Sun. 8:30 am—San Diego Convention Center, Room 22

Chaired: V. Lubicic

Metabolism and Metabolic Disease

Neuroscience

8:30 Mechanisms by which chronic tobacco smoke exposure exacerbates aging of the motor unit. **Russell Hepple.** University of Florida.

8:50 Factors regulating differential neuromuscular junction vulnerability in motor neuron diseases. **Lyndsay Murray.** University of Edinburgh.

9:10 Interrelationships between age-related skeletal muscle stem cell and neuromuscular junction decline. **Joe Chakkalakal.** University of Rochester.

9:30 Activity-induced plasticity of the NMJ. **Michael Deschenes.** College of William and Mary.

177. NCAR YOUNG INVESTIGATOR AWARDS

Featured Topic

(*Sponsored by:* Neural Control and Autonomic Regulation Section)

Sun. 8:30 am—San Diego Convention Center, Room 26AB

Chaired: D.J. Moraes

Cochaired: M. Poglitsch

Neuroscience

8:30 Brainstem Pre-Sympathetic Neuron Controls Oscillatory Breathing in Heart Failure. **R. Del Rio, D.C. Andrade, C. Toledo, H.S. Diaz, C. Lucero, A. Arce-Alvarez.** P. Universidad Católica de Chile, Chile. **(885.13)**

8:50 Sim1-PVN Neurons in ADAM17 Mediated Neurogenic Hypertension. **S. Mukerjee, T. Basting, A. Zsombok, E. Lazartigues.** Louisiana State University Health Sciences Center and Tulane University. **(885.5)**

9:00 Role of $AT1_1$ Receptor-Mediated ADAM17 Signaling in Glutamatergic Neurons in Neurogenic Hypertension. **J. Xu, E. Lazartigues.** Louisiana State University Health Sciences Center—New Orleans. **(591.3)**

9:10 Plasma Erythropoietin Concentration Determine the Carotid Body Chemosensitivity to Hypoxia and Hypercapnia in Rats. **S. Laouafa, R. Tam, A. Bairam, V. Joseph, J. Soliz.** Université Laval, Canada. **(886.1)**

9:20 Salt Diet Influences Endothelin-1 Signaling in Renal Sensory Nerves. **B.K. Becker, J.S. Speed, D.M. Pollock.** University of Alabama at Birmingham. **(885.19)**

9:30 Neurons in the Ventral Lateral Preoptic (VLPO) Area Inhibit Brown Adipose Tissue (BAT) Thermogenesis. **E.P. Conceição, C.J. Madden, S.F. Morrison.** Oregon Health & Science University. **(592.5)**

9:40 Redox-Driven Lymphocyte Inflammation Sensitizes Mice to Psychological Stress-Mediated Hypertension. **A.J. Case, C.W. Collins, A.J. Kohl, C.M. Moshfegh, S. Elkhatib.** University of Nebraska Medical Center. **(737.1)**

178. RENAL SECTION YOUNG INVESTIGATOR AWARD FEATURED TOPIC: NOVEL ROLES FOR RENAL GPCRS

Featured Topic

(*Sponsored by:* Renal Section)

Sun. 8:30 am—San Diego Convention Center, Room 28A

Chaired: J. Pluznick

Cochaired: M. Caplan

8:30 Orphan GPCRs and Renal Physiology. **Jennifer Pluznick.** Johns Hopkins School of Medicine.

9:00 Activation of G Protein-Coupled Estrogen Receptor Promotes Endothelin-Dependent Natriuresis in Female Rats. **E.Y. Gohar, I.E. Obi, E.M. Daugherty, C. De Miguel, M. Kasztan, J.S. Pollock, D.M. Pollock.** University of Alabama at Birmingham. **(619.8)**

9:15 Deep Proteomic Quantification of Inner Medullary Collecting Duct Protein Phosphorylation: Response to Vasopressin. **V. Deshpande, C-L. Chou, M. Knepper.** National Heart, Lung, and Blood Institute and National Institutes of Health. **(619.9)**

9:30 Kir4.1 Is Involved in Bradykinin-Induced Inhibition of NCC and Natriuresis. **P. Wu, Z-X. Gao, D-D. Zhang, C.P. Vio, R. Gu, W-H. Wang.** New York Medical College, Harbin Medical University, People's Republic of China and Pontificia Universidad Católica de Chile, Chile. **(619.7)**

9:45 Intrarenal Bradykinin (BK) Is Decreased in Mice with Prorenin Receptor (PRR) Deficiency in the Collecting Duct. **B. Visniauskas, J. Mourain, J.R. Chagas, M.C. Prieto.** Tulane University and Universidade Federal de Sao Paulo, Brazil. **(619.4)**

10:00 Renal Olfactory Receptor 1393 Contributes to the Progression of Diabetes. **B.D. Shepard, H. Koepsell, J.L. Pluznick.** Georgetown University, University of Würzburg, Germany and Johns Hopkins University School of Medicine. **(720.3)**

10:15 Genetic Deletion of P2Y2 Receptor Suppresses Lithium-Induced Medullary Collecting Duct Remodeling in Mice. **B.K. Kishore, J. Peti-Peterdi, T. Liu, A. Riquier-Brison, N.G. Carlson, Y. Zhang.** University of Utah and VA Medical Center and University of Southern California. **(621.4)**

179. ROLE OF THE MICROBIOME IN CARDIOVASCULAR DISEASE

Featured Topic

(Supported by Journal of Clinical Science)

(*Sponsored by:* Cardiovascular Section)

Sun. 8:30 am—San Diego Convention Center, Room 24AB

Chaired: E. Buys

Cardiovascular

8:30 Suppression of the Gut Microbiome-Derived Metabolite Trimethylamine N-Oxide Prevents Western Diet-Induced Arterial Dysfunction. **V.E. Brunt, Z.J. Sapinsley, R.A. Gioscia-Ryan, J.J. Richey, M.C. Zigler, D.R. Seals.** University of Colorado Boulder. **(582.6)**

8:45 Examining the Role of Gut Dysbiosis in Neuroinflammation and Hypertension in a Model of Obstructive Sleep Apnea. **D. Durgan, B.P. Ganesh, J. Nelson, J. Eskew, N. Ajami, J. Petrosino, R. Bryan.** Baylor College of Medicine, The University of Texas Health Science Center and Mercer University. **(582.2)**

9:00 Short-Term Captopril Treatment Causes Persistently Decreased Blood Pressure Associated with Long-Lasting Shifts in Gut Microbiota and Improvement in Gut Pathology. **T. Yang, V.P. Aquino, Q. Yanfei, G.O. Lobaton, C. Jobin, E.M. Richards, C.J. Pepine, M.K. Raizada.** University of Florida. **(582.7)**

9:15 Dysbacteriosis an Inciting Cause of Endothelial Dysfunction Mediated Through Mitochondrial DNA Interactions. **K. Ait-Aissa, J.C. Hockenberry, A.O. Kadlec, D.S. Chabowski, J.M. Linn, D.D. Gutterman, A.M. Beyer.** Medical College of Wisconsin. **(582.3)**

9:30 The oral microbiome and hypertension. **Nathan Byran.** Baylor College of Medicine.

180. PHYSIOLOGICAL GENOMICS TRAINEE HIGHLIGHTS

Featured Topic

(*Sponsored by:* Physiological Genomics Group)

Sun. 8:30 am—San Diego Convention Center, Room 28DE

8:30 Transcriptomic Profiling of Mitochondrial Dysfunction Induced Apoptosis in Accelerated Cardiovascular Disease. **F. Xu, F. Guan, A. Halim, L. Ho, K. Lim, T. Lu.** Brookline High School, Brigham and Women's Hospital and Harvard Medical School, University of Rochester and Massachusetts General Hospital and Harvard Medical School. **(585.1)**

8:45 Aerobic Exercise Training and Cardiac ACE2 Overexpression Promotes Beneficial Effects in Circulating Renin Angiotensin System. **C.d.V. Gomes-Gatto, A.C. Silveira, J. L.P. Gomes, T. Fernandes, E. Lazartigues, E.M. Oliveira.** University of São Paulo, Brazil and Louisiana State University Health Sciences Center—New Orleans. **(586.8)**

9:00 Long Non-Coding RNAs Are Transcriptional Regulators of Contractile Protein-Coding Genes in Skeletal Muscle. **J.D. Resnick, C.A. Gilbert, A.J. Lowrey, M.C. Callier, C.E. Pandorf.** Mercer University and Mercer University School of Medicine. **(753.1)**

9:15 Effect of 17β-Estradiol on Endothelial Cell Expression of Inflammation-Related miRNAs. **M. a.V. Levy, J.G. Hijmans, K.A. Stockelman, L.M. Brewster, W.R. Reiakvam, Z.A. Goldthwaite, J.J. Greiner, C.A. DeSouza.** University of Colorado Boulder. **(753.4)**

9:30 Nuclear-Mitochondrial Crosstalk in the Heart During Diabetes Mellitus—the Impact on RNA in Mitochondrial Subpopulations. **Q.A. Hathaway, D.L. Shepherd, A.J. Durr, J.M. Hollander.** West Virginia University. **(585.3)**

9:45 The Molecular Mechanisms of Chronic Kidney Disease Induced Hyperphosphatemia in Cerebral Microvasculature. **J. Xu, C-P. Chung, P-T. Lee, L. Ho, K. Lim, T. Lu.** Harvard College, Harvard University, Taipei Veterans General Hospital, Taiwan, Kaohsiung Veterans General Hospital, Taiwan, Brigham and Women's Hospital and Harvard Medical School and Massachusetts General Hospital and Harvard Medical School. **(586.9)**

181. TRANSLATIONAL PHYSIOLOGY SHOWCASE: BENCH TO BEDSIDE AND IN BETWEEN

Featured Topic

(*Sponsored by:* Translational Physiology Interest Group)

Sun. 8:30 am—San Diego Convention Center, Room 25B

Chaired: C. Young

Cardiovascular

Metabolism and Metabolic Disease

Nutrition/Obesity

Mitochondria in health and disease from a translational perspective

8:30 Profiling Mitochondrial Quality Control in Human Myotubes Derived from Severely Obese Non-Diabetic and Type 2 Diabetic Patients. **A. Gundersen, S. Park, G. Dubis, J. Houmard, K. Zou.** University of Massachusetts Boston and East Carolina University. **(879.1)**

8:36 Patterns of Suppressed Mitochondrial Respiration in Isolated Muscle Fibers from Type 2 Diabetics. **K.D. Turner, M.P. Harris, A. Kronemberger, K. Ueda, A.J. Feider, H. Kenny, E.J. Anderson, E.D. Abel, D.P. Casey, V.A. Lira.** University of Iowa. **(618.26)**

8:42 Exercise Induces Depot-Specific Adaptations to White and Brown Adipose Tissue. **L.A. Baer, A.C. Lehnig, R.S. Dewal, K.M. Kitching, D.A. Sindeldecker, L.J. Goodyear, K.I. Stanford.** The Ohio State University and Joslin Diabetes Center. **(855.24)**

8:48 The Role of the Unfolded Protein Response in Mediating Adaptations to Exercise Responsiveness. **C.R. Hart, J-H. Koh, S. Dasari, A.Z. Lalia, I.R. Lanza.** Mayo Clinic. **(587.13)**

8:54 H1/H2 Histamine Receptor Blockade Lowers Substrate-Dependent Mitochondrial H_2O_2 Emission in Deep Gastrocnemius Muscle Following a Bout of Prolonged Exercise. **L.R. Davidson, H.E. Wallace, M.C. W. Bell, K. Brebner, D.A. Kane.** St. Francis Xavier University, Canada. **(618.11)**

9:00 Effects of Roux-En-Y Gastric Bypass Surgery on Mitochondrial Quality Control Proteins in Human Myotubes Derived from Severely Obese Humans. **B.N. Kugler, P.N. Gona, S.N. Saunders, S. Park, G. Dubis, J.A. Houmard, K. Zou.** University of Massachusetts Boston and East Carolina University. **(879.4)**

9:06 **Roundtable discussion.**

Sex and cardiometabolic disease from a translational perspective.

9:14 Sex Differences in Renal Inflammation and Injury in High Fat Diet Induced Hypertension in Dahl Salt Sensitive Rats. **R. Fernandes, H. Garver, J.J. Harkema, J.J. Galligan, G.D. Fink, H. Xu.** Michigan State University. **(850.5)**

9:20 Chronic 17β-Estradiol Supplementation Reduces Blood Pressure and Alters Renal Estrogen Receptor Expression in Female Growth-Restricted Rats in Later Life. **G.K. Davis, A. Cole, A.D. Newsome, N.B. Ojeda, B.T. Alexander.** University of Mississippi Medical Center. **(906.8)**

9:26 Estrogen Receptor Beta and G-Protein Coupled Estrogen Receptor Are Located and Activated on Microglia by Estrogen. **K. Dvorak, M. Boyer, M.J. Barnes, S.C. Clayton.** Des Moines University. **(885.22)**

9:32 A Novel Role for Hindbrain Astrocytes in Leptin-Mediated Energy Balance and the Development of Obesity. **L. Stein, R. Lhamo, A. Corini, A. Cao, J. Chen, M. Hayes.** University of Pennsylvania. **(604.7)**

9:38 Inflammatory Reproductive White Adipose Tissue Characterizes the Obese Preeclamptic-Like BPH Mouse Prior to Pregnancy. **K. Olson, D. Reijnders-Most, N. Douglas, L.M. Redman, J.L. Sones.** Louisiana State University School of Veterinary Medicine, Columbia University Medical Center and Pennington Biomedical Research Center. **(882.13)**

9:44 Local Angiotensin 1-7 Administration Augments Microvascular Endothelial Function in Women Who Have Had Preeclampsia. **A. Stanhewicz, L. Alexander.** Pennsylvania State University. **(845.1)**

9:50 **Roundtable discussion.**

182. REDOX BIOLOGY: A UNIFYING THEME IN THE ETIOLOGY OF HUMAN DISEASES

Symposium

(*Sponsored by:* Society for Redox Biology and Medicine (SFRBM))

Sun. 1:30 pm—San Diego Convention Center, Room 28DE

Chaired: A. Case

Cochaired: C. Kevil

Inflammation/Immunity

1:30 Chair's Introduction.

1:35 The NADPH oxidase NOX4 in endothelial function. **Katrin Schröder**. Goethe-University—Germany.

2:00 Reductive Stress Promotes Heart Failure in Mouse and Human**. R. Namakkal Soorappan**. The University of Alabama at Birmingham. **(771.2)**

2:15 Renal Hv1: A critical component of reactive oxygen species production outside the immune system? **Paul O'Connor.** Medical College of Georgia / Augusta University.

2:40 Ketone Salts Inhibit Production of Superoxide Anions During Normobaric and Hyperbaric Hyperoxia in Rat Solitary Complex Neurons**. C. Hinojo, G. Ciarlone, D. D'agostino, J. Dean**. University of South Florida. **(771.9)**

2:55 Concluding remarks.

183. ENAC PROTEINS AS MECHANOSENSORS IN ENDOTHELIAL AND VASCULAR SMOOTH MUSCLE CELLS

Symposium

(*Sponsored by:* Renal Section)

Sun. 1:30 pm—San Diego Convention Center, Room 25A

Chaired: H. Drummond

Cochaired: Z. Ashley

Cardiovascular

1:30 ENaC: An evolutionary model of mechano-electrical coupling. **Thomas Kleyman.** Universit of Pittsburgh.

1:50 Mechanotransduction in renal VSMCs is mediated by coupling of ENaC and TRP signaling. **Heather Drummond.** University of Mississippi Medical Center.

2:10 How do ENaCs sense mechanical force? Or extracellular Na^+ regulates ENaC function in blood vessels. **Shujie Shi.** University of Pittsburgh.

2:30 Shear force sensing of ENaC in endothelial cells requires N-glycans and the extracellular matrix. **Martin Fronius.** University of Otago,

184. SEX DIFFERENCES IN CENTRAL CIRCUITS

Symposium

(*Sponsored by:* CNS Section)

Sun. 1:30 pm—San Diego Convention Center, Room 26AB

Chaired: R. Wainford

Cochaired: K. Browning

Neuroscience

1:30 Sex based differences in the central responses to prenatal stress. **Tracy Bale.** University of Pennsylvania.

2:00 Sex based differences following early adverse life events. **Beverly Greenwood-Van Meerveld.** University of Oklahoma.

2:30 Sex differences in the brainstem and implications for GI function. **Yanyan Jiang.** Penn State.

185. ORGANOIDS: MODELLING CELL PHYSIOLOGY AND DISEASE IN 3D

Symposium

(*Sponsored by:* Cell and Molecular Physiology Section)

Sun. 1:30 pm—San Diego Convention Center, Room 28A

Chaired: N.A. Bradbury

Cochaired: N. Ameen

Cardiovascular

Inflammation/Immunity

Neuroscience

1:30 Introduction to organoid biology. **Neil Bradbury.** Chicago Medical School.
1:40 Human pancreatic organoids as a model for cancer. **David Tuveson.** Cold Spring Harbor Laboratory.
2:05 Directing stem cell differentiation in airway organoids. **Henry Danahay.** University of Sussex.
2:30 Getting organoids started in your own laboratory. **Ryan Condor.** StemCell Technologies.

186. AMERICAN JOURNAL OF PHYSIOLOGY HEART AND CIRCULATORY PHYSIOLOGY EDITORS SYMPOSIUM

Symposium

(*Sponsored by:* Cardiovascular Section)

Sun. 1:30 pm—San Diego Convention Center, Room 22

Chaired: I.H. Zucker

Cochaired: M. Lindsey

1:30 Disease modeling using hiPSC-derived differentiated cells: A platform for integrative physiology. **Ivor Benjamin.** Medical College of Wisconsin.
1:50 Gender difference in the development of cardiac amyloidosis. **Ronglih Liao.** Harvard Medical School.
2:10 The nervous heart: Insights into autonomic-mediated arrhythmias. **Crystal Ripplinger.** University of California at Davis.
2:30 Cerebromicrovascular aging: new mechanisms. **Zoltan Ungvari.** University of Oklahoma.

187. APS PRESIDENT'S SYMPOSIUM SERIES I. EXOSOMES: THE NEW FRONTIER. CELL BIOLOGY OF EXOSOMES

Symposium

President's Symposium Series

Sun. 1:30 pm—San Diego Convention Center, Room 20A

Chaired: L. O'Driscoll

1:30 Cellular regulation of exosome and other extracellular vesicles production and release. **Clotilde Théry.** INSERM U932
2:00 Characterization and analysis of exosomes/extracellular vesicles. **Jennifer Jones.** NCI, NIH.
2:30 Exosomes and intracellular signaling. **Riccardo Alessandro.** Univ. of Palermo.

188. NON-CANONICAL FUNCTIONS OF THE LUNG IN IMMUNITY AND HEMOSTASIS

Symposium

(*Sponsored by:* Respiration Section)

Sun. 1:30 pm—San Diego Convention Center, Room 27AB

Chaired: W.M. Kuebler

Cochaired: J.K. Juss

Inflammation/Immunity

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

1:30 Platelet biogenesis in the lung. **Mark Looney.** UCSF School of Medicine.
2:00 The lung as a source and effector site for factor XII. **Malgorzata Wygrecka.** University of Giessen.
2:30 Antigen-presentation in the lung. **Claudia Jakubzick.** National Jewish Health.

189. FROM GENE TO FUNCTION OF COMPLEX TRAITS: ANALYSIS OF GENES IDENTIFIED IN HUMAN GWAS AND ANIMAL MODELS

Featured Topic

(*Sponsored by:* Physiological Genomics Group)

Sun. 1:30 pm—San Diego Convention Center, Room 28B

Chaired: L. Solberg Woods

1:30 Learning About An Old Dog's New Tricks: The Role Of Glyoxalase 1 In Regulating Behavior And Gabaergic Signaling And How We Stumbled Across It. **Abraham Palmer.** University Of California San Diego.

2:00 The IMPC: A Global Scientific Infrastructure for Understanding the Role of Genes in Complex Traits. **V. Muñoz-Fuentes, T.F. Meehan, K. C.K. Lloyd, A-M. Mallon, D. Smedley, H. Parkinson.** European Bioinformatics Institute, United Kingdom, University of California, Davis, Medical Research Council Harwell, United Kingdom and Queen Mary University of London, United Kingdom. **(754.1)**

2:15 Characterization of Coding and Noncoding Variants for Human CKD Using Novel Strategies. **J.W. Prokop, N.C. Yeo, C. Ottmann, B.A. Link, E.M. Mendenhall, B.I. Freedman, J. Lazar, H.J. Jacob.** Michigan State University, Harvard Medical School, Eindhoven University of Technology, Netherlands, Medical College of Wisconsin, The University of Alabama in Huntsville, Wake Forest and HudsonAlpha Institute for Biotechnology. **(754.2)**

2:30 GNAI2 Polymorphic Variance Associates with the Salt-Sensitivity of Blood Pressure. **A.A. Frame, R.D. Wainford.** Boston University School of Medicine. **(754.3)**

2:45 Tick-Tock, Tick-Tock: Clock Gene Expression Is Altered in Sleep Apnea. **M. Holzworth, M. Canales, R. Berry, R. Beyth, M.L. Gumz.** University of Florida. **(585.2)**

190. COMPARATIVE AND EVOLUTIONARY PHYSIOLOGY SECTION TRAINEE-DRIVEN FEATURED TOPIC

Featured Topic

(*Sponsored by:* Comparative and Evolutionary Physiology Section)

Sun. 1:30 pm—San Diego Convention Center, Room 25C

Chaired: D. Crossley

Cardiovascular

1:30 Active NH [x2]$^{+}$ Excretion via $Na^{+}/Nh_4^{+}(H^{+})$ Exchange in the Highly Ammonia Tolerant Hagfish (Epatatretus Stoutii). **A.M. Clifford, M.P. Wilkie, S.L. Edwards, A. Weinrauch, G.G. Goss.** University of Alberta, Canada, Wilfrid Laurier University, Canada and Appalachian State University. **(602.5)**

1:45 Evolutionarily-Conserved Mechanisms of Nutrient Acquisition in the Primordial Vertebrate, the Pacific Hagfish. **A. Weinrauch, C. Glover, T. Blewett, A. Clifford, G. Goss.** University of Alberta, Canada and Athabasca University, Canada. **(602.6)**

2:00 Crude Oil Impairs Heart Cell Function in the Mahi-Mahi (*Coryphaena hippurus*). **R.M. Heuer, H.A. Shiels, G.L. J. Galli, G.K. Cox, J.D. Stieglitz, D.D. Benetti, M. Grosell, D.A. Crossley II.** University of Miami, University of Manchester, United Kingdom and University of North Texas. **(602.11)**

2:15 Paralytic Hypo-Energetic State Facilitates Anoxia Tolerance Despite Ionic Imbalance in Adult *Drosophila melanogaster*. **J.B. Campbell, M.K. Andersen, J. Overgaard, J.F. Harrison.** Arizona State University and Aarhus University, Denmark. **(602.4)**

2:30 Incomplete Caspase Signaling During Hibernation in the Golden-Mantled Ground Squirrel, *Spermophilus lateralis*. **M.D. Treat, F. van Breukelen.** University of Nevada, Las Vegas. **(602.2)**

2:45 Noradrenergic Tuning, Not Simple Rate Effects, Produces Temperature-Sensitivity of the Respiratory Network in Bullfrogs. **M. Vallejo, J.M. Santin, L.K. Hartzler.** Wright State University and University of Missouri. **(602.1)**

191. EXPLORING NOVEL MECHANISMS TO IMPROVE EXERCISE TOLERANCE IN HEALTH AND DISEASE

Featured Topic

(*Sponsored by:* Environmental and Exercise Physiology Section)

Sun. 1:30 pm—San Diego Convention Center, Room 25B

Chaired: R. Harris

Cochaired: J. Barnes

Cardiovascular

Inflammation/Immunity

Cancer and Therapy

1:30 Mechanism and consequences of O_2 supply limitations in heart failure. **Markus Amann.** University of Utah.

2:00 Central Cardiac Determinants of the Speed-Duration Relationship in Heart Failure Rats. **J.C. Craig, T.D. Colburn, J.T. Caldwell, D.M. Hirai, A. Tabuchi, J.H. Merino, C.J. Ade, D.C. Poole, T.I. Musch.** Kansas State University. **(853.15)**

2:15 Inorganic Nitrate Supplementation Improves Exercise Tolerance and Calf Vascular Function in Patients with Peripheral Artery Disease. **J. Bock, D. Treichler, K. Ueda, W. Hughes, D. Casey.** University of Iowa. **(853.2)**

2:30 Skeletal Muscle Parvin Regulates Exercise Tolerance and Glucose Homeostasis in Mice. **D.S. Lark, J.R. Kwan, L. Lantier, R. Zent, A. Pozzi, D.H. Wasserman.** Vanderbilt University. **(853.4)**

2:45 Acute Sildenafil Treatment Improves Exercise Capacity in Patients with Cystic Fibrosis. **V. Gonzalez, N. Siegler, R. Crandall, K.T. Mckie, C. Forseen, P. Rodriguez-Miguelez, M. Tucker, R.A. Harris.** Medical College of Georgia and Augusta University. **(853.5)**

192. CELL PLASTICITY AND REPAIR AND DISEASE MECHANISMS IN THE STOMACH, LIVER AND INTESTINE

Featured Topic

(*Sponsored by:* GI and Liver Physiology Section)

(*Cosponsored by:* AJP—Gastrointestinal and Liver Physiology)

Sun. 1:30 pm—San Diego Convention Center, Room 23ABC

Chaired: A.E. Zemper

Microbiome

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Cancer and Therapy

1:30 Intestinal stem cells in tissue repair. **Melissa Wong.** Oregon Health Science University.

2:15 Rapid Crypt Cell Remodeling Regenerates the Intestinal Stem Cell Niche After Stem Cell Loss Induced by Notch Inhibition. **N. Bohin, T.M. Keeley, A.J. Carulli, E.A. Carlson, J. Gao, I. Aifantis, M.W. Rajala, M.G. Myers, J.C. Jones, C.D. Brindley, P.J. Dempsey, L.C. Samuelson.** University of Michigan, New York University School of Medicine and University of Colorado School of Medicine. **(612.2)**

2:30 Microvillus Inclusion Formation in Myosin VB Knockout Mice Occurs Through Apical Bulk Endocytosis and Requires Syndapin 2. **A.C. Engevik, J. Faust, M. Tyska, J.R. Goldenring.** Vanderbilt University School of Medicine and Vanderbilt University. **(612.4)**

2:45 Deletion of Claudin-7 Disrupts Epithelial Cell Self-Renewal in Mouse Colon. **T. Xing, L. J. Benderman, S. Sabu, Y. Chen.** Brody School of Medicine, East Carolina University and East Carolina University. **(612.1)**

3:00 Effect of EGFR on Calcium Mobilization and Epithelial Repair in Gastric Organoids. **K. Engevik, E. Aihara, A. Matthis, M. Montrose.** University of Cincinnati. **(612.3)**

3:15 Determining the Mechanism by Which PRDM16 Maintains the Adult Small Intestinal Epithelium. **R. Stine, P. Seale.** University of Pennsylvania. **(612.5)**

193. INNATE AND ADAPTIVE IMMUNITY IN CARDIOVASCULAR PHYSIOLOGY

Featured Topic

(*Sponsored by:* Cardiovascular Section)

Sun. 1:30 pm—San Diego Convention Center, Room 24AB

Chaired: M. Madhur

Cochaired: D. Cornelius

Cardiovascular

1:30 Macrophage phenotypic modulation in coronary artery disease. **Cornelia Weyand.** Stanford University.

2:00 A Crucial Role for Interleukin-18/IL-18R Signalling Axis in the Development of Renal Inflammation and Elevated Blood Pressure in 1 Kidney/DOCA/Salt-Induced Hypertension. **J.M. Thomas, Y. H. Ling, S. Murali Krishnan, D. Ferens, S. Masters, B. Kemp-Harper, A. Mansell, C. Sobey, A. Vinh, G. Drummond.** La Trobe University, Australia, Monash University, Australia, Walter and Eliza Hall Institute of Medical Research, Australia and Hudson Institute of Medical Research, Australia. **(718.15)**

2:15 Leptin Restores Endothelial Function, Reduces Vascular Inflammation but Not Vascular Remodeling in Mouse Models of Congenital and Acquired Lipodystrophy via Anti-Oxidant Properties. **T. Bruder do Nascimento, J. Faulkner, W. Chen, E.J. Belin de Chantemèle.** Augusta University. **(718.9)**

2:30 CD8 T-Cells Have a Biphasic Role During Post-Myocardial Infarction Cardiac Remodeling. **K.Y. DeLeon-Pennell, M.L. Lindsey, E. Flynn, D.R. Menick.** University of Mississippi Medical Center and Medical University of South Carolina. **(718.5)**

2:45 High Salt Promotes Human Monocytes Activation in Vitro and in Vivo. **N. Ruggeri Barbaro, J.D. Foss, A. Alsouqi, R. Loperena, J. Van Beusecum, M. Ao, F. Elijovich, C.L. Laffer, W. Chen, A. Ikizler, D.G. Harrison, A. Kirabo.** Vanderbilt University. **(718.17)**

194. EPIGENETIC MEMORY OF ENVIRONMENTAL EXPOSURE: A PHYSIOLOGICAL PERSPECTIVE

Symposium

(*Sponsored by:* Environmental and Exercise Physiology Section)

Sun. 3:30 pm—San Diego Convention Center, Room 25B

Chaired: A. Murashov

Cochaired: T.L. Clanton

3:35 Molecular Mechanisms of Epigenetic Regulation. **Scott B. Rothbart.** Van Andel Res. Inst., Grand Rapids, MI.

3:53 Ancestral paternal nutrition and modulation of cancer risk and phenotype. **Sonia de Assis.** Georgetown University Medical Center.

4:10 Mechanisms underlying the nutritional programming of cardio-metabolic health. **Susan Ozanne.** University of Cambridge.

4:30 Mechanisms underlying developmental programming of thrifty phenotype. **Alexander Murashov.** East Carolina University.

195. INTERSECTION OF CENTRAL PAIN AND REWARD CIRCUITRY IN CNS DISORDERS

Symposium

(*Sponsored by:* CNS Section)

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 28A

CHAIRED: S. EDWARDS

COCHAIRED: M. ROBERTO

3:30 Neuroinflammation caused by chronic pain alters limbic circuitry: Implications for pain and mood disorders. **Catherine Cahill.** University of California—Irvine.

4:00 Role of the opioid system in the reward pathway in pain-induced negative affect. **Jose Moron-Concepcion.** Washington University in St Louis.

4:30 Neurobiology of pain and negative reinforcement in drug addiction: New translational targets. **Amanda Pahng.** LSU Health New Orleans.

196. JOHN FORTE GIL PLENARY SESSION

Featured Topic

(*Sponsored by:* GI and Liver Physiology Section)

(*Cosponsored by:* AJP—Gastrointestinal and Liver Physiology)

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 28DE

CHAIRED: J. UNO

COCHAIRED: M. FREY

3:30 Protective Effects of Human Milk Oligosaccharides on Intestinal Epithelial Function Assessed in Enteroid-Derived Monolayers. **A. Drobny, S. R. Ibeawuchi, S. Das, L. Bode, K.E. Barrett.** University of California and San Diego. **(873.22)**

3:45 Enteroglial Adenosine A2b Receptor Signaling Contributes to Local Cytokine Production and Delays Functional Recovery Following Acute Inflammation in the Mouse Colon. **V. Grubisic, H.K. Eltzschig, B.D. Gulbransen.** Michigan State University, Dell Medical School and The University of Texas at Austin. **(871.8)**

4:00 Gene Expression Analysis of the Effect of Microbial Tryptophan Metabolites on T-Cell Differentiation. **C. Cheng, S. Steinmeyer, A. Jayaraman, R. Alaniz.** Texas A&M University. **(613.2)**

4:15 Targeting the Prolactin Receptor Signaling Using an Antipsychotic Drug to Suppress Pancreatic Cancer. **P. Dandawate, G. Kaushik, D. Subramaniam, P. Ramamoorthy, C. Ghosh, S. Choudhury, D. Standing, A. Dhar, S.M. Thomas, S. Santimukul, S. Padhye, O. Tawfik, S. Weir, R.A. Jensen, S. Anant.** University of Kansas Medical Center, Pittsburg State University and Abeda Inamdar Senior College, India. **(610.3)**

4:30 Hypoxia Inducible Factor (HIF)-1 Accelerates Epithelial Wound Healing Through Regulation of Integrin-$\alpha5\beta1$. **B. Goggins, K. Minahan, A. Mathe, G. Liu, M. Walker, J. Horvat, D. Knight, S. Keely.** University of Newcastle and Hunter Medical Research Institute, Australia. **(761.4)**

4:45 Fish-Oils Protect Against Hepatic Inflammation Following LPS Stimulation. **M.L. Schaller, D.R. Kamm, M.P. Harris, K.A. Witt, K.E. Sandoval, J.S. Wooten.** Southern Illinois University Edwardsville. **(760.8)**

197. PSYCHOLOGICAL STRESS DISORDERS: NOVEL CONCEPTS AND MECHANISMS

Featured Topic

(*Sponsored by:* Neural Control and Autonomic Regulation Section)

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 25C

CHAIRED: R. SABHARWAL

COCHAIRED: A.K. JOHNSON

Neuroscience

3:30 Contributions of the renin-angiotensin system in psychological stress. **Juan Saavedra.** Georgetown University Medical Center.

4:00 Activation of Angiotensin Type 2 Receptor (AT2R) Contributes to Fear Memory. **Z. Yu, A.P. Swiercz, L. Hopkins, E.G. Krause, P.J. Marvar.** George Washington University and University of Florida. **(737.11)**

4:15 Differences in Excitatory and Inhibitory Balance Within the Paraventricular Nucleus Reflects Response Variability to Acute Stress. **M.M. Knuepfer, H. Zheng, N.B. Hoffman-Schepers, N.M. Sharma, K.P. Patel.** St. Louis University School of Medicine and University of Nebraska Medical Center. **(737.9)**

4:30 T Cell Inhibition During Pregnancy Prevents Post-Partum Anxiety-Like Behavior in Rats with a History of Severe Preeclampsia/HELLP Syndrome. **K. Wallace, T. Bowles, S-K. Spencer, C. Bean.** University of Mississippi Medical Center. **(737.6)**

4:45 Prehypertension Augments Autonomic Imbalance in Post-Traumatic Stress Disorder (PTSD). **I.T. Fonkoue, J. Kang, P. Marvar, J. Park.** Emory University and George Washington University. **(737.8)**

198. COMMUNICATION AND MISCOMMUNICATION IN LUNG INJURY AND REPAIR

Featured Topic

(*Sponsored by:* Respiration Section)

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 25A

CHAIRED: M. KOVAL

COCHAIRED: K. BIRUKOV

Inflammation/Immunity

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

3:30 Vascular niche modulates lung regeneration and Fibrosis. **Bi-Sen Ding.** Weill Cornell Medical College.

4:00 Modulation of Myeloid Cell Recruitment and Activation by Alveolar Epithelial Type 2 Cells Drives Early Inflammation in a Murine Model of Mutant Surfactant Protein-C Pulmonary Fibrosis. **A. Venosa, Y. Tomer, M. Kopp, S. Jamil, M.F. Beer.** University of Pennsylvania. **(746.4)**

4:15 Lung Immune Regulation by Vectorial Transport of Endothelial Mitochondria. **M.N. Islam, D.J. Rowlands, G. Gusarova, J. Bhattacharya.** Columbia University and Novartis Institute of Biomedical Research. **(746.7)**

4:45 Endothelial Caveolin-1 Positive Microvesicles and Apoptotic Bodies as Early Biomarkers of Acute Lung Injury and Possible Mediators of TGF-β-Mediated Repair/Remodeling. **S. D. S. Oliveira, M. Castellon, R. Machado, M.G. Bonini, R. Minshall.** University of Illinois at Chicago and Indiana University. **(746.3)**

5:00 PTEN Suppresses Epigenetic Modulation of ERG Transcription Factor to Maintain Endothelial Lineage and Vascular Integrity. **V. A. B. R., M. Anwar, J. C. Joshi, T. Mohammad, F. Mohammad, L. Yue, D. Mehta.** University of Illinois at Chicago. **(746.9)**

199. MICROGLIA AS EFFECTORS OF RESPIRATORY PLASTICITY IN HEALTH AND DISEASE

Featured Topic

(*Sponsored by:* Respiration Section)

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 28B

CHAIRED: R. KINKEAD

COCHAIRED: F. POWELL

Neuroscience

Inflammation/Immunity

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

3:30 Dark microglia and pathological remodeling of neuronal circuits. **Marie-Ève Tremblay.** Université Laval.

4:00 Inflammation Differentially Impacts Phrenic Long-Term Facilitation (PLTF) in Rats with Motor Neuron Death Induced by Intrapleural CTB-Saporin Injections. **N.L. Nichols, M.A. Tanner.** University of Missouri. **(625.17)**

4:15 Is Regulation of Microglial Functions by T3 Dependent on the Micro-Environment?: Insights from the Brainstem Respiratory Control Network of Newborn Mice. **J-P. Rousseau, K. Kitazono, Y. Yoshioka, M. Noda, R. Kinkead.** Université Laval, Canada and Kyushu University, Japan. **(625.16)**

4:30 Gestational Intermittent Hypoxia Induces Neuroinflammation and Impairs Compensatory Respiratory Plasticity in Adult Offspring. **A. Meza, M. Gumnit, A. Ewald, K. Braegelmann, E.A. Kiernan, J.N. Ouellette, S.M. Johnson, J.J. Watters, T. Baker.** University of Wisconsin—Madison. **(625.18)**

4:45 Hypoxia-Induced Pulmonary Hypertension in CS3CR1-Deficient Mice Correlates with Decreased Microglia Activation. **A.C. Oliveira, V. Aquino, R.K. Sharma, G. Lobaton, J.K. Harrison, E.M. Richards, M.K. Raizada.** University of Florida. **(625.19)**

200. ERNEST H. STARLING DISTINGUISHED LECTURESHIP OF THE WATER AND ELECTROLYTE HOMEOSTASIS SECTION

Lecture

(*Sponsored by:* Water and Electrolyte Homeostasis Section)

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

3:30 Diet, inflammation, and hypertension. **David Mattson.** Med. Col. of Wisconsin.

201. CLAUDE BERNARD DISTINGUISHED LECTURESHIP OF THE APS TEACHING OF PHYSIOLOGY SECTION

Lecture

(*Sponsored by:* Teaching of Physiology Section)

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 26AB

Education

Career and Professional Development

Diversity in Science

Made possible in part by APS Strategic Partner ADInstruments

3:30 Transformations: Paths to student-centered, evidence-based physiology education. **Jenny McFarland.** Edmonds Community Col.

202. HUGH DAVSON DISTINGUISHED LECTURESHIP OF THE APS CELL AND MOLECULAR PHYSIOLOGY SECTION

Lecture

(*Sponsored by:* Cell and Molecular Physiology Section)

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 27AB

Emerging Technologies

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Cancer and Therapy

3:30 Confessions of a long-term extra-marital affair with bicarbie. **Paul Quinton.** UCSD.

203. KALEY AWARD FEATURED TOPIC: CEREBRAL VASCULAR DYSFUNCTION AND IMPAIRED COGNITIVE FUNCTION

Featured Topic

(*Sponsored by:* Cardiovascular Section)

(*Cosponsored by:* Microcirculatory Society)

SUN. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 22

CHAIRED: R. ROMAN

COCHAIRED: Z. UNGVARI

3:30 20-HETE, vascular dysfunction, hypertension and susceptibility to kidney disease and impaired cognitive function. **Richard Roman.** Univ. of Mississippi Med. Ctr.

4:00 Elevated Aortic Stiffness Is Associated with Weaker Executive Function in Individuals with Lower Cognitive Reserve via Reductions in Frontal Cerebrovascular Reserve. **L.E. DuBose, D.J. Moser, L.L. Boles Ponto, G.L. Pierce.** University of Iowa. **(711.3)**

4:15 Pharmacologically-Induced Impairment of Neurovascular Coupling Responses Alters Gait Coordination in Mice. **S. Tarantini, A. Yabluchanskiy, G.A. Fulop, P. Hertelendy, M.N. Valcarcel-Ares, T. Kiss, J.M. Bagwell, D. O'Connor, E. Farkas, F. Sorond, A. Csiszar, Z. Ungvari.** University of Oklahoma Health Sciences Center, University of Szeged, Hungary and Northwestern University. **(711.9)**

4:30 Obesity in Aging Exacerbates Neuroinflammation and Alters Eicosanoid Profiles in the Mouse Hippocampus: Potential Role in Impaired Synaptic Plasticity and Cognitive Decline. **T. Kiss, M.N. Valcarcel-Ares, A. Yabluchanskiy, S. Tarantini, F. Deak, Z. Ungvari, A. Csiszar.** University of Oklahoma Health Sciences Center. **(711.7)**

4:45 Endogenous Renin-Angiotensin System Activation Causes Accelerated Cerebral Vascular Dysfunction in Mice Expressing Dominant-Negative Mutations in PPARγ in Endothelium. **A.R. Nair, L.N. Agbor, M. Mukohda, X. Liu, C. Hu, J. Wu, C.D. Sigmund.** University of Iowa. **(711.13)**

204. APS DAVID BRUCE UNDERGRADUATE POSTER SESSION

Poster Discussion

(*Sponsored by:* APS Education Committee)

SUN. 4:00 PM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

The APS David Bruce Undergraduate Poster Session is a special poster session held during Experimental Biology for physiology undergraduates. This session is held in addition to the regularly programmed scientific session in which all researchers participate.

Graduate departments and programs will also be on site to talk to students about various opportunities at their institutions.

205. WEH NEW INVESTIGATOR AWARD LECTURE

Lecture

(*Sponsored by:* Water and Electrolyte Homeostasis Section)

SUN. 4:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 23ABC

4:30 WEH New Investigator Award Lecture. **M. Madhur.** Vanderbilt Univ.

206. PHYSIOLOGY IN PERSPECTIVE: THE WALTER B. CANNON MEMORIAL AWARD LECTURE

Lecture

(Supported by Sucampo AG)

APS

SUN. 5:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 20A

5:30 The roles of Ca^{2+} and ATP in pancreatic physiology and pathophysiology. **Ole Petersen.** Cardiff University.

MONDAY, APRIL 23

Across Societies

207. NIH F AWARDS: NAVIGATING NIH PROGRAMS TO ADVANCE YOUR CAREER

Workshop

Mon. 9:00 am—San Diego Convention Center, Room Room 31A

Career and Professional Development

This presentation will focus on the NIH's Ruth L. Kirschstein National Research Service Awards (NRSA). The NRSA research training fellowship (F) awards are targeted to individuals with or seeking research doctoral degrees (Ph.D. and equivalent) and clinical doctoral degrees (M.D. and equivalent). Among the F awards discussed will be the F30, NRSA Individual Predoctoral MD/PhD or Other Dual-Doctoral Degree Fellowship Award, the F31 NRSA Individual Predoctoral Fellowship, the F31 NRSA Individual Predoctoral Fellowship to Promote Diversity in Health-Related Research Award, the F32 NRSA Individual Postdoctoral Fellowship Award, and the NRSA Individual Senior Fellowship 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 pre- and postdoctoral fellows and senior investigators.

9:00 Speaker. **M. Matthews.** NIH.

208. POSTER/ORAL PRESENTATION PRACTICE & MENTORING SESSIONS

Workshop

Mon. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, Peer Mentor Pod

Career and Professional Development

FASEB Diversity Resources Program will sponsor Presentation Practice & Mentoring Sessions beginning Saturday, April 21, to provide FASEB DREAM poster/oral presentation travel award recipients and other interested EB2018 student/postdoc attendees with an opportunity to practice their presentations and obtain feedback from designated Workshop Mentors/Coaches. If you would like to participate in the poster/oral presentation & mentoring sessions, sign-up by using the following link, http://bit.ly/EB18SignUp1on1Session.

209. CAREER CORNER SESSIONS WITH DR. ADAMS

Workshop

Mon. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, Career Corner

Career and Professional Development

Drop in or sign-up for one-on-one or group sessions for career counseling/career planning sessions with Dr. Howard G. Adams in between his presentations in the EB2018 Career Center. Dr. Adams will be available in the "Career Corner" in the EB2018 Career Center located in Hall D beginning on Saturday, April 21. Sign-up by using the following link, http://bit.ly/EB18SignUp1on1Session.

210. ONE-ON-ONE RESUME CRITIQUE/CV, CAREER COUNSELING, ESSAY PERSONAL STATEMENT ASSESSMENTS

Workshop

Mon. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, Career Counseling Room

Career and Professional Development

One-on-one sessions for CV/resume critiques, career counseling, and essay/personal statement assessments will begin on Saturday, April 21. If you're interested in a one-on-one, advance sign up will start on Sunday, April 1. Sign-up by using the following link, http://bit.ly/EB18SignUp1on1Session.

211. DEVELOPING YOUR CORE MESSAGE STATEMENT/"ELEVATOR SPEECH"

Workshop

Mon. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

You can talk about yourself as a professional scientist with confidence, clarity, and comfort as you advance your career. Your core message statement is a brief spoken statement (30-second mini-abstract) about you that lets people know who you are as a professional, what you do well, and what you expect to contribute. It is a well-prepared answer to the question, "Tell me a little bit about yourself." A positive core message statement helps open doors for connection, collaboration, and employment. This seminar will provide guidance in a safe place to develop and practice your statement.

9:00 Speaker. **J. Lombardo.** LifeWork Choices.

212. GOAL SETTING, PRIORITIZING, TIME MANAGEMENT

Workshop

Mon. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

Most students have dreams and aspirations regarding academic, career and life ambitions. However, too often many fall short of realizing their dreams for lack of established goals and prioritized action steps. So they are left with questions such as these: 1) what am I going to do with the rest of my life? 2) What are my academic/career goals and objectives? and 3) How do I use my time wisely to get from where I am now to where I want to be in the future?

This seminar is designed to answer these questions in the context of goal setting, prioritizing, time, and stress management. Key topics: Decoding the Goals Setting Process, Prioritizing to Determine what is Important, Translating Goals into Time Based Action Steps, Time Management and Avoiding Procrastination, Handling Stress and Anxiety.

9:00 Speaker. **H. Adams.** H.G. Adams & Assoc., Norfolk, VA.

213. NETWORKING AND GETTING YOUR FOOT IN THE DOOR

Workshop

Mon. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

9:00 Speaker. **J. Sterling.** KGI, Claremont, CA.

214. CAREER OPPORTUNITIES IN SCIENCE COMMUNICATIONS

Workshop

Mon. 10:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

Do you enjoy talking about science more than doing it? Are you the person your labmates ask to edit their manuscripts? Are you a podcast junkie, and wonder how they do it? This career session will explore careers in science communication. In science journalism, institutional communication and multimedia careers, you use your science training to make a living talking about science. If it sounds like a dream come true, then this workshop is for you.

10:00 Speaker. **E. Hayden.** Univ. of California, Santa Cruz.

215. JOB HUNTING IN BIOTECH PART 3: COMPENSATION NEGOTIATION FOR SCIENTIST POSITIONS

Workshop

Mon. 10:30 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

So you've landed a job offer for an industry scientist position! Now, how do you know if the compensation package is competitive, and how do you ask for more? In this seminar you will learn how to:

- Separate out the typical components of an industry job offer letter, so you know what to ask for
- Determine if an offer is competitive and when to ask for more
- Ask for additional compensation in a way that represents your interests while maintaining positive relationships.

(This is part 3 of a 3-part series. Each seminar can be taken separately, but together they provide comprehensive information about the industry job search process.)

10:30 Speaker. **B. Lindstaedt.** UCSF.

216. IDENTIFYING YOUR OPTIONS USING MYIPD + LINKEDIN

Workshop

Mon. 10:30 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

This presentation is designed to provide you with strategies and resources for beginning to think about what kinds of professional options outside of academia might be a good match for your skills and interests, and how to gain access to additional information about those career possibilities that will help clarify which options warrant further interest and investigation.

10:30 Speaker. **A. Green.** Univ. of California, Berkeley.

217. CONSTRUCTING YOUR ELEVATOR PITCH WORKSHOP (PRESENTED BY ASBMB OUTREACH COMMITTEE)

Workshop

Mon. 12:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

This interactive workshop will guide you through the process of creating and delivering an effective statement. Presenters will discuss real-life approaches to communication that work (and don't work) and offer plenty of opportunities for practice and feedback. The skills you'll gain are not just valuable for communicating with the lay public but with other academics, government officials and potential employers as well.

12:00 Speaker. **ASBMB Outreach Committee.**

218. JOB HUNTING IN BIOTECH PART 1: FINDING & APPLYING FOR SCIENTIST POSITIONS

Workshop

Mon. 1:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

In this seminar, you will learn how to prepare resumes and cover letters so you will be ready to search for research jobs in the biotech/pharma industry. Then, you will learn how to find and connect with scientists working at companies. Finally, you will learn how to execute job search strategies necessary for success on the biotech/pharma job market. After this seminar you will understand how to conduct the four job hunting techniques that comprise a comprehensive job search in the biotech industry.

(This is part 1 of a 3-part series. Each seminar can be taken separately, but together they provide comprehensive information about the industry job search process.)

1:00 Speaker. **B. Lindstaedt.** UCSF.

219. BUILDING YOUR JOB SEARCH SKILLS: NETWORKING & INFORMATION INTERVIEWS

Workshop

Mon. 1:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

You've begun to identify some potential new career paths, but how do you build on these sparks of interest, learn more about the day-to-day content of a given field, and find individuals working in that career who can answer your questions and help you build a network in your emergent profession. This presentation will discuss how to utilize LinkedIn, professional associations, and other networking opportunities to increase your knowledge base and create opportunities for informational interviews.

1:00 Speaker. **A. Green.** Univ. of California, Berkeley.

220. SUCCESSFUL BEHAVIORS FOR WINNING AN INTERVIEW

Workshop

Mon. 1:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

Eye contacts, 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 seminar, 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.

1:00 Speaker. **J. Blumenthal.** Montgomery Col., Rockville, MD and Univ. of Maryland Univ. Col., Adelphi, MD.

221. NIH K AWARDS: NAVIGATING NIH PROGRAMS TO ADVANCE YOUR CAREER

Workshop

Mon. 11:30 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

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.

1:30 Speaker. **M. Matthews.** NIH.

222. MAKING THE CASE FOR GRADUATE SCHOOL

Workshop

Mon. 2:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

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, an 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/options; 3) how-to negotiate the graduate school admission and financial aid process, and 4) placing graduate studies in one's overall academic/career/life plans. Key topics: Making the Case for Graduate School, The Application/Admissions Process, funding for Graduate Work, and Putting the Pieces Together for a Smart Application.

2:00 Speaker. **H. Adams.** H.G. Adams & Assoc., Norfolk, VA.

223. JOB SEARCH IN ACADEMIA & INDUSTRY

Workshop

Mon. 2:30 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

Are you on the market for both academic and industry jobs, but aren't sure where to start? Learn strategies for successfully navigating the two-track job search. Topics: Organizing your search, timelines/logistics, researching employer organizations, presenting your qualifications and evaluating job offers.

2:30 Speaker. **D. Behrens.** Univ. of California, Berkeley.

224. CAREER OPPORTUNITIES IN SCIENCE COMMUNICATIONS

Workshop

Mon. 2:30 pm—San Diego Convention Center, Hall D, EB 2018 Career Center CRC-3

Career and Professional Development

Do you enjoy talking about science more than doing it? Are you the person your labmates ask to edit their manuscripts? Are you a podcast junkie, and wonder how they do it? This career session will explore careers in science communication. In science journalism, institutional communication and multimedia careers, you use your science training to make a living talking about science. If it sounds like a dream come true, then this workshop is for you.

2:30 Speaker. **E. Hayden.** Univ. of California, Santa Cruz.

225. TEN WAYS TO GET LUCKY IN THE JOB SEARCH

Workshop

Mon. 3:30 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

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.

3:30 Speakers. **P. Clifford, J. Lombardo.** Univ. of Illinois at Chicago, LifeWork Choices.

226. JOB HUNTING IN BIOTECH PART 2: INTERVIEWING FOR SCIENTIST POSITIONS

Workshop

Mon. 4:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

This seminar is designed to help you improve your interview skills so that you will be better prepared to land a scientist position in industry. At the end of the seminar, you will be able to:

- Respond effectively to the most common questions asked during industry interviews,
- Answer behavior-based questions in an organized manner,
- Begin and end the interview experience with poise and professionalism.

(This is part 2 of a 3-part series. Each seminar can be taken separately, but together they provide comprehensive information about the industry job search process.)

4:00 Speaker. **B. Lindstaedt.** UCSF.

227. MAKING THE GRADE: JOB TALK/CHALK TALK

Workshop

Mon. 4:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

Participants will learn to plan, structure and deliver an effective job talk. This seminar will key elements of the job talk and finally, how to capture the interest of a diverse (faculty, administrators, students) audience.

4:00 Speaker. **D. Behrens.** Univ. of California, Berkeley.

228. ATTITUDE & BEHAVIORS: HOW ARE YOU PERCEIVED?

Workshop

Mon. 4:30 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

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.

4:30 Speaker. **J. Blumenthal.** Montgomery Col., Rockville, MD and Univ. of Maryland Univ. Col., Adelphi, MD.

Anatomy

229. STEM CELLS IN HUMAN DEVELOPMENT AND DISEASE

Lecture

Mon. 8:30 am—San Diego Convention Center, Room 8

Chaired: M. Dunnwald

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Cell Biology

8:35 **229.1** Organ Regeneration and Anti-Aging Strategies. **J.C. Izpisua Belmonte.** Salk Institute for Biological Studies.

9:15 Human Pluripotent Stem Cells to Model and Treat Neurological Disorders. **L. Studer**. Memorial Sloan Kettering Cancer Center

230. BIOENGINEERED AND BIOLOGICAL SCAFFOLDS: WHAT'S NEW?

Symposium

Mon. 10:30 am—San Diego Convention Center, Room 11B

Chaired: B.J. Rongish

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

10:30 **230.1** Functionalizing Protein-Based Materials with Biomolecules. **S. Bondos, D. Howell, S-P. Tsai, K. Bayless**. Texas A&M Health Science Center.

11:00 Building Tissues One Leaf at a Time. **Tanja Dominko.** Worchester Polytechnic Institute.

11:30 **230.2** Biological Scaffolds That Mimic Function and Structure of Basement Membranes. **R.C. Ogle.** Old Dominion University.

231. REALISTIC AND TESTABLE MODELS IN COMPARATIVE ANATOMY: CREATIVE USES OF 3D/4D IMAGING TECHNIQUES

Symposium

Mon. 10:30 am—San Diego Convention Center, Room 11A

Cochaired: M. Osborn and D.G.G. Homberger

Imaging

10:30 **231.1** Applications of Non-Destructive 3D Data Acquisition and Processing for Biomechanical Computation, Soft Tissue Visualization, and 4D Real-Life Animation. **D.G. Homberger.** Louisiana State University.

11:00 **231.2** Three-Dimensional Reconstruction for Study of the Functional Design of the Avian Lung. **J.N. Maina.** University of Johannesburg, South Africa.

11:30 **231.3** Bioacoustics, Innovation, and Ecomorphology in Marine Vertebrates. **T.W. Cranford, P. Krysl.** San Diego State University, University of California, San Diego.

232. DEVELOPMENTAL BIOLOGY AWARD HYBRID SYMPOSIUM

Symposium

Mon. 10:30 am—San Diego Convention Center, Room 9

Chaired: M. Barna

Developmental Biology/Morphology

H.W. Mossman Award Lecture in Developmental Biology featuring 2018 Young Investigator Award Recipient, Maksim Plikus

10:30 **232.1** Anatomical and Functional Landscapes of Hair Regeneration Across the Body. **M. Plikus, Q. Wang, J.W. Oh, Q. Nie.** University of California, Irvine and Kyungpook National University, Republic of Korea.

11:00 **232.2** Examining the Correlation Between Cellular and Gross Morphological Changes in the Developing Mouse Skull. **S.G. E. Jarvis, J.E. Lee, G.M. Kelly, K.E. Willmore.** Western University, Canada.

11:15 **232.3** Diastolic Dysfunction Is Generated in Mice with Knockout of Smoothelin-Like 1 Protein. **M. Murali, D. Belke, S.R. Turner, M. Chappellaz, W.C. Cole, J.A. MacDonald.** University of Calgary, Canada.

11:30 **232.4** Complete Regeneration of a Camera-Type Eye in the Research Organism *Pomacea canaliculata*. **A. Accorsi, E. Ross, M. McClain, S. McKinney, A. Sánchez Alvarado.** Stowers Institute for Medical Research.

11:45 **232.5** Depletion of Cranial Suture Stem Cells by Pharmacological Exposures May Precipitate Premature Suture Fusion. **E. Durham, R.N. Howie, A. LaRue, J. Cray.** Medical University of South Carolina.

233. ANATOMY EDUCATION PLATFORM 2—CLINICAL ANATOMICAL EDUCATION

Symposium

Mon. 10:30 am—San Diego Convention Center, Room 8

Cochaired: N. Lachman and C. Ramnanan

Education

10:30 Are Clerks Ready for Clerkship? Third Year Medical Students' Anatomical Science Knowledge vs. Clerkship Director Expectations. **M.E. Norris, K.A. Rogers, C.M. Martin.** Western University, Canada. **(504.11)**

10:45 **233.1** Essential Anatomy for Residency: Implications for Medical Student Education. **M. Hankin, I. Niculescu, J. Martindale, A. Aschmetat, A. Mertens, E. Soltero, P. Emmanuel.** Oregon Health & Science University, Oakland University William Beaumont Hospital and University of Virginia School of Medicine.

11:00 **233.2** Effect of Anatomical Radiology Team-Based Learning on Student Ability to Recognize Imaging Findings Critical to Medical Practice. **S. Williams, X.L. Pereira-Reyes, M.C. Weidenhaft, M.L. Korndorffe**r. Tulane University School of Medicine

11:15 Evaluation of Critical Thinking Skills in the Anatomy and Development Components of the First Year Medical School Curriculum. **R.E. Corbitt, A. Hryniuk, C.A. Nichols, A.C. Edmondson.** Medical College of Georgia at Augusta University. **(504.12)**

11:30 **233.3** Enhancing Anatomy Education Through Student-Led Team Dynamics Initiatives. **C. Sanky, R. Fallar, M. Cruz, J.S. Reidenberg, J.T. Laitman.** Icahn School of Medicine at Mount Sinai and Bentley University.

11:45 **233.4** Interactive Cases Using the Medical Stories of a Living Anatomical Donor. **C. Elzie, L. Wellman, F. Ortiz, R.M. Clark, C.W. Goodmurphy.** EVMS and Eastern Virginia Medical School.

234. SPECIMEN QUALITY DRIVES REPRODUCIBILITY

Symposium

Mon. 2:00 pm—San Diego Convention Center, Room 11B

Chaired: D.L. Rosene

Guest session sponsored by The Histochemical Society

Emerging Technologies

Genomics, Proteomics

Imaging, Immunohistochemistry and Microscopy

Neuroscience

2:00 Long-term Cryopreservation and Batch Processing for Quantitative Histochemistry. **D. Rosene.** Boston University School of Medicine.

2:30 Tissue Preservation, Matching Mechanism to Utility. **S. Hewitt.** National Cancer Institute.

3:00 The Biophysics of Freezing Tissue. **A. Hubbel.** University of Minnesota.

235. SEX DIFFERENCES IN STRUCTURE AND FUNCTION OF THE CARDIOVASCULAR SYSTEM

Symposium

Mon. 2:00 pm—San Diego Convention Center, Room 11A

Chaired: V. Miller

Cardiovascular

2:00 **235.1** Sex Differences in Sympathetic Control of Vascular Tone: Influences of Aging. **N. Charkoudian.** US Army Research Institute of Environmental Medicine.

2:30 **235.2** Sex-specific Conditions Affecting Vascular Tone, Cerebral Blood Flow and Cognition. **J.N. Barnes.** University of Wisconsin-Madison.

3:00 **235.3** Sex Differences in Remodeling of the Failing Heart. **G. Kararigas.** Charite University Hospital, Germany.

236. USING STEM CELLS TO UNDERSTAND AND TREAT DISEASE

Symposium

Mon. 2:00 pm—San Diego Convention Center, Room 9

Chaired: B. Allman

Cell Biology

2:00 pm Dynamics of Skeletal Muscle Stem Cells during Tissue Repair and Maintenance. **A. Sacco.** Sanford Burnham Prebys Medical Discovery Institute

2:30 pm **A. Bratt-Leal.** The Scripps Research Institute

3:00 **236.1** Stem Cell Biology of Airway Submucosal Glands during Development and Disease. **J.F. Engelhardt.** University of Iowa.

237. FASCIA, WHAT IS IT GOOD FOR? ABSOLUTELY EVERYTHING: RESEARCH, EDUCATIONAL, AND CLINICAL PERSPECTIVES

Symposium

Mon. 2:00 pm—San Diego Convention Center, Room 8

Cochaired: K. Cassidy and R.L. Pratt

Education

2:00 **237.1** Clinical Aspects and Cellular Mechanisms of Fascia, Their Interactions, and Importance in Medicine. **T. Findley.** Rutgers New Jersey Medical School.

2:45 **237.2** Educational Avenues to Promote Fascia Dialog in Medical Curricula. **R. Pratt.** Michigan State University.

3:10 **237.3** Myofascial Pathologies, Their Treatment, and the Importance of Patient Education. **K. Schabacker.**

238. DO YOU HAVE AN ANATOMICALLY-CORRECT MODEL FOR YOUR RESEARCH?

Symposium

Mon. 4:00 pm—San Diego Convention Center, Room 11B

Chaired: B. Singh

Cell Biology

Developmental Biology/Morphology

Imaging

4:00 **238.1** Comparative Neuroanatomy in Health and Disease: One Size Does Not Fit All. **C. Zeiss.** Yale University.

4:30 **238.2** Bovine Model to Study Ovarian Function and Oocyte Competence in Women During Perimenopausal Period. **J. Singh.** University of Saskatchewan, Canada.

5:00 **238.3** The Porcine Lung in Biomedical Research. **D. Meyerholz.** University of Iowa Carver College of Medicine.

239. INSIDE JAWS: TOOTH PATTERNING, ADAPTATION AND REGENERATION

Symposium

Mon. 4:00 pm—San Diego Convention Center, Room 11A

Chaired: T. Franz-Odendaal

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

4:00 **239.1** Rebooting the Zahnreihen: Analysis of the Jaw-wide Patterning Cues in the Adult Gecko Dentition. **J.Richman.** University of British Columbia

4:30 **239.2** Shark EvoDevOmics: Linking Teeth and Taste Buds to the Evolution of Tooth Regeneration. **G. Fraser.** University of Sheffield)

5:00 **239.3** Evolvability of Tooth Location in Teleost Fishes.**D. Stock.** University of Colorado

240. LET'S MAKE AN ORGAN—STEM CELLS, CRISPR, ORGANOIDS

Symposium

Mon. 4:00 pm—San Diego Convention Center, Room 9

Chaired: J. Yost

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

4:00 **240.1** Consider the Lung as a Sensory Organ. **X. Sun.** University of California, San Diego

4:30 **240.2** Regulation of Pancreatic Islet Cell Fates. **L. Sussel.** University of Colorado

5:00 **240.3** Postnatal Organogenesis by Transdifferentiation. **H. Willenbring.** University of California, San Francisco

241. TEACHING HISTOLOGY IN AN INTEGRATED CURRICULUM: APPROACHES, STUDENT OUTCOMES AND LESSONS LEARNED

Symposium

Mon. 4:00 pm—San Diego Convention Center, Room 8

Cochaired: K. Pinder and J. Eastwood

Education

4:00 **241.1** Medical Student Learning Experiences in Organ System Course Sessions using a Histology and Embryology Team-taught Integrated Format. **S. Attardi.** Oakland University William Beaumont School of Medicine. J. Venuti. Oakland University William Beaumont School of Medicine

4:30 **241.2** A Tale of Two Approaches: Results from Integrating Medical Histology and Pathology. **K. Pinder.** The University of British Columbia. J. Eastwood. Burrell College of Osteopathic Medicine

5:00 **241.3** Integrated Gross Anatomy and Histology (GRISTO): Benefits and Challenges for Students and Faculty Integrating Anatomical Sciences within a Traditional Curriculum Structure. **N. Swailes, D.S. Hoffmann.** The University of Iowa Roy **J. a**nd Lucille **A. C**arver College of Medicine and College of Dentistry.

242. AAA MEMBERS MEETING

Business Meeting

Mon. 5:45 pm—San Diego Convention Center, Room 8

All AAA Members are encouraged to attend.

Biochemistry and Molecular Biology

243. WAKE-UP! IT'S TRIVIA TIME

Society Events

(*Sponsored by:* ASBMB Membership Committee)

Mon. 7:00 am—San Diego Convention Center, Room 6B

Workshops & Events

Calling all trivia junkies! Join your colleagues for a daily dose of trivia, music, fun and prizes! It's a lively way to jump-start your day—the complimentary coffee and nosh also helps! Prize values increase over the course of the meeting, so come back each morning for more challenges! ASBMB members and biochemistry registrants welcome. Space is limited with first come, first served.

244. AVANTI AWARD IN LIPIDS

Lecture

(*Sponsored by:* Avanti Polar Lipids, Inc.)

Mon. 8:00 am—San Diego Convention Center, Room 6B

Award Lectures

Lipids and Membranes

8:00 Awardee introduction.
8:05 **244.1** Phospholipid Regulation of Inflammatory Processes and Viral Infection. **D.R. Voelker.** National Jewish Health.

245. MILDRED COHN AWARD IN BIOLOGICAL CHEMISTRY

Lecture

Mon. 8:30 am—San Diego Convention Center, Room 6B

Award Lectures

8:30 Awardee introduction.
8:30 **245.1** The Origin Recognition Complex: Where It All Begins. **L. Joshua-Tor, A. Tocilj, K. On, Z. Yuan, J. Sun, H. Li, B. Stillman.** Cold Spring Harbor Laboratory, Howard Hughes Medical Institute and Brookhaven National Laboratory.

246. EARL AND THRESSA STADTMAN YOUNG SCHOLAR AWARD

Lecture

Mon. 9:00 am—San Diego Convention Center, Room 6B

Award Lectures

9:00 Awardee introduction.
9:00 **246.1** Visualizing Translation by Ensemble cryoEM. **A. Korostelev.** University of Massachusetts Medical School.

247. ADAPTING PROTESOSTASIS TO AMELIORATE NEURODEGENERATIVE DISEASES

Symposium

Mon. 10:00 am—San Diego Convention Center, Room 6C

Chaired: J.W. Kelly

Neuroscience

10:00 **247.1** Targeting Protein-Protein Interactions in Chaperone Complexes to Normalize Proteostasis. **J.E. Gestwicki.** University of California, San Francisco.
10:30 **247.2** Adapting the Chemistry and/or Biology of Proteostasis to Ameliorate Protein Aggregation Diseases. **J.W. Kelly.** Scripps Research Institute.
11:00 **247.3** Systemic Misfolding of Immunoglobulins in the Test Tube and in the Cell. **M. Ramirez-Alvarado, C.J. Dick, L.M. Blancas-Mejia, P. Misra, Y. Lin, K.R. Redhage, T.L. Jordan, A. Williams, J.S. Wall.** Mayo Clinic, University of Tennessee and Knoxville.
11:30 **247.4** Regulation of Functional Proteome by the Heat Shock Response and Proteostasis Network. **R.I. Morimoto.** Northwestern University.

248. COMMUNICATING SCIENTIFIC IDEAS TO NOVICE AUDIENCES

Symposium

(*Sponsored by:* ASBMB Education and Professional Development Committee)

Mon. 10:00 am—San Diego Convention Center, Room 6A

Chaired: R. Booth

Education

Have you ever been the expert in the room trying to explain your scientific ideas or findings and your audience just does not get your message or gets the wrong message? Whether in a symposium, group meeting, classroom, or interview, effectively telling your scientific story to others is vitally important to a successful career. This session brings together speakers from diverse backgrounds to discuss communicating science effectively to non-expert groups. Even experienced communicators will benefit from the cross-disciplinary interactions in this session.

10:00 Chair's introduction.
10:05 Using Molecular Visualization with the Public – Making a Picture = 1000 Words. **P. Craig.** Rochester Inst. of Tech.
10:25 Using the Three Minute Thesis for Interviews, Outreach and Networking. **N. Lee.** Univ. of Toronto.
10:45 Communicating Science in Politicized Environments. **A. Lupia.** Univ. of Michigan.
11:05 Panel discussion.

249. GLYCOBIOLOGY AND FUNCTIONAL GLYCOMICS

Symposium

MON. 10:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 6D

CHAIRED: L.C. HSIEH-WILSON

Glycobiology, glycomics, carbohydrates

10:00 **249.1** Precisely Heterogeneous—The Making of N-Glycoproteins. **M. Aebi.** ETH Zürich, Switzerland.
10:30 **249.2** Mapping the O-GlcNAc-Cytoprotective Network. **N. Zachara, J. Groves, C. Guo, M. Martinez, K. Fahie, C. McKen, A. Maduka, R. O'Meally, R. Cole.** John Hopkins University School of Medicine.
11:00 **249.3** Cracking the Glycocode: Finding the Signal in the Noise. **L.K. Mahal.** New York University.
11:30 **249.4** A Systems-Level Understanding of Glycosylation Signaling Networks. **L.C. Hsieh-Wilson.** California Institute of Technology.

250. NEW INSIGHTS INTO THE LINKS BETWEEN METABOLISM AND DISEASE

Symposium

MON. 10:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 6F

CHAIRED: L.C. CANTLEY

Metabolism and Metabolic Disease

Award Lectures

Features the Bert and Natalie Vallee Award in BioMedical Sciences (2017) lecture, presented by **R.M. Evans**. .

10:00 Bert and Natalie Vallee Award in BioMedical Sciences (2017) awardee introduction.
10:05 **250.1** Corralling Pancreatic Cancer Through Epigenetic Reprogramming. **R.M. Evans, C. Antal, M. Truitt, G. Liang, M. Sherman, P. O'Dwyer, J. Drebin, M. Downes, D. Tuveson.** The Salk Institute for Biological Studies, Perelman School of Medicine, University of Pennsylvania, Memorial Sloan Kettering Cancer Center, Cold Spring Harbor Laboratory and Howard Hughes Medical Institute.
10:35 **250.2** Metabolism, Inflammation, and Tumor Progression. **M.C. Simon.** Perelman School of Medicine and University of Pennsylvania.
11:05 **250.3** The Role of Altered Metabolic States in Cancer and Other Human Diseases. **R.J. DeBerardinis.** The University of Texas Southwestern Medical Center.
11:35 **250.4** Obesity, Insulin Resistance and Cancer: The PI3K Connection. **L.C. Cantley.** Weill Cornell Medicine and Cornell University.

251. REGENERATIVE MEDICINE

Symposium

MON. 10:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 14A

CHAIRED: J. KANG

10:00 Neuronal growth cone molecular machinery controlling brain circuit-specific development and diversity, toward regeneration: "Subcellular RNA-proteome mapping". **Jeffrey Macklis.** Harvard Univ.
10:25 Vascular tissue regeneration from 3D-bioprinted grafts implanted in Rhesus monkeys. **Y. James Kang.** Sichuan Univ. West China Hosp. and Memphis Inst. of Regenerative Med.
10:50 Intraoperative Bioprinting of Composite Tissues for Craniofacial Reconstruction. **Ibrahim Ozbolat.** Penn State Univ.
11:15 Regeneration of Synovial Joints in Zebrafish. **Gage Crump.** USC.
11:40 General discussion.

252. RNA IN HUMAN DISEASE

Symposium

(*Sponsored by:* ASBMB Minority Affairs Committee)

MON. 10:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 1AB

RNA

Chromatin, Epigenomics

10:00 **252.1** Understanding and Targeting Spliceosomal Gene Mutations in Cancer. **O.I. Abdel-Wahab.** Memorial Sloan Kettering Cancer Center.
10:30 **252.2** RNA and RNP Structures that Contribute to Viral Pathogenesis. **B.S. Tolbert.** Case Western Reserve University.
11:00 **252.3** Context-Dependent and Disease-Specific Diversity in Stress Granules Formed from Pre-Existing Protein Interactions. **G.W. Yeo, S. Markmiller, S. Soltanieh, K.L. Server, R. Mak, W. Jin, M.Y. Fang, E-C. Luo, F. Krach, D. Yang, A. Sen, A. Fulzele, J.M. Wozniak, D.J. Gonzalez, M.W. Kankel, F-B. Gao, E.J. Bennett, E. Lécuyer.** University of California, San Diego, Institut de Recherches Cliniques de Montréal, Canada, National University of Singapore, Singapore, University of Massachusetts Medical School, Biogen and Université de Montréal, Canada.
11:30 **252.4** Dynamic Mechanisms of Xist RNA Localization in Female Lymphocytes: A New Form of X-Chromosome Inactivation Maintenance. **M.C. Anguera, C. Syrett.** University of Pennsylvania.

253. SYSTEMS BIOLOGY AND PROTEOMICS

Symposium

MON. 10:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 6E

CHAIRED: I.M. CRISTEA

Genomics, Proteomics

Cell Signaling in Disease

10:00 **253.1** New Approaches for Localization of Proteins and Interaction Partners in Cells with High Spatial Resolution. **S.A. Carr, N. Udeshi, S. Myers.** Broad Institute of Massachusetts Institute of Technology and Harvard.
10:30 **253.2** From Petabytes to Molecular Insights: Building an Operating System for Cancer. **K. White.** University of Chicago.
11:00 **253.3** Virion Display (VirD) Approach to Characterizing Non-Odorant GPCRs in Humans. **H. Zhu, P. Desai, G-D. Syu.** John Hopkins University School of Medicine and Johns Hopkins University.
11:30 **253.4** Hybrid Experimental-Mathematical Methods for Probing Dynamic Proteome Organization During Viral Infections. **I.M. Cristea.** Princeton University.

254. ASBMB MEET THE SPEAKERS

Society Events

MON. 12:30 PM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Career and Professional Development

Workshops & Events

Visit the ASBMB Lounge, across from ASBMB Booth #1316, to meet the morning presenters and continue the scientific discussion—a GREAT networking opportunity for all. Also visit the daily posters while you're in the exhibit hall.

255. ASBMB MEET THE SPEAKERS

Society Events

MON. 1:30 PM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Career and Professional Development

Workshops & Events

Visit the ASBMB Lounge (Exhibit Hall across from ASBMB Booth #1316) to meet the morning presenters and continue the scientific discussion—a GREAT networking opportunity for all. Also visit the daily posters while you're in the exhibit hall.

256. CHROMATIN REGULATION OF GENE EXPRESSION

Symposium

MON. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 30A

CHAIRED: V.M. WEAKE

Chromatin, Epigenomics

Toxicology

2:30 Elucidating Epigenetic Readers of H3T45ph in *S. cerevisiae*. **P. Grant, C. Lee, M. Pray-Grant, S. Bekiranov**. University of Virginia School of Medicine**. (524.14**)

2:45 Determining the Enhancer Proteomes in Primary Cells and Native Tissue. **D. Steger, D. Cohen, J. Remsberg, S. Sidoli, B. Garcia.** University of Pennsylvania. **(523.2)**

3:00 **256.1** Cohesin Loss Eliminates All Loop Domains. **S.S. P. Rao, S-C. Huang, B. Glenn St. Hilaire, J.M. Engreitz, E.M. Perez, K-R. Kieffer-Kwon, A.L. Sanborn, S.E. Johnstone, G.D. Bascom, I.D. Bochkov, X. Huang, M.S. Shamim, J. Shin, D. Turner, Z. Ye, A.D. Omer, J.T. Robinson, T. Schlick, B.E. Bernstein, R. Casellas, E.S. Lander, E. Lieberman Aide**n. Stanford University, Baylor College of Medicine, Broad Institute of Massachusetts Institute of Technology and Harvard, Lymphocyte Nuclear Biology, National Institute of Arthritis and Musculoskeletal and Skin Diseases, N and New York University.

3:15 Discovering and Exploiting Selectivity in BET Tandem Bromodomain Recognition of Epigenetic Lysine Acylation. **B.C. Smith, M.D. Olp, D.J. Sprague.** Medical College of Wisconsin. **(524.15)**

3:30 **256.2** Aging Photoreceptors: Light, Stress and Transcription. **V.M. Weake.** Purdue University.

257. EMERGING ANTIBIOTICS FROM NATURE

Symposium

MON. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 30B

CHAIRED: T. WENCEWICZ

Chemical Biology

Microbiome

2:30 Ni(II) Uptake by Yersiniabactin, a Metallophore Produced by Uropathogenic *E. coli*. **A.E. Robinson, J.E. Lowe, E-I. Koh, J.P. Henderson.** Washington University School of Medicine in St. Louis. **(669.21)**

2:45 Structural and Functional Large Substrate Binding in Iterative Non-Ribosomal Peptide Synthesis Independent Synthesis (NIS) Enzymes**. K.M. Hoffmann**. California Lutheran University. **(526.7)**

3:00 Directed Evolution of an Adenylation Domain Specificity Code**. V. Vinnik, K. Throckmorton, T.B. Cook, B.F. Pfleger, M.G. Thomas**. University of Wisconsin—Madison. **(530.6)**

3:15 Synthetic Biology, Biosynthesis, Enzymology, (Meta)genomics, et al. Learning from Nature. **V. Agarwal.** Georgia Institute of Technology. **(796.26)**

3:30 **257.1** Beta-Lactam and Beta-Lactone Antibiotics from Plant Microbiomes. **T. Wencewicz.** Washington University in St. Louis.

258. NEW FRONTIERS IN SUBSTRATE METABOLISM

Symposium

MON. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 30C

CHAIRED: L. KAZAK

Metabolism and Metabolic Disease

2:30 Mechanism of Obesity Suppression by Adipose Tissue Creatine Energetics. **L. Kazak, G.Z. Lu, B.M. Spiegelman.** McGill University, Canada and Dana-Farber Cancer Institute. **(536.2)**

2:45 *Mogat1* Is a Fasting-Induced PPAR α Target Gene That Plays a Role in Coordinating the Hepatic Response to Food Deprivation. **A.J. Lutkewitte, K.S. McCommis, K.T. Chambers, M.J. Graham, A.M. Hall, B.N. Finck.** Washington University School of Medicine in St. Louis and Ionis Pharmaceuticals Inc. **(812.14)**

3:00 Deletion of Muscle *ACSL1* Caused Myopathy and Fiber Switch. **L. Zhao, L. Bacudio, A.L. Suchanek, P.A. Young, F. Pascual, R.A. Coleman.** University of North Carolina at Chapel Hill. **(536.11)**

3:15 mTOR Signaling in Adipose Tissue Influences Systemic Lipid Metabolism. **L.M. Paolella, C. Tran, K. Chellappa, S. Mukherjee, J.G. Davis, A. Wilson, E. Edouard, S. Shewale, D.J. Rader, J.A. Baur.** University of Pennsylvania. **(536.8)**

3:30 Monomethyl Branched Chain Fatty Acids Link Mitochondrial Amino Acid Metabolism and Adipose Tissue Lipogenesis to Fatty Acid Diversity. **M. Wallace, C. Green, L. Roberts, M. Lee, P. Cabrales, J. Ayres, D. Nomura, R. Loomba, C. Metallo.** University of California, San Diego, University of California, Berkeley and Salk Institute. **(536.15)**

259. PLANT METABOLISM AND PHOTOSYNTHESIS

Symposium

MON. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 30D

CHAIRED: J.C. CAMERON

Plant Biochemistry

Metabolism and Metabolic Disease

2:30 **259.1** "Exploring the Regulation of Photosynthesis in Single-Cell Lineages at Sub-Cellular Resolution". **J.C. Cameron.** University of Colorado Boulder.

2:45 Effects of a Sethoxydim-Based Herbicide on the Photosynthetic Capacity of *Chlorella vulgaris,* a Non-Target Organism. **A.L. Smythers, A. Garmany, N. Perry, P.E. Adkins, E. Higginbotham, D.R. J. Kolling.** Marshall University. **(537.8)**

3:00 The Rising of Acylsugar Diversity: Metabolic Innovation in Tomato Trichomes Through BAHD Enzyme Promiscuity and Pathway Evolution. **P. Fan, A.M. Miller, A.D. Jones, X. Liu, R.L. Last.** Michigan State University. **(537.2)**

3:15 Investigating the Interaction Between MED5 and CDK8 in *Arabidopsis*. **X. Mao, V.M. Weake, C.C. S. Chapple.** Purdue University. **(648.14)**

3:30 Increasing Seed Iron Content by Gene Manipulation in *Arabidopsis*. **Z. Ghalamkari, T.J. Buckhout.** Humboldt Universität zu Berlin, Germany. **(542.4)**

260. PROTEIN FOLDING: THE GOOD, THE BAD AND THE DISORDERED

Symposium

MON. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 30E

CHAIRED: J.E. KIM

Protein Folding, Aggregation

Structural Biology/Biophysics

2:30 The Intrinsically Disordered PsbO Subunit of Photosystem II: Structure and Role in Photosynthetic Water Oxidation. **B.A. Barry, U. Brahmachari, C.E. Obi, J.N. He.** Georgia Institute of Technology. **(795.8)**

2:45 Non-Native Structure Present in the Unfolded Ensemble May Initiate Aggregation of ALS Variants of Superoxide Dismutase (SOD1)**. N. Cohen, O. Bilsel, C.R. Matthews**. University of Massachusetts Medical School. **(792.16)**

3:00 Initially Disordered, Reflectin Assembly Tunably and Reversibly Drives Biophotonic Color**. R. Levenson, C. Bracken, C. Sharma, J. Santos, C. Arata, D.E. Morse**. University of California and Santa Barbara. **(795.7)**

3:15 NMR Structural Studies of Membrane Proteins in Bilayer Environments. **J. Radoicic, S.H. Park, S.J. Opella.** University of California and San Diego. **(792.36)**

3:30 **260.1** Folding of a Membrane Protein into Nanodiscs. **D.K. Asamoto, J.E. Kim.** University of California and San Diego.

261. PROTEOMICS AND LIPIDOMICS: METHODS AND APPLICATIONS FOR HUMAN DISEASE

Symposium

MON. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 31A

CHAIRED: A. NITA-LAZAR

Lipids and Membranes

Genomics, Proteomics

2:30 **261.1** Targeted Proteomics-Driven Computational Modeling of Macrophage Microbial Sensing Pathways. **A. Nita-Lazar, N.P. Manes, J.M. Mann, P. Kaplan, M. Meier-Schellersheim, I.D. C. Fraser, R.N. Germain.** National Institute of Allergy and Infectious Diseases and National Institutes of Health.

2:45 **261.2** Quantitative Phosphoproteomic Analysis of Feedback Networks in T Cell Signaling. **A. Salomon, J. Belmont, Q. Ji.** Brown University.

3:00 Mass Spectrometry of Single Mammalian Cells Quantifies Proteome Heterogeneity During Cell Differentiation. **E. Levy, B. Budnik, N. Slavov.** Northeastern University and Harvard University. **(802.9)**

3:15 An Aptamer-Based Approach to Assess the Human Plasma Proteome for Pre-Analytical Variability. **J.R. Daniels, Z. Cao, M. Maisha, L.K. Schnackenberg, J. Sun, L. Pence, T.C. Schmitt, B. Kamlage, R.D. Beger, L-R. Yu.** National Center for Toxicological Research, U.S. Food and Drug Administration and Metanomics Health GmbH, Germany. **(802.5)**

3:30 Advancement in Atopic Dermatitis Research Through the Use of a Novel Skin Tape Strip Mass Spectrometry Based Processing Protocol. **E. Berdyshev, E. Goleva, I. Bronova, M.A. Seibold, J. Jung, D.Y. M. Leung.** National Jewish Health. **(658.4)**

262. REDOX ENZYMES

Symposium

MON. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 31C

CHAIRED: K. JOHNSON-WINTERS

Catalysis, Enzyme Mechanisms

Chemical Biology

2:30 A Novel Radical SAM Mechanism Mediated by the Interferon-Inducible Protein Viperin. **A.B. Dumbrepatil, P. Malec, S. Ghosh, A. Patel, R.T. Kennedy, E. N.G. Marsh.** University of Michigan. **(796.7)**

2:45 Determining the Active Site Base and Order of Substrate Addition Within F_{420}-Dependent Glucose-6-Phosphate Using Steady-State and Pre Steady-State Kinetics and Isotope Effects Methods. **K. Johnson-Winters, M. Oyugi, L. Davis, G. Bashiri, E.N. Baker.** The University of Texas at Arlington and University of Auckland, New Zealand. **(655.30)**

3:00 A Bacterial Flavin-Dependent Oxidoreductase That Captures Carbon Dioxide into Biomass. **J. Mattice, B. Streit, G. Prussia, J. Peters, J. DuBois.** Montana State University and Washington State University. **(655.25)**

3:15 Dissecting the Molecular Basis of a Phenylketonuria-Causing Mutation in Phenylalanine Hydroxylase. **C.A. Khan, S.P. Meisburger, N. Ando, P.F. Fitzpatrick.** The University of Texas Health Science Center and Princeton University. **(528.1)**

3:30 Deciphering the Effect of Salts on Bilirubin Oxidases Activity. **E. Roussarie, S. Bichon, G. Perrière, N. Mano, C. Stines-Chaumeil.** National Center for Scientific Research, France. **(655.1)**

263. ALICE AND C.C. WANG AWARD IN MOLECULAR PARASITOLOGY SYMPOSIUM

Symposium

MON. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 31B

CHAIRED: E.A. WINZELER

Award Lectures

2:30 Awardee introduction.
2:35 **263.1** Using *in Vitro* Evolution and Chemogenomics to Explore the Malaria Parasite Drug-Able Genome. **E.A. Winzeler**. University of California, San DiegoSchool of Medicine.
3:00 1+1=1: targeting endosymbiosis for antimalarial drug discovery. **E. Yeh.** Stanford Univ.
3:25 Out of the mouths of babes: breath volatiles in pediatric malaria. **A. Odom John**. Washington Univ. St. Louis.
3:50 Molecular and structural mechanisms of malaria parasite invasion. **W.-H. Tham.** Walter and Eliza Hall Inst., Australia.
4:15 General discussion.

264. ENVIRONMENTAL HEALTH, BIOMARKERS AND PRECISION MEDICINE

Symposium

MON. 3:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 14A

COCHAIRED: B. SLIKKER AND S. CORMIER

3:00 Precision Prevention. **Kenneth Ramos.** Univ. of Arizona.
3:25 Minimally-invasive Biomarkers of Neurotoxicity: Application to Drug Development. **Ruth Roberts.** Birmingham Univ., UK.
3:50 Biomarkers and their Impact on Precision Medicine. **Jennifer Wilson.** Stanford Univ.
4:15 General discussion.

265. BMB EDUCATION: ACTIVE LEARNING

Symposium

(*Sponsored by:* ASBMB Education and Professional Development Committee)

MON. 4:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 31C

CHAIRED: M. PAYNE

Education

Career and Professional Development

4:00 Using an Innovative Approach to Teach Students How to Communicate About Scientific Topics to Non-Scientists. **M.A. Rowland-Goldsmith, M. Bisoffi.** Chapman University. **(663.17)**
4:15 Scaffolding Soft-Skill Development Into a Two-Semester Undergraduate Laboratory Course. **D.P. Grilley, T.M. Weaver.** University of Wisconsin—La Crosse. **(663.19)**
4:30 Increasing Active Learning in the Biochemistry Classroom: Using Group Quizzes to Stimulate Discussion. **L.J. Moore.** Monmouth College. **(663.9)**
4:45 When Active Learning Fails: How Faculty Beliefs Inform Their Teaching and Influence Student Outcomes. **S.M. Lo.** University of California and San Diego. **(663.1)**
5:00 A Competency-Based Approach to Developing Biomolecular Visual Literacy. **D.R. Dries, D.M. Dean, M.A. Franzen, H.V. Jakubowski, W.R. P. Novak, K. Procko, A.I. Roca, C.R. Terrell.** Juniata College, University of Saint Joseph, Milwaukee School of Engineering, College of St. Benedict/St. John's University, Wabash College, MinorityPostdoc.org and University of Minnesota Rochester. **(535.25)**

266. DNA REPLICATION INITIATION, PROGRESSION AND TERMINATION

Symposium

MON. 4:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 30B

CHAIRED: D. SMITH

DNA Replication and Repair

4:00 A Novel Role of the Human Cst Complex in Regulating the DNA Damage Respons**e. J.A. Stewart, S.M. Ackerson.** University of South Carolina**. (522.9**)
4:15 The Highly Conserved Proteins Nucleolin and Sub1 Play Critical Roles in Regulating G4 DNA-Induced Genome Instability. **N. Kim.** The University of Texas Health Science Center at Houston. **(522.2)**
4:30 **646.1** Multisubunit Multiactive Site DNA Polymerase Complexes with Coordinated Activities. M.A. Trakselis, M. Cranford, A.M. Chu. Baylor University.
4:45 Cdt1 Variants Offer Novel Insights into Cdt1-Mcm Interactions and an Unexpected Mechanism for Cyclin A to Block DNA Re-Replication. **P.N. Pozo, Y. Cole, J. Matson, Y. Zhuo, B. Temple, J.G. Cook.** University of North Carolina at Chapel Hill. **(522.13)**
5:00 Molecular Insights into Replication-Associated Genome Instabilities Caused by CST Deficiency. **W. Chai.** Washington State University. **(522.7)**

267. GLYCOIMMUNITY

Symposium

MON. 4:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 30C

CHAIRED: C.L. LEIMKUHLER-GRIMES

Glycobiology, glycomics, carbohydrates

4:00 Molecular and Structural Recognition of *Listeria* Cell-Wall Glycopolymers by Bacteriophage-Encoded SH3b Domains. **Y. Shen, I. Kalograiaki, A. Prunotto, M. Dunne, E. Sumrall, F.J. Cañada, M. Loessner.** ETH Zürich, Switzerland, Centro de Investigaciones Biológicas, Spain and Faculdade de Medicina Universidade de Lisboa, Switzerland. **(544.10)**

4:15 Rapid Evolution of Bacterial Exotoxin B Subunits Independent of a Subunits: Sialic Acid Binding Preferences Correlate with Host Range and Intrinsic Toxicity. **N. Khan, A. Verhagen, Z. Khedri, S. Diaz, N. Varki, A. Paton, T. Beddoe, J. Paton, A. Varki.** University of California, San Diego, University of Adelaide, Australia and La Trobe University, Australia. **(673.3)**

4:30 Elevated O-GlcNAc Exacerbates Pro-Inflammatory Cytokine Secretion from CD4 T Cells. **M. Machacek, J. Li, T. Li, T. Lydic, C. Slawson, P. Fields.** University of Kansas Medical Center and Michigan State University. **(673.9)**

4:45 Role of the Kdo Glycosyltransferase KPSS in the Biosynthesis of the Polysialyltransferase Acceptor for *Escherichia coli* K1. **N. Lanz, V. Thon, W. Vann.** U.S. Food and Drug Administration. **(544.1)**

5:00 Use of Bioorthogonal *N*-acetylcysteamine (SNAC) Analogues and Peptidoglycan *O*-acetyltransferase B (PatB) to Label Peptidoglycan. **K.M. Lazor, Y. Wang, K.E. DeMeester, H. Liang, T.K. Heiss, C.L. Grimes.** University of Delaware. **(673.30)**

268. LIPID AND PROTEIN ORGANIZATION IN MEMBRANES

Symposium

MON. 4:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 30D

CHAIRED: S.L. VEATCH

Lipids and Membranes

4:00 Brewster Angle Microscopy and Langmuir Monolayer Films: Construction of an Instrument and Basic Software Development for Visualization of Lipid Domains and Lipid Raft Formation. **B.C. Allen, B.E. Sturgeon, A.G. Sostarecz.** Monmouth College. **(541.3)**

4:15 Mechanism of Membrane Biogenesis**. A.R. Naik, E.R. Kuhn, K.T. Lewis, K.M. Kokotovich, K. Maddipati, X. Chen, H. Horber, D.J. Taatjes, J.J. Potoff, B.P. Jena**. Wayne State University, University of Bristol, United Kingdom and University of Vermont. **(671.11)**

4:30 Interorganellar Phosphatidylserine Transfer by Sec14 Family Protein Sfh1 in *Saccharomyces cerevisiae***. A. Mizuike, S. Kobayashi, H. Horiuchi, A. Ohta, R. Fukuda**. The University of Tokyo, Japan and Chubu University, Japan. **(814.4)**

4:45 Regulating a G Protein-Coupled Receptor by Topological Inversion Through Regulated Alternative Translocation. **B. Denard.** The University of Texas Southwestern Medical Center. **(815.3)**

5:00 **268.1** Probing Membrane-Mediated Forces Between Proteins in Cells Using Super-Resolution Fluorescence Localization Imaging. **S.L. Veatch, S.A. Shelby.** University of Michigan

269. MOLECULAR TOOLS TO STUDY CELL SIGNALING

Symposium

MON. 4:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 30E

CHAIRED: M. TANTAMA

Chemical Biology

Cell Signaling, Signal Transduction

4:00 Revealing Subcellular Redox Dynamics with Multiplex Imaging of Compartment-Specific Redox Probes. **M. Tantama, J. Norley, S. Radhakrishnan, M. Rajendran.** Purdue University. **(533.97)**

4:15 Spatial Compartmentalization of Akt/mTOR Signaling: What Happens in the Nucleus. **X. Zhou, Y. Zhong, J. Zhang, J.Y-J. Shyy, J. Zhang.** University of California and San Diego. **(533.55)**

4:30 Temporal Control of Growth Factor-Mediated Signaling Pathways During Cell Differentiation and *Xenopus* Embryonic Development. **P. Mondal, V.V. Krishnamurthy, J. Khamo, S. Sharum, K. Zhang.** University of Illinois at Urbana—Champaign. **(533.18)**

4:45 Allosteric Regulation of Protein Kinases Using Optogenetics. **M. Shaaya, V. Huyot, A. Zhurikhina, D. Tsygankov, V. Natarajan, A. Karginov.** University of Illinois at Chicago and Georgia Institute of Technology. **(533.101)**

5:00 Planar Enteroids Reveal an Autonomous Wnt and BMP Circuit Controlling Intestinal Epithelial Growth and Organization. **C.A. Thorne, I.W. Chen, L.E. Sanman, M.H. Cobb, L.F. Wu, S.J. Altschuler.** University of Arizona, University of California, San Francisco and The University of Texas Southwestern Medical Center. **(659.14)**

270. OBESITY, METABOLISM AND IMMUNE CELLS IN CANCER

Symposium

MON. 4:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 31A

CHAIRED: L. MAKOWSKI

Metabolism and Metabolic Disease

4:00 CD^+ T Cells Regulate Liver Injury in Obesity-Related Nonalcoholic Fatty Liver Disease. **A. Kennedy, C. Pacheco, M.K. Washington, A. Hasty.** Vanderbilt University, Seattle Children's Hospital and Vanderbilt University Medical Center. **(670.11)**

4:15 The Role of Effective Energy Restriction on Metastatic Tumor Growth**. T. Roy Sarkar, N. Sphyris, E. Schmitt, G. Wyatt, S. Wall, W. Porter**. Texas A&M University and Independent Researcher, United Kingdom. **(811.2)**

4:30 Time-Restricted Feeding Attenuates Breast Cancer Growth in a Mouse Model of Postmenopausal Obesity**. M. Das, E. Gross, D. Kumar, C. Sauceda, H-T. Park, D. Sears, L. Ellies, N. Webster**. University of California and San Diego. **(811.19)**

4:45 Biosynthesis of Acyl-Coas Sustains Prostate Cancer Progression. **H. Cai, Y. Ma.** University of Georgia. **(811.1)**

5:00 **270.1** Myeloid-Specific GLUT1 Ablation Attenuates Mammary Gland Inflammation and Claudin-Low Breast Cancer Progression. **L. Makowski, A.M. Fuller, A.J. Cozzo, A.J. Freemerman, J.A. Ezzell, J.A. Galanko, M.A. Troester, S.D. Hursting.** University of North Carolina and University of Tennessee Health Science Center.

271. STRANGE MICROBIAL TRANSFORMATIONS

Symposium

Mon. 4:00 pm—San Diego Convention Center, Room 30A

Chaired: M.R. Seyedsayamdost

Chemical Biology

Translational and Clinical Pharmacology

4:00 Biosynthesis of Nonproteinogenic Amino Acids Oxyvinylglycine**s. B. Li, J.B. Patteson, Z.D. Dun**n. University of North Carolina at Chapel Hill**. (796.4**)

4:15 Evidence for Control of Metabolite Flux Through a Bacterial Heme Biosynthetic Pathway. **A.I. Celis, J. Choby, E. Skaar, J. DuBois.** Montana State University and Vanderbilt University Medical Center. **(527.14)**

4:30 **271.1** New RiPP Family Incorporates Alpha-N-Methylations into Ribosomally Encoded Peptide Natural Products. **M. Freeman**. University of Minnesota.

4:45 Biosynthesis of Non-Ribosomal Peptide Beta-Lactones by Plant-Associated *Pseudomonas fluorescens*. **J. Schaffer, T. Wencewicz.** Washington University in St. Louis. **(656.25)**

5:00 **271.2** Eliciting Cryptic Secondary Metabolites Using Antibiotics. **M.R. Seyedsayamdost.** Princeton University.

272. MOLECULAR VISUALIZATION

Workshop

(*Sponsored by:* ASBMB Education and Professional Development Committee)

Mon. 5:30 pm—San Diego Convention Center, Room 6A

Chaired: M. Payne

Career and Professional Development

Workshops & Events

This workshop will present to scientists of all levels the practical knowledge for how to communicate molecular structure/function using low-cost, but powerful methods. Techniques for using molecular visualization software to effectively convey structural features will be demonstrated. Included will be a sample of virtual reality technology that has been shown to enhance understanding of molecular structures.

273. OPTOGENETICS AND MOLECULAR SENSORS: TOOLS AND APPLICATIONS

Workshop

Mon. 5:30 pm—San Diego Convention Center, Room 31B

Cochaired: K. Hahn and M. Lin

Workshops & Events

274. SUPPORTED LIPID MEMBRANES AND NANODISCS

Workshop

Mon. 5:30 pm—San Diego Convention Center, Room 30D

Cochaired: S. Sligar and L.K. Tamm

Lipids and Membranes

Workshops & Events

This workshop will introduce attendants to the preparation and use of supported membranes and nanodiscs in research of membrane proteins, lipids, and interactions between them. Two leaders of the field will give broad overviews and practical advice on the use of these relatively new and surging fields of membrane research. Ample time will be allowed for discussion of these techniques with attendants, who will be encouraged to also share their experiences with these systems.

275. TRANSFORMING SCIENCE RESEARCH INTO SCIENCE OUTREACH

Workshop

(*Sponsored by:* ASBMB Public Outreach Committee)

Mon. 5:30 pm—San Diego Convention Center, Room 6B

Chaired: A. Barral

Public Engagement / Science Policy

Career and Professional Development

Workshops & Events

Members of the Public Outreach Committee and other invited speakers will showcase examples of how to turn scientific research projects into outreach activities aimed at diverse audiences. These will include demos and curricular models appropriate for K–12 students; translating detailed research work into policy-relevant summaries; and additional audience-specific outreach. Presenters will discuss the importance of outreach and its impact on various societal issues.

Pathology

276. ASIP TOWN HALL MEETING AND BREAKFAST

Society Events

Mon. 7:00 am—San Diego Convention Center, Room 5A

Chaired: A. Nusrat

Cochaired: D. Remick and W. Coleman

Workshops & Events

277. HCS SYMPOSIUM: IMAGING BIOMETALS IN DISEASE

Symposium

Mon. 8:30 am—San Diego Convention Center, Room 2

Chaired: M. Barroso

Environmental and Toxicologic Pathology

(Sponsored by the ASIP Immunohistochemistry & Microscopy Scientific Interest Group and the Histochemical *Society)*

8:30 Three-dimensional Primary Enteroids as an Experimental System to Study Copper Homeostasis in Intestine. **S. Lutsenko.** Johns Hopkins Univ.

9:10 Moving Metals. **M. Wessling-Resnick.** Harvard T.H. Chan School of Public Health.

9:50 Heme Trafficiking from the Ground-Up. **I. Hamza.** Univ. of Maryland.

278. JOURNAL OF HISTOCHEMISTRY & CYTOCHEMISTRY LECTURE

Lecture

(*Sponsored by:* the ASIP Immunohistochemistry & Microscopy Scientific Interest Group and the Histochemical Society)

Mon. 10:30 am—San Diego Convention Center, Room 2

Chaired: S. Hewitt

Imaging, Immunohistochemistry and Microscopy

Cell Signaling in Disease

10:30 Targeting FcRn to Modulate IgG Dynamics. **E. Ward.** Texas A&M Health Science Ctr.

279. CELL INJURY WORKSHOP: TUMOR-ASSOCIATED PARALLELS WITH FIBROSIS

Workshop

Mon. 8:30 am—San Diego Convention Center, Room 3

Chaired: A. Wells

Cell and Tissue Injury

Neoplasia

Cancer and Therapy

8:30 Tumors: The Wounds that Won't Stop Healing. **A. Wells.** Univ. of Pittsburgh.

9:15 Targeting CD109 in Fibrosis and Cancer Metastasis. **A. Philip.** Montreal General Hospital.

10:30 An Evolutionarily Conserved Pathway for Epithelial Repair. **B. Andersen.** UCI.

280. MOLECULAR MECHANISMS OF LEUKOCYTE TRAFFICKING

Symposium

Mon. 8:30 am—San Diego Convention Center, Room 4

Chaired: P. Alcaide

Cochaired: D. Sullivan

Immunopathology

Inflammation/Immunity

Vascular Biology

8:30 **280.1** Expression of *SIRP*α Tailless Mutant in Mice Impairs Naïve CD4+ T Cell Adhesion to Immobilized ICAM-1 and Tcr Induced Proliferation. **F.E. Velázquez Planas, A.E. Autio, G. Newton, C. Parkos, F.W. Luscinskas.** Brigham and Women's Hospital and University of Michigan.

8:45 **280.2** Endothelial Cell IQGAP1 Is Required to Support Efficient Leukocyte Transmigration Both in Vitro and in Vivo. **D.P. Sullivan, P.J. Dalal, W.A. Muller.** Northwestern University.

9:00 **280.3** CXCR3 Regulates CD4+ T Cell Cardiotropism and Maladaptive Cardiac Remodeling Through Mechanisms Involving ICAM1-Mediated Adhesion. **N. Ngwenyama, A. Salvador, T. Nevers, F. Velázquez, M. Aronovitz, P. Alcaide.** Tufts University and Tufts Medical Center.

9:15 **280.4** Plasminogen and the Plasminogen Receptor, Plg-R_{KT}, Regulate Efferocytosis and Macrophage Reprogramming. **J.P. Vago, M.A. Sugimoto, N. Baik, R.J. Parmer, L.A. Miles, L.P. Sousa.** Scripps Research Institute, Universidade Federal de Minas Gerais, Brazil and University of California.

9:30 **280.5** Obesity-Associated Extracellular Matrix Remodeling Promotes a Tumor-Associated Macrophage Phenotype in Tumor-Free Breast Adipose Tissue. **N.L. Springer, N. Iyengar, R. Bareja, X.K. Zhou, O. Elemento, A.J. Dannenberg, C. Fischbach.** Kansas State University College of Veterinary Medicine, Memorial Sloan Kettering Cancer Center, Weill Cornell Medicine, Cornell University and Cornell University.

9:45 **280.6** Biotin Deficiency Induces Th1 and Th17 Mediated Inflammatory Response in CD4+T Lymphocytes via Activation of mTOR Signaling Pathway. **A. Elahi, S. Sabui, A. Agrawal, H.M. Said.** University of California.

10:00 **280.7** Exploring the Role of Calmodulin and Calcium Signaling in Leukocyte Transmigration. **P.J. Dalal, D.P. Sullivan, W.A. Muller.** Northwestern University Feinberg School of Medicine.

10:15 **280.8** Loss of Local Innervation Induces Lymph Node Expansion. **C-S. Chen, L. Ince, C. Scheiermann.** Walter and Eliza Hall Institute of Medical Research, Germany.

10:30 **280.9** CD99L2 as a Major Regulator in Human Transendothelial Migration. **N.S. Rutledge, W.A. Muller.** Northwestern University.

10:45 **280.10** IL-36γ Promotes Alveolar Macrophage Survival During Influenza Infection, Limiting Morbidity and Mortality. **A.N. Wein, P. Dunbar, S.R. McMaster, T.L. Denning, J.E. Kohlmeier.** Emory University and Georgia State University.

11:00 **280.11** Vinculin in Neutrophil Adhesion, Motility and Trafficking. **Z. Wilson, M. Harman, L. Hazlett, J. Odzer, H. Witt, C. Franck, J. Reichner, C. Lefort.** Brown University, Rhode Island Hospital and Brown University Alpert Medical School.

281. HITTING THE BULLSEYE: TARGETS AND THERAPIES IN CARCINOGENESIS

In Conjunction with the Molecular and Cellular Basis of Cancer Program

Symposium

MON. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 5A

CHAIRED: S. KUMAR

COCHAIRED: K. SOLIMAN

Neoplasia

Cancer and Therapy

8:30 **281.1** Memantine (a Dual α7-nAChR/NMDAR Antagonist) Displays Anti-Angiogenic Activity in Human Squamous Cell Lung Cancer. **N.A. Nolan, Z. Robateau, K.C. Brown, Y.C. Chen, R.D. Egleton, M.R. Tirona, P. Dasgupta.** Joan C. Edwards School of Medicine, Marshall University, Alderson Broaddus University, Edwards Comprehensive Cancer Center and Marshall University.

8:45 **281.2** PAF Expression in Skin Tumors of Smokers and Never Smokers: A Potential Role in Skin Cancer Development. **J. McHowat, J.C. Lozano, P. Missall.** Saint Louis University.

9:00 **281.3** Clinical Relevance of VM-M3 in Modeling Cancer Cachexia. **A.P. Koutnik, A.M. Poff, J. Deblasi, N.M. Ward, D.P. D'Agostino.** University of South Florida and Moffitt Cancer Center.

9:15 **281.4** STAT3 Signaling Mediates FAK Inhibitor Response and Resistance in Pancreatic Cancer. **H. Jiang, B.L. Knolhoff, V. Krisnawan, D. DeNardo.** Washington University in St. Louis.

9:30 **281.5** Surface Glycocalyx and Glypican-1 Mediate Tumor Cell Metastasis. **H. Qazi, H. Moran, L.M. Cancel, M. Mayer, S. Roberge, P. Huang, L.L. Munn, J.M. Tarbell.** City College of New York and Massachusetts General Hospital.

9:45 **281.6** Structure-Based Drug Design to Overcome Temozolomide Resistance in Glioblastoma (GBM) Through a Dual Inhibition of mGmT and Base Excision Repair. **H.R. Madala, S.R. Punganuru, V. Arutla, K. Srivenugopal.** Texas Tech University Health Sciences Center.

10:00 **281.7** Whole Transcriptomic Evaluation of SK-MEL-3 Melanoma Cells in Response to Histone Deacetylase Inhibitor Trichostatin **A. E.A. Mazzio, K.F. Soliman.** Florida A&M University.

10:15 **281.8** Non-Enzymatic Functions of Aldolase A Induce OCT4 Activation to Promote Lung Cancer Stemness. **Y-C. Chang, M. Hsiao.** Academia Sinica, Taiwan.

10:30 **281.9** TIMP-2 Inhibits Tumor Growth in Murine Model of Lung Cancer Through EGFR Signaling. **S. Kumar, S.M. Jensen, A. Chowdhury, D. Peeney, B. Wei, J. Shih, J.J. Caterina, W.G. Stetler-Stevenson.** National Cancer Institute, National Institutes of Health and Bethel University.

11:00 **281.10** Reduced RON Expression, DM1 Resistance and MRP1 Upregulation Contributes to Resistance in Colon Cancer Cells Against Anti-Ron Antibody-Drug Conjugate Zt/g4-DM1. **S.R. Suthe, H-P. Yao, M-h. Wang.** Texas Tech University Health Sciences Center and Zhejiang University School of Medicine, People's Republic of China.

11:15 **281.11** Suppression of Chemotherapy-Induced Cytokine/Eicosanoid Storm and Ovarian Tumor Growth by a Dual COX-2/sEH Inhibitor. **A. Gartung, J. Yang, D. Fernandes, J. Chang, S.H. Hwang, S. Huang, M. Kieran, B. Hammock, D. Panigrahy.** Beth Israel Deaconess Medical Center, University of California, Davis, Institute for Systems Biology and Dana-Farber Cancer Institute.

282. MEET AND GREET THE ASIP AJP EDITOR-IN-CHIEF, MARTHA FURIE, PHD

Society Events

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, ASIP LOUNGE

Workshops & Events

283. MEET AND GREET THE ASIP EXECUTIVE OFFICER, WILLIAM COLEMAN, PHD

Society Events

MON. 11:30 AM—SAN DIEGO CONVENTION CENTER, ASIP LOUNGE

Workshops & Events

284. THE BRIDGE BETWEEN LIVER INJURY AND REGENERATION

Symposium

Mon. 2:00 pm—San Diego Convention Center, Room 2

Chaired: U. Apte

Liver Pathobiology

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Cell and Tissue Injury

2:00 Liver Injury and Regeneration: Two Sides of the Same Coin. **U. Apte.** Univ. of Kansas Medical Ctr.

2:30 Role of Coagulation System in Liver Injury and Regeneration. **J. Luyendyk.** Michigan State Univ.

3:00 Mechanisms of Liver Regeneration. **G. Michalopoulos.** Univ. of Pittsburgh.

3:30 Mechanisms of Injury and Regeneration in Fibrotic Livers. **T. Kisseleva.** UCSD.

4:00 The Role of the HDC/Histamine/HR Axis during Biliary Regeneration & Liver Repair. **H. Francis.** Texas A&M Health Science Ctr.

4:30 Injury-Regeneration Dynamics in NASH. **A. Feldstein.** UCSD.

285. CONTRIBUTIONS OF INFLAMMATION AND GLIOSIS TO NEUROLOGICAL DYSFUNCTION

Symposium

Mon. 2:00 pm—San Diego Convention Center, Room 3

Chaired: C. Kolarcik

Cochaired: J. Otero

Neuroscience

Inflammation/Immunity

2:00 Placental Pathology and Brain Inflammation. **M. Parast.** UCSD.

2:45 Astrocyte Regulation of Autonomic Function. **J. Otero.** The Ohio State University.

3:30 Blood Brain Barrier and Inflammation/Gliosis. **R. Daneman.** UCSD.

4:15 Glial Biology. **N. Allen.** Salk.

286. BIOLOGY AND PATHOBIOLOGY OF EPITHELIAL BARRIERS

Symposium

Mon. 2:00 pm—San Diego Convention Center, Room 4

Chaired: A. Ivanov

Cochaired: S. Colgan

Epithelial and Mucosal Pathobiology

Immunopathology

Microbiome

Neoplasia

2:00 **286.1** Hypoxanthine as a Checkpoint Metabolite in Epithelial Energy Modulation and Barrier Function. **J.S. Lee, R. Wang, E. Alexeev, J. Lanis, S. Colgan.** University of Colorado Anschutz Medical Campus.

2:15 **286.2** Chlorinated Lipids Mediate Small Airway Epithelial Dysfunction. **J. McHowat, C. Albert, C. Hartman, D. Pike, D. Ford.** Saint Louis University.

2:30 **286.3** DSG2 Regulates Intestinal Epithelial Cell Adhesion and Barrier Function via EGFR. **H. Ungewiß, N. Schlegel, J. Waschke.** Ludwig-Maximilian University of Munich, Institute of Anatomy and Cell Biology, Germany and Julius-Maximilians-University, Germany.

2:45 **286.4** Inhibition of Protein Translation Initiation and Disruption of the Intestinal Epithelial Barrier in Mucosal Inflammation. **N.G. Naydenov, F. Al-Sharief, A.I. Ivanov.** Cleveland Clinic Foundation and Virginia Commonwealth University.

3:00 **286.5** Intestinal Epithelial Barrier Maturation by Enteric Glial Cells Is Glial Cell Line-Derived Neurotrophic Factor (GDNF)-Dependent. **F. Kannapin, M. Meir, N. Burkard, S. Flemming, C-T. Germer, M. Diefenbacher, J. Waschke, N. Schlegel.** University of Wuerzburg, Germany and University of Munich, Germany.

3:15 **286.6** Role of Differential Phosphorylation of Jam-A in Regulating Epithelial Barrier Function. **S. Fan, C. Weight, R. Hilgarth, A. Nusrat, C. Parkos.** Department of Pathology, University of Michigan, Division of Infection and Immunity and University College London, United Kingdom.

3:30 **286.7** Desmoglein Binding Properties Are Regulated by Plakophilins. **F. Vielmuth, M. Fuchs, M. Foresti, R. Keil, M. Hatzfeld, V. Spindler, J. Waschke.** Walter and Eliza Hall Institute of Medical Research, Germany and Martin Luther University Halle-Wittenberg, Germany.

3:45 **286.8** Microbiota-Derived Indole Metabolites Provide a Novel Pathway for Regulation of Intestinal Homeostasis. **E.E. Alexeev, D.J. Kao, K.B. Mills, T.R. Lemke, J.M. Lanis, J.S. Lee, A.S. Dowdell, S.P. Colgan.** University of Colorado Anschutz Medical Campus.

4:00 **286.9** Relevance of Keratin Alterations and Desmoglein 3 Internalization in the Autoimmune Skin Disease *Pemphigus vulgaris.* **E. Schlögl, M.Y. Radeva, F. Vielmuth, C. Schinner, J. Waschke, V. Spindler.** Walter and Eliza Hall Institute of Medical Research, Germany and University of Basel, Switzerland.

4:15 **286.10** Desmosomal Cadherins Desmoglein-2 or Desmocollin-2 Regulate Intestinal Epithelial Barrier Function and Mucosal Repair. **D. Kusters, S. Flemming, A-C. Luissint, R. Hilgarth, C. Parkos, A. Nusrat.** University of Michigan.

4:30 **286.11** Protease Activated Receptor-2 Mediates *Giardia*-Induced Disruptions of the Intestinal Mucus Barrier. **E.R. Fekete, C. Amat, T. Allain, M. Hollenberg, K. Chadee, A. Buret.** University of Calgary, Canada.

4:45 **286.12** The Role of the Creatine Kinase Energy System in Intestinal Inflammation. **J.M. Lanis, S.P. Colgan.** University of Colorado Anschutz Medical Campus.

287. MECHANISMS OF INJURY, INFLAMMATION, AND REPAIR IN THE FAILING HEART

Symposium

MON. 2:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 5A

CHAIRED: J. HOMEISTER

COCHAIRED: T. PARRY

Cardiac Pathobiology

Cell and Tissue Injury

Inflammation/Immunity

2:00 **287.1** Pak2 Promotes ER-Dependent Cardioprotection. **P. Binder, S. Wang, M. Zi, L. Collins, W. Liu, X. Wang.** University of Manchester, United Kingdom.

2:20 **287.2** Muscle-Specific Regulation of Right Ventricular Transcriptional Responses to Chronic Hypoxia Induced Heart Failure by the Muscle Ring Finger-1 (MuRF1) Ubiquitin Ligase *in Viv*o. **M.S. Willis, R.H. Oakley, T.L. Parry, J.A. Cidlowski, M.J. Campen.** University of North Carolina, National Institute of Environmental Health Sciences, National Institutes of Health and University of New Mexico.

2:40 **287.3** Gut Microbiota Depletion Preserves Heart Function, Suppresses Cardiac Fibrosis and Hypertrophy in a Non-Ischemic Heart Failure Mouse Model. **F.J. Carrillo-Salinas, N. Ngwenyama, M. Aronovitz, P. Alcaide.** Tufts University and Tufts Medical Center.

3:00 **287.4** Inhibition of Fpr2 Impaired Leukocyte Get-In Signal and Triggers Non-Resolving Inflammation in Heart Failure. **V. Kain, G.M. Wright, G.V. Halade.** UAB.

3:20 **287.5** The Muscle-Specific Ubiquitin Ligase MuRF1 Regulates Autophagy via FoxO1/3 Ubiquitination to Inhibit NF-κb Signaling and Protect Against Cardiac Inflammation *in Viv*o. **T.L. Parry, J.C. Schisler, J.M. Mwiza, J.K. Durand, A.S. Baldwin, M.S. Willis.** University of North Carolina.

3:40 **287.6** Deficiency of miR-1954 Promotes Cardiac Remodeling. **S. Gupta, V. Chisson.** Texas A&M University.

4:00 **287.7** Policing Cell-Cell Connections: A Novel Role for the Cop9 Signalosome in Mechanisms Underlying Arrhythmogenic Heart Disease and Sudden Death. **F. Sheikh, Y. Liang, R. Lyon, J. Pellman, V. Mezzano, Y. Gu, N. Dalton, M-H. Lee, T. Iwakuma, V. Nigam, K. Peterson.** University of California, San Diego, The University of Texas MD Anderson Cancer Center and University of Kansas Medical Center.

4:20 **287.8** Regulation of Cardiomyocyte Cohesion and Gap Junctions via Desmosomal Adhesion. **C. Schinner, B.M. Erber, J. Waschke.** Walter and Eliza Hall Institute of Medical Research, Germany.

288. ASIP BUSINESS MEETING, AWARDS PRESENTATION, AND MARK E. SOBEL RECEPTION

Society Events

MON. 5:15 PM—SAN DIEGO CONVENTION CENTER, ROOM 2 & ASIP OFFICE CORRIDOR

Workshops & Events

Pharmacology

289. OTTO KRAYER AWARD IN PHARMACOLOGY LECTURE

Lecture

8:30 AM—San Diego Convention Center, Room 16A

Award Lectures

The Otto Krayer Award in Pharmacology commemorates the enduring legacy of Otto Krayer's personal qualities: his ethical behavior, his commitment to teaching, his high standards of scientific scholarship, publication and editorship, his promotion of interdisciplinary research to reveal the actions of drugs or other chemicals, and his guidance and support of younger scientists. The purpose of the award is to recognize an individual whose character and career contributions to pharmacology are in accord with those exemplified by Otto Krayer.

8:30 Introduction.
8:35 Active Site Structures and Catalytic Mechanisms of Drug Metabolizing Cytochrome P450s. **P. Hollenberg.** Univ. of Michigan.

290. SURMOUNTING THE INSURMOUNTABLE: OBSTACLES IN DRUG DISCOVERY AND DEVELOPMENT—REAL WORLD CASE STUDIES

Symposium

(*Sponsored by:* ASPET Council BIG IDEAS Initiative)

9:30 AM—San Diego Convention Center, Room 16A

Chaired: K. He

Cochaired: P.F. Hollenberg

Drug Discovery and Development

Education

Metabolism and Metabolic Disease

9:30 Introduction. **K. He.** Biotranex.
9:35 Challenges and Solutions in the Approval of Austedo, the First Deuterium-Substituted Small Molecule. **M. Bradbury.** Prana Biotech.
10:10 Discovery and Development Challenges of Dasatinib for the Treatment of Chronic Myelogenous Leukemia and Beyond. **F. Lee.** Angex Pharmaceutical Inc.
10:45 Modeling and Simulation that Resulted in the Progression of Evolucumab. **S. Doshi.** Amgen.
11:20 Fasiglifam (TAK-875) Alters Bile Acid Homeostasis in Rats and Dogs: A Potential Cause of Drug Induced Liver Injury. **F. Wolenski.** Takeda Pharmaceuticals International Co.
11:55 Conclusion. **P. Hollenberg.** Univ. of Michigan.

291. G PROTEINS AND G PROTEIN COUPLED RECEPTORS IN CANCER

Symposium

(*Sponsored by:* ASPET Division for Molecular Pharmacology (MP))

9:30 AM—San Diego Convention Center, Room 16B

Chaired: J.S. Gutkind

Cochaired: P.A. Insel

Molecular Pharmacology

Cancer and Therapy

Inflammation/Immunity

9:30 Viral Hijacking of GPCR Networks in Cancer. **M. Smit.** Vrije Universiteit Amsterdam.
10:00 G Protein Regulation of Glioblastoma Stem Cells. **J. Heller Brown.** Univ. of California, San Diego.
10:30 The Human Onco-GPCRome: Opportunities for Cancer Prevention and Treatment. **J.S. Gutkind.** Univ. of California, San Diego.
11:00 Clinical Activity Novel GPCR Targeting Agents in Cancer: An Industry Perspective. **J. Allen.** Oncoceutics, Inc.
11:30 A Novel BRET Biosensor for Gαq-GTP Reveals Unique Properties of Cancer-Associated GNAQ Mutants. **M. Garcia-Marcos, M. Maziarz, A. Leyme.** Boston University. **(557.3)**
11:45 HRH1: A Novel GPCR Drug Target in Pancreatic Cancer. **A. Rodriguez, K. Sriram, K. Moyung, P. Insel.** University of California and San Diego. **(695.1)**

292. RNA BINDING PROTEINS IN CARDIOVASCULAR DISEASE

Symposium

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology (CVP))

9:30 AM—San Diego Convention Center, Room 15A

Chaired: M. Tranter

Cochaired: E.J. Tarling

Cardiovascular

RNA

Gene Expression

9:30 The Role of Tristetraprolin (TTP) in Regulating Cardiac Iron Homeostasis and Metabolism. **H. Ardehali.** Northwestern Univ.
9:54 Cardiac-specific Deletion of the RNA Binding Protein HuR Protects Against Pathological Cardiac Hypertrophy. **M. Tranter.** Univ. of Cincinnati.

10:18 The Role of RNA Binding Protein rbfox2 in Human Heart Diseases. **M. Kuyumcu-Martinez.** Univ. of Texas—Medical Branch.

10:42 HuR: Novel Regulator of Cardiovascular Pathophysiology. **P. Krishnamurthy.** Univ. of Alabama—Birmingham.

11:06 Post-transcriptional Regulation of Cholesterol Homeostasis as a Mediator of Atherosclerosis. **C. Fernandez-Hernando.** Yale Univ.

11:30 The Addition of GFP to Exosomes Influences Cardioprotective Potential Through an RNA Binding Mechanism. **L. Haar, T. Lynch, A. Guo, Y. Wang, G. Kuffel, W.K. Jones.** Loyola University Chicago. **(839.8)**

11:40 ZFP36L1 Is a Post-Transcriptional Regulator of Lipid Metabolism. **E.J. Tarling, B.L. Clifford, J. Cheng, P. Morand, A. Cheng, E. Lester, T. Sallam, M. Turner, T.Q. de Aguiar Vallim.** University of California, Los Angeles and The Babraham Institute, United Kingdom. **(842.6)**

293. THE BRIGHT AND DARK SIDE OF NRF2 FOR TISSUE PROTECTION

Symposium

(*Sponsored by:* ASPET Division for Toxicology (TOX))

9:30 AM—San Diego Convention Center, Room 15B

Chaired: Q.M. Chen

Toxicology

Cancer and Therapy

Inflammation/Immunity

Metabolism and Metabolic Disease

9:30 Introduction. **Q. Chen.** Univ. of Arizona.

9:35 Canonical and Non-canonical Pathways of Nrf2 Activation. **D. Zhang.** Univ. of Arizona.

10:05 Nrf2 as a Therapeutic Target for Treatment of Neurodegenerative Diseases. **J. Johnson.** Univ. of Wisconsin.

10:35 Keap 1 Independent Mechanism of Nrf2 Protection Against Liver Injury. **T. Kensler.** Univ. of Pittsburgh.

11:05 The Interplay of MicroRNAs and Nrf2 Inducers in Diabetic Complications. **L. Cai.** Univ. of Louisville.

11:35 NFE2L2 (Nrf2) Attenuates TGF-β1 Signaling by Elevation of Smad7 in Mouse Mesangial MES-13 Cells. **M-K. Song, I-G. Ryoo, D. Ryu, S-H. Lee, M-K. Kwak.** The Catholic University of Korea, Republic of Korea. **(562.12)**

11:50 Q&A.

11:55 Conclusion.

294. TRANSPORTERS AT THE BLOOD-CNS BARRIERS

Symposium

(*Sponsored by:* ASPET Division for Drug Metabolism and Disposition (DMDD))

9:30 AM—San Diego Convention Center, Room 17A

Chaired: J. Wang

Cochaired: P. Ronaldson

Drug Metabolism and Disposition

Cancer and Therapy

Metabolism and Metabolic Disease

9:30 Quantifying Drug Transport at the Blood-Brain Barrier and the Role of Uptake and Efflux Transporters. **M. Hammarlund-Udenaes.** Uppsala Univ.

10:00 Targeting Blood-Brain Barrier Transporters for CNS Drug Delivery: Role of Transforming Growth Factor-Beta Signaling. **P. Ronaldson.** Univ. of Arizona.

10:30 Influence of Peptide Transporter 2 (PEPT2) on the Brain Disposition/Dynamics of Peptides and Peptide-Like Drugs. **D. Smith.** Univ. of Michigan.

11:00 Molecular Pathways of Organic Cation and Anion Transport at the Blood-CSF Barrier. **J. Wang.** Univ. of Washington.

11:30 Is Inhibitor Binding the Sole Requirement in Determining Inhibition of ABCG2 Mediated Transport? **T. Gose, Y. Fukuda, A. Allcock, J. Lynch, W. Lin, S. Das, A. Shelat, T. Chen, J.D. Schuetz.** St. Jude Children's Research Hospital. **(693.9)**

11:45 Panel discussion.

295. ASPET DAILY DATABLITZ

Poster Discussion

1:00 PM—San Diego Convention Center, Exhibit Halls A-D
ASPET Poster discussion Area Booth 820

Chaired: M.J. Hernandez

Experience the daily ASPET datablitz, a rapid-fire oral presentation of research in the ASPET poster discussion lounge in the poster hall. These brief snippets of research are an introduction to their full presentations that will take place at their poster boards afterwards. You won't want to miss this fast-paced overview of the most exciting science of the day.

1:00 Investigating Organic Cation Transporter 3 (OCT3) and Plasma Membrane Monoamine Transporter (PMAT) as Targets for Development of New Antidepressant Treatments for Juveniles and Adolescents. **M.A. Bowman, N.C. Mitchell, R. Fraser-Spears, G. Gould, L.C. Daws.** The University of Texas Health Science Center at San Antonio and University of the Incarnate Word. **(680.3)**

1:05 Characterization of the Effects of Standard and Atypical Dopamine Uptake Inhibitors and Other Centrally Acting Drugs on the EEG of Freely Moving Rats. **C. Zanettini, A. Scaglione, J. Keighron, J.B. Giancola, S-C. Lin, A.H. Newman, G. Tanda.** Medication Development Program, National Institute on Drug Abuse, National Institutes of Health Intr, Neural Circuits and Cognition Unit, Laboratory of Behavioral Neuroscience and National Institute on Agi. **(681.11)**

1:10 Cancer-Associated Fusions of the Protein Kinase C Kinase Domain Are Loss-of-Function. **A-A.N. Van, T.R. Baffi, M.T. Kunkel, C.E. Antal, A.C. Newton.** University of California and San Diego. **(687.6)**

1:15 A Snake Venom-Derived Hemocoagulase Modified with Factor Xa Restores Hemostasis in Heparin-Treated, Hypocoagulant Mice. **M. Jackson, R. Adili, X. Dai, B. X. Li, M. Holinstat.** University of Michigan and Lee's Pharmaceutical, People's Republic of China. **(701.7)**

1:20 Determining the Effects of E-Cigarette Vapor on Oral Epithelial Cells in a Cultured Cell Model. **M. Duggar, H. Swanson, M. Hill-Odom.** University of Kentucky and Xavier University of Louisiana. **(692.3)**

1:25 Break.

1:30 The Synergistic Effect of Dopamine and Norepinephrine Transporter Inhibition on Cognitive Enhancement. **M.M. Pantoni, S.G. Anagnostaras.** University of California and San Diego. **(688.1)**

1:35 SNPS Outside Response Elements Impact Aryl Hydrocarbon Receptor (AHR) Binding and Gene Regulation: Genome-Wide SNP-Dependent Transcriptional Regulation. **D. Neavin, D. Liu, H. Li, L. Wang, R. Weinshilboum.** Mayo Clinic. **(694.3)**

1:40 Alpha-2C Adrenergic Receptor Promotes the Malignant Phenotype of Colon Cancer Cells. **R. Njeim, A. Eid.** American University of Beirut, Lebanon. **(695.5)**

1:45 Aspirin Protects Heart Against Ischemia-Reperfusion Injury via LKB1-Sestrn2-AMPK Signaling Cascade. **S. Lu.** University of Mississippi Medical Center. **(698.9)**

1:50 Differential Sphingosine-1-Phosphate Receptor 1 Expression in Male and Female Murine Heart and Brain Following Acute Ischemia and Reperfusion. **S. Shi.** University of Arizona College of Medicine – Phoenix. **(697.11**)

1:55 Discussion.

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

Lecture

(*Sponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

2:30 PM—San Diego Convention Center, Room 16A

Behavioral Pharmacology

Award Lectures

The P.B. Dews Award for Research in Behavioral Pharmacology recognizes outstanding lifetime achievements in research, teaching, and professional service in the field of behavioral pharmacology and to honor Dr. Peter Dews for his seminal contributions to the development of behavioral pharmacology as a discipline.

2:30 Introduction.

2:35 Drug-behavior Interactions and Drug Discrimination Learning. **R. Balster.** Virginia Commonwealth Univ.

297. BRINGING BASIC SCIENCES INTO CLINICAL EDUCATION

Symposium

(*Sponsored by:* ASPET Division for Pharmacology Education (DPE))

3:00 PM—San Diego Convention Center, Room 15A

Chaired: R. Theobald

Cochaired: K. Karpa

Education

3:00 Introduction and Clinical Pharmacology Elective for 4th Year Medical Students. **R. Theobald.** A. T. Still Univ. of Health Sciences.

3:30 Moving Across the Chasm: From Drug Facts to Clinical. **K. Karpa.** Penn State Univ.

4:00 Revitalizing Pharmacology in the UK Medical Curriculum. **S. Maxwell.** Edinburgh Medical Sch. Univ. of Edinburgh.

4:30 Integrating All the Medical Sciences into the Clinical Years of Medical Education. **S. Grap.** Penn State Univ.

5:00 Workshop for Creation of Clinical Pharmacology Activities.

5:25 Conclusion.

298. LOOKING TO THE FUTURE OF BEHAVIORAL PHARMACOLOGY

Symposium

(*Sponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

3:30 PM—San Diego Convention Center, Room 16A

Chaired: R.I. Desai

Cochaired: E. Jutkiewicz

Behavioral Pharmacology

3:30 Introduction. **R. Desai.** Harvard Medical Sch., McLean Hosp.

3:40 New Therapies for Alcohol-use Disorder. **K. Murnane.** Mercer Univ. Col. of Pharmacy.

4:05 Neuroinflammatory Targets to Promote Stress Resilience. **S. Wood.** Univ. of South Carolina Sch. of Med.

4:30 Radiation-induced Deficits in Sustained Attention and Memory. **C. Davis.** Johns Hopkins Univ. Sch. of Med.

4:55 Touchscreen Technology in the Development of Improved Preclinical Models. **B. Kangas.** McLean Hosp., Harvard Medical Sch.

5:20 Evaluation of the Wake-Promoting Effects of JZP-110: A Dopamine and Norepinephrine Reuptake Inhibitor. **M. Baladi.** Jazz Pharmaceuticals.

5:45 Summary and Discussion. **M. Nader.** Wake Forest Sch. of Med.

299. DIVISION FOR CANCER PHARMACOLOGY—YOUNG INVESTIGATORS SYMPOSIUM

Symposium

(*Sponsored by:* ASPET Division for Cancer Pharmacology (DCP))

3:30 PM—San Diego Convention Center, Room 15B

Chaired: J. Yalowich

Cochaired: C. Canman

Cancer and Therapy

3:30 Introduction.

3:35 GPR68, a Proton Sensing GPCR, Mediates Interaction of Pancreatic Cancer Associated Fibroblasts and Cancer Cells. **S. Wiley, K. Sriram, W. Liang, S. Chang, T. McCann, H. Nishihara, R. French, A. Lowy, P. Insel.** University of California, San Diego and Hokkaido Cancer Center, Japan. **(695.2)**

3:55 Deciphering the Role of SLX4IP in Telomere Maintenance Mechanisms. **T. Whited, N. Robinson, M. Grabowska, W. Schiemann, D. Taylor.** Case Western Reserve University. **(695.7)**

4:15 S100A8 and S100A9 Proteins in Tyrosine Kinase Inhibitor Resistance in FLT3-ITD-Positive Acute Myeloid Leukemia. **M.E. Zavorka Thomas, D.R. Buelow, J. Y. Jeon, S.B. Pounds, S.D. Baker.** The Ohio State University and St. Jude Children's Research Hospital. **(566.2)**

4:35 Structural Characterization of KRAS with a Novel Interactor, Argonaute 2. **J. Waninger, S. Shankar, R.F. Siebenaler, T.S. Beyett, J.J. Tesmer, A.M. Chinnaiyan.** University of Michigan. **(695.6)**

4:55 Bioengineered *let-7c* Is Effective at Reducing Orthotopic Hepatocellular Carcinoma Tumor Burden and Is Well Tolerated in Mouse Models. **J.L. Jilek, Q. Zhang, P. Y. Ho, M. Tu, Z. Duan, A. Yu.** University of California, Davis. **(565.2)**

5:15 Genetic Ablation of the ABC Transporter ABCC4 Impairs Lymphoid Leukemogenesis. **R.R. Crawford, S. Cheepala, S. Lian, Y. Fukuda, Y. Wang, J.D. Schuetz.** St. Jude Children's Research Hospital. **(695.15)**

5:35 Tumor Suppressor Alpha-Arrestin ARRDC3 Controls GPCR Signaling and Breast Cancer Chemoresistance. **W. A. Pan, A. Arakaki, J. Trejo.** Department of Pharmacology, School of Medicine, University of California and San Diego. **(566.14)**

5:55 Conclusion.

300. DIVISION FOR NEUROPHARMACOLOGY POSTDOCTORAL SCIENTIST AWARD FINALISTS

Symposium

(*Sponsored by:* ASPET Division for Neuropharmacology (NEU))

3:30 PM—San Diego Convention Center, Room 16B

Chaired: J. Traynor

Cochaired: S. Tsirka

Neuroscience

3:30 Grey Matter Dysmyelination During Abstinence in Ethanol Dependence. **S.S. Somkuwar, E. Villalpando, L.W. Quach, M. Scadeng, B. McKenna, M.J. Fannon, Y. Jones, A. Zemljic-Harpf, B.P. Head, C.D. Mandyam.** VA San Diego Healthcare System, University of California and San Diego. **(821.7)**

3:45 Regulation of Serum- and Glucocorticoid-Inducible Kinase Phosphorylation and Catalytic Activity in Ventral Tegmental Area by Chronic Drugs of Abuse. **V. Bali, M. Doyle, M. Mazei-Robison.** Michigan State University. **(680.8)**

4:00 Sex Differences in Antinociceptive Tolerance Development to δ^9-THC and CP55,940 in Wild-Type and Desensitization-Resistant S426A/S430A Mice. **A.N. Henderson-Redmond, D.E. Sepulveda, E.L. Ferguson, A.M. Kline, C.M. Nealon, D.J. Morgan.** Pennsylvania State University. **(684.10)**

4:15 Identification of Small Molecule Ligands Targeting GPR83, a G-Protein Coupled Receptor Activated by the Abundant Neuropeptide PEN **L.M. Lueptow, I. Gomes, A. Gupta, R. Sanchez, L. Devi.** Icahn School of Medicine at Mount Sinai. **(829.9)**

4:30 Efficacy of Negative Allosteric Modulators of $mGlu_2$ and $mGlu_3$ in a Rodent Model of Major Depressive Disorder. **M.E. Joffe, C.I. Santiago, J.L. Engers, C.W. Lindsley, P.J. Conn.** Vanderbilt. **(554.4)**

4:45 Leukemia Inhibitory Factor Modulates the Post-Stroke Immune Response in Rats. **S.M. Davis, L.A. Collier, C.C. Leonardo, C.T. Ajmo, T.J. Kopper, J.C. Gensel, K.R. Pennypacker.** University of Kentucky and University of South Florida. **(824.4)**

5:00 Analysis of Antinociception Produced by Positive Allosteric Modulators of the Mu-Opioid Receptor. **R. Kandasamy, J.R. Traynor.** University of Michigan Medical School. **(684.6)**

5:15 Dopaminergic Perturbations from Food Restriction and Exercise Are Sex-Dependently Amplified During Adolescence. **T.L. Gilman, W.A. Owens, C.M. George, L. Metzel, L.C. Daws.** The University of Texas Health Science Center at San Antonio. **(682.6)**

5:30 Myeloid Arginase 1 Protects Against Retinal Ischemia-Reperfusion Injury. **A. Fouda, Z. Xu, E. Shosha, J. Chen, W. Caldwell, P. Narayanan, R. Caldwell.** Augusta University. **(824.12)**

5:45 Assessing Opioid Tolerance Mechanisms in an Isolated Murine Dorsal Root Ganglia Neuron Model. **J.C. Jacob, W.L. Dewey, H.I. Akbarali.** Virginia Commonwealth University. **(683.8)**

301. DIVISION FOR TRANSLATIONAL AND CLINICAL PHARMACOLOGY—YOUNG INVESTIGATOR AWARDS PLATFORM SESSION

Symposium

(*Sponsored by:* ASPET Division for Translational and Clinical Pharmacology (TCP))

3:30 PM—San Diego Convention Center, Room 17A

Chaired: F. Kim

Translational and Clinical Pharmacology

3:30 Introduction.

3:40 Heat Shock Protein 90 Promotes Morphine Anti-Nociception in the Spinal Cord, but Not in the Brain, in a Murine Cancer Induced Bone Pain Model. **C. Stine, W. Lei, J.M. Streicher.** University of Arizona. **(701.6)**

3:55 Rapamycin PFC Nanoparticles Pre-Treatment Mitigates Cisplatin Induced Acute Kidney Injury. **J. Doherty, J. Fazal, S. Wickline, H. Pan.** University of South Florida Health. **(701.8)**

4:10 A Novel Metformin-Methylglyoxal Imidazolinone Metabolite (IMZ) Sensitizes Cells to Insulin; a Potential Role in Alleviating T2DM Complications. **T.L. Hargraves, N.J. Mastrandrea, S.S. Lau, T.J. Monks.** University of Arizona and Wayne State University. **(571.8)**

4:25 Identification of Novel Host Factors That Reduce Cell Damage Induced by the Bacterial Pore-Forming Toxin Streptolysin O. **T. Escajadillo, L. Popov, S. Dahesh, J.E. Carette, V. Nizet.** University of California, San Diego and Stanford University. **(570.9)**

4:40 Therapeutic Exosome Preparations: Relative Bioactivities of Intra- and Extra-Vesicular Components. **K. Luther, J. Liu, E. Marban.** Cedars-Sinai Medical Center. **(840.8)**

4:55 DNA-PK Is Activated in Human Atherosclerotic Plaques and Its Partial Inhibition by Gene Heterozygosity Reduces Atherogenesis in Mouse Model of the Disease. **M.A. Ghonim, K. Pyakurel, H. Luu, M. Dean, H. Bazan, H. Boulares.** Louisiana State University Health Sciences Center. **(570.2)**

5:10 Awards Presentation.

302. DIVISION FOR TRANSLATIONAL AND CLINICAL PHARMACOLOGY—EARLY CAREER FACULTY SHOWCASE

Symposium

(*Sponsored by:* ASPET Division for Translational and Clinical Pharmacology (TCP))

5:30 PM—San Diego Convention Center, Room 17A

Chaired: P.J. Hornby

Translational and Clinical Pharmacology

5:30 Interleukin-6 and the Mineralocorticoid Receptor: Old Targets in a New Pathway? **B. Wynne.** Emory Univ. Sch. of Med.

5:45 Genetic and Non-genetic Factors Affecting UGT2B17, An Important Androgen and Drug Metabolizing Enzyme: Applications in Precision Medicine. **B. Prasad.** Univ. of Washington.

Physiology

303. DO IT AGAIN: HOW TO ACHIEVE RIGOROUSLY REPRODUCIBLE RESEARCH II

Symposium

(*Sponsored by:* Trainee Advisory Committee)

Mon. 7:00 am—San Diego Convention Center, Room 25A

Chaired: R. Downey

Cochaired: I. Obi

Career and Professional Development

7:00 Building bridges: learning to work effectively with regulatory committees. **Bill Yates.** Univ. of Pittsburgh Sch. of Med.

7:30 Practical applications of rigor and reproducibility in the laboratory. **Sean Stocker.** Univ. of Pittsburgh Sch. of Med.

304. HALLMARKS OF GROUND RULES FOR PRODUCTIVE COLLABORATIONS IN SCIENCE. MAINTAINING MOMENTUM IN COLLABORATIONS

Symposium

(*Sponsored by:* APS Careers in Physiology Committee)

Mon. 7:00 am—San Diego Convention Center, Room 25B

Chaired: J. Brandauer

Cochaired: B. Becker

Career and Professional Development

7:00 Maintaining momentum in collaborations. **David Pollock.** Univ. of Alabama at Birmingham.

7:20 Maintaining momentum in collaborations. **C. Schnackenberg.** GlaxoSmithKline.

7:40 Panel discussion.

305. 2018 MENTORING SYMPOSIUM: RECOGNIZING AND RESPONDING TO IMPLICIT BIAS IN SCIENCE III

Symposium

(*Sponsored by:* Women in Physiology Committee)

Mon. 7:00 am—San Diego Convention Center, Room 25C

Chaired: D. Al Alam

Cochaired: K. Wallace and D.H. Ho

Diversity in Science

Career and Professional Development

7:00 *Impact Bias*: What is it and what can we do about it? **Tamera Schneider.** Wright State Univ.

7:30 General discussion.

306. NOVEL PHYSIOLOGIC-BASED APPROACHES TO TREATING SLEEP APNEA

Symposium

(*Sponsored by:* Hypoxia Group)

Mon. 8:30 am—San Diego Convention Center, Room 23ABC

Chaired: J. Dempsey

Cochaired: M. Bates

Neuroscience

Emerging Technologies

Cardiovascular

8:30 Treating upper airway muscle dysfunction via hypoglossal nerve stimulation. **Atul Malhotra.** UCSD.

9:00 Strategic decision making and identification of potential drug targets for OSA pharmacology. **Richard Horner.** Univ. of Toronto.

9:30 Treating the apnea of heart failure: complexities and controversies. **Shahrokh Javaheri.** Univ. of Cincinnati.

307. NEW CONCEPTS IN JGA PHYSIOLOGY

Symposium

(*Sponsored by:* Renal Section)

Mon. 8:30 am—San Diego Convention Center, Room 25B

Chaired: J. Peti-Peterdi

Cochaired: C. Buckley

Metabolism and Metabolic Disease

8:30 SGLT2 inhibitors and glomerular hemodynamics. **Volker Vallon.** UCSD.

8:52 New role of macula densa cells in tissue remodeling. **Georgina Gyarmati.** USC.

9:14 Imaging and manipulation of renin cells. **Charlotte Buckley.** Queen's Medical Research Institute.

9:36 Non-canonical functions of renin cells: renal physiology, regeneration and beyond. **Vladimir Todorov.** TU Dresden.

308. IMPACT OF SEX-SPECIFIC SIZE OF THE NORMAL AND FAILING LEFT VENTRICLE: STUDIES IN HUMANS AND MICE

Symposium

Sex/Gender Research Interest Group

Mon. 8:30 am—San Diego Convention Center, Room 22

Chaired: P.L. Kerkhof

Cochaired: V.M. Miller

Cardiovascular

Diversity in Science

8:30 Sex-specific aspects of cardiac maladaptation to hypertension and arterial stiffness. **Tatiana Kuznetsova.** KU Leuven.

9:00 Sex differences in cardiac function for mice with increased arterial stiffness. **Jessica Wagenseil.** Washington Univ.

9:30 Sex differences in cardiac electrophysiology and medical device effectiveness: cardiac resynchronization therapy in women. **Robert Zusterzeel.** NIH, FDA Office of the Commissioner.

309. PUBLISHING 101: HOW TO GET YOUR WORK PUBLISHED AND AVOID ETHICAL MINEFIELDS

Symposium

(*Sponsored by:* Publications Committee)

Mon. 8:30 am—8:30—San Diego Convention Center, Room 28DE

Preparing your work for publication in APS journals. **Curt Sigmund.** Roy J. and Lucille A. Carver College of Medicine University of Iowa.

9:00 Publications ethics considerations. **Christina Bennett.** American Physiological Society.

9:30 Editors-in-Chief Panelists Discussion. **Rory Morty, Sue Bodine.** Max Planck Inst. for Heart and Lung Res., Giessen, Germany., Univ. of Iowa Carver Col. of Med.

310. BIOARTIFICIAL ORGANS: USING DONOR AND SYNTHETIC SCAFFOLDS

Symposium

(*Sponsored by:* Integrative Physiology Symposium Series)

Mon. 8:30 am—San Diego Convention Center, Room 20A

Chaired: L.M. Harrison-Bernard

Emerging Technologies

8:30 Directed morphogenesis: bringing tissue engineering and developmental biology together? **Harald Ott.** Mass General Hosp.

9:00 Bioartificial lung regeneration derived from lungs of Rhesus macaques. **Bruce Bunnell.** Tulane Univ.

9:30 Acellular human heart matrix: a critical step toward whole heart grafts. **Luiz Sampaio.** Texas Heart Inst.

311. THE PHYSIOLOGY OF PERSONALIZED NUTRITION

Symposium

(*Sponsored by:* Nutrition Physiology Interest Group)

Mon. 8:30 am—San Diego Convention Center, Room 26AB

Chaired: B. Voy

Cochaired: J. Anthony

Nutrition/Obesity

8:30 Genetic and gender variation in the response to global human diets. **William Barrington.** UCLA.

8:52 Contribution of the gut microbiome to individual response to diet. **Frederico Rey.** Univ. of Wisconsin—Madison.

9:14 Genetic variation in human flavor perception. **Danielle Reed.** Monell Chemical Senses Ctr.

9:36 Personalized nutrition from the perspective of phenotypic flexibility. **Susan Wopereis.** Netherlands Organ. for Appl. Sci. Res. (TNO).

312. NON-CODING RNA REGULATION OF INFLAMMATION IN CARDIOVASCULAR, KIDNEY, AND RESPIRATORY DISEASES

Featured Topic

(*Sponsored by:* Physiological Genomics Group)

Mon. 8:30 am—San Diego Convention Center, Room 25A

Chaired: A. Kriegel

Cochaired: L. Rogers

Inflammation/Immunity

8:30 Lipoprotein small RNAs activate TLR signaling in cardiopulmonary diseases. **Kasey Vickers.** Vanderbilt University.

9:00 Enhancer-Associated Long Non-Coding RNAs Regulate Vascular Endothelial Function. **Z. Chen, Y. Miao, F-M. Lin, T-S. Huang, N. Ajami, S. Subramaniam, S. Chien.** City of Hope, University of California and San Diego. **(843.19)**

9:15 Renal Impact of Systemic Inhibition of miRNA-451 in a Mouse Model of Insulin Resistance. **M.B. Fluitt, L. Li, N. Shivapurkar, C.M. Ecelbarger.** Georgetown University. **(752.3)**

9:30 Liposomal Delivery of miR-29b Restored PRMT-1 and PRMT-5 Expression and Histone Methylation in Mice Exposed to Perinatal Inflammation. **S.S. Sugar, K.M. Heyob, R.M. Lee, L.K. Rogers.** The Research Institute at Nationwide Children's Hospital and The Ohio State University. **(916.1)**

9:45 Chronic Alcohol Misuse Induces Alveolar Macrophage Oxidative Stress and Mitochondrial Dysfunction via Upregulation of microRNA-130a. **S.M. Yeligar.** Emory University and Atlanta VA Medical Center. **(618.22)**

313. ION CHANNELS AND TRANSPORTERS IN HEALTH AND DISEASE

Featured Topic

(*Sponsored by:* Cell and Molecular Physiology Section)

Mon. 8:30 am—San Diego Convention Center, Room 25C

Chaired: R. Worrell

Neuroscience

Cardiovascular

8:30 Porcine Epidemic Diarrhea Virus, a Member of the *Coronaviridae* Family, Increases Epithelial Secretion in the Jejunum by Up-Regulation of Kcnn4. **C.B. Enns, J.C. S. Harding, M.E. Loewen.** University of Saskatchewan, Canada. **(750.28)**

8:45 Oligomerization of Ferroportin and the Mechanism of Autosomal Dominance in Ferroportin Disease. **J.P. Bonamer, T.A. Ruwe, B. Qiao, K.R. Vieth, T. Ganz, E. Nemeth, B. Mackenzie.** University of Cincinnati College of Medicine, David Geffen School of Medicine at University of California, Los Angeles. **(750.14)**

9:00 The Role of Exocyst Complex in the Fusion Process of Kca3.1 at the Basolateral Membrane of Epithelial Cells. **R.E. Farquhar, F.J. McDonald, K.L. Hamilton.** University of Otago, New Zealand. **(750.26)**

9:15 Characterizing the Expression of TRPV4 in the Choroid Plexus Epithelia as a Prospective Component in the Development of Hydrocephalus in the Gas8^{GT} Juvenile Mouse Model. **A.E. Hochstetler, L. Whitehouse, P. Antonellis, N.F. Berbari, B.L. Blazer-Yost.** Indiana University—Purdue University Indianapolis. **(750.12)**

9:30 Knockout of KCNJ16 (Kir5.1) in Dahl Salt-Sensitive Rats Produces Seizure Phenotype. **A.D. Manis, M.R. Hodges, T.S. Pavlov, A. Staruschenko, O. Palygin.** Medical College of Wisconsin and Henry Ford Hospital. **(750.3)**

9:45 A Conserved Pain Syndrome Resulting from the Acute Activation of TRPA1 by Chemotherapy Drugs. **N. Boiko, E. Montano, K.M. Hargreaves, B.A. Eaton, J.D. Stockand.** The University of Texas Health Science Center at San Antonio. **(750.4)**

314. GUT-BRAIN INTERACTIONS AND CONTROL OF FEEDING BEHAVIOR

Featured Topic

(*Sponsored by:* Endocrinology and Metabolism Section)

Mon. 8:30 am—San Diego Convention Center, Room 28A

Chaired: L. Stein

Nutrition/Obesity

Neuroscience

Metabolism and Metabolic Disease

8:30 Gut vagal afferent signaling regulates hippocampus function through multisynaptic pathways. **Scott Kanoski.** University of Southern California.

9:00 Coordination of Homeostatic Functions by Intrascapular Brown Adipose Tissue- and Pancreas-Related Command Neurons. **S.M. Butcher, B.V. Hamling, L.D. Desmoulins, A. Zsombok.** Tulane University and Tulane University School of Medicine. **(766.3)**

9:15 CART-GPR160 Regulation of Food Intake. **C.J. Haddock, G.L. C. Yosten, G.R. Kolar, W.K. Samson.** Saint Louis University. **(766.1)**

9:30 Metabolic Syndrome and the Role of GLP-1 Receptor Agonists in a Model of Postmenopausal Pcos. **E.D. Torres Fernandez, D.G. Romero, L.L. Yanes Cardozo.** University of Mississippi Medical Center. **(766.2)**

9:45 Central Fructose Impairs Exendin 4-Mediated Anorexia in the Ventromedial Hypothalamus in Male C57bl/6 Mice. **M. Burmeister, J.E. Ayala.** Sanford Burnham Prebys Medical Discovery Institute and Vanderbilt University. **(766.4)**

315. NOVEL INSIGHTS ON SYMPATHETIC ACTIVATION IN KIDNEY DISEASE: FROM ANIMAL MODELS TO CLINICAL TRIALS

Featured Topic

(*Sponsored by:* Neural Control and Autonomic Regulation Section)

Mon. 8:30 am—San Diego Convention Center, Room 24AB

Chaired: J. Park

Cochaired: B. Becker

Neuroscience

Cardiovascular

8:30 Sympathetic nervous system dysregulation in kidney disease: insights from human and animal studies. **Ronald Victor.** UCLA Cedars-Sinai.

9:00 Angiotensin II Acts in the Hypothalamic Paraventricular Nucleus to Differentially Regulate Blood Pressure and Sympathetic Nerve Activity in a Rodent Model of Polycystic Kidney Disease. **C.F. Underwood, A.A. Rahman, J.K. Phillips, C.M. Hildreth.** Macquarie University, Australia. **(736.1)**

9:15 Renal Sympathetic Nerves and Inflammation in Hypertension: Assessing Temporal Renal Inflammation Responses to Renal Denervation by Urinary Cytokine Excretion in the DOCA-Salt Rat. **C.T. Banek, J.W. Osborn.** University of Minnesota. **(736.2)**

9:30 Augmented Vascular α_1-Adrenergic Receptor Sensitivity in Humans with Chronic Kidney Disease. **D.G. Morison, Y. Li, I. Fonkoue, M. Kankam, D. DaCosta, D. Rapista, R.M. Downey, J. Park.** Emory University School of Medicine and Emory University. **(736.3)**

9:45 Splenic 6-Hydroxydopamine Worsens Renal Inflammation and Injury in a Murine Model of Systemic Lupus Erythematosus. **G.S. Pham, B. Osazuwa, O. Thomas, S.S. Vedantam, D.L. Fancher, K.W. Mathis.** University of North Texas Health Science Center, Texas Southern University and Texas Christian University. **(736.4)**

316. ADAPTATIONS IN PHYSIOLOGY EDUCATION

Featured Topic

(*Sponsored by:* Teaching of Physiology Section)

MON. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 28B

CHAIRED: D. OSBORNE

Career and Professional Development

8:30 Collaborative Phun Week Program Engages Elementary School Children in Physiology Learning and Jumpstarts Year-Long Physiology Curriculum. **R. Altman, K. Whited.** California State University, Sacramento and Sacramento Country Day School. **(629.10)**

8:45 Student Perspectives on Active Learning Activities in a Human Anatomy and Physiology Course. **H.M. DiFrancesca.** University of Mary Hardin-Baylor. **(773.23)**

9:00 Collaborative Testing and Reflection Papers as Supplementary Assessment Tools in a Clinical Physiology Course. **L.C. Anderson.** University of Minnesota. **(773.9)**

9:15 Academic Success Predictors in Optometry. **B. Foutch, R. Trevino, L. Fortepiani.** University of the Incarnate Word. **(773.10)**

9:30 The Impact of a Team Based Learning Exercise in the Understanding and Retention of Medical School Nutrition Education. **L. Cialdella-Kam, S. Khadilkar.** Case Western Reserve University School of Medicine. **(773.24)**

9:45 A Teaching EHR for Delivery of Small Group Cases. **D.U. Silverthorn, C. Johnston, K. Ziai.** Dell Medical School and The University of Texas at Austin. **(773.25)**

317. REGULATION OF BLOOD FLOW IN HEALTH AND DISEASE

Featured Topic

(*Sponsored by:* Cardiovascular Section)

MON. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 27AB

CHAIRED: V. OHANYAN

Cardiovascular

8:30 Diabetic vasculopathy: mechanisms and potential treatments. **David Stepp.** Medical College of Georgia.

8:45 LPA-Induced Activation of LPA_1 Receptor Leads to the Loss of No-Mediated Flow-Induced Dilation in Human Microvessels. **D.S. Chabowski, K. Ait-Aissa, A.O. Kadlec, J.H. Hockenberry, A.M. Beyer, D.D. Gutterman.** Medical College of Wisconsin. **(713.15)**

9:00 Quantitative Capillary Blood Flow Spatial Analysis in Skeletal Muscle During Sepsis. **N.A. Mignemi, K.V. Kilchrist, M.A. McClatchey, I.M. Williams, C.L. Duvall, D.H. Wasserman, O.P. McGuinness.** Vanderbilt University. **(713.16)**

9:15 Reconstitution of Autophagy Improves Vascular Reactivity in Spontaneously Hypertensive Rats. **C.G. McCarthy, C.F. Wenceslau, P. Martinez-Quinones, F.B. Calmasini, R.C. Webb.** Augusta University. **(713.17)**

9:30 The Influence of Aging on Central Artery Stiffness and Cerebral Vascular Function Following an Acute Hypertensive Stimulus. **A.J. Rosenberg, E.C. Shroeder, G. Grigoriadis, S. O. Wee, G.J. Griffith, B. Fernhall, T. Baynard.** Integrative Physiology Laboratory, University of Illinois at Chicago, California State University and San Bernardino. **(713.18)**

9:45 In Vivo Visualization of Mitochondria in the Cerebral Endothelium of Mice. **I. Rutkai, T. Salter-Cid, A. Adivi, W.R. Evans, T.C. Dean, P.V. G. Katakam, D.W. Busija.** Tulane University. **(713.19)**

318. IDENTIFICATION OF NOVEL DRUG TARGETS FOR THE MODULATION OF GASTROINTESTINAL MOTILITY

Symposium

(*Sponsored by:* GI and Liver Physiology Section)

(*Cosponsored by:* AJP—Gastrointestinal and Liver Physiology)

MON. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 23ABC

Microbiome

Nutrition/Obesity

Neuroscience

1:30 Inflammation-induced neuroplasticity in the gut. **Gary Mawe.** University of Vermont.

1:52 Immune modulation of GI motility. **Terez Shea-Donohue.** University of Maryland.

2:14 Microbial modulation of the gut innervation. **Alan Lomax.** Queen's University.

2:36 Ca_{2+} sensitization mechanisms and gastric motility. **Brian Perrino.** University of Nevada, Reno School of Medicine.

319. CARDIOVASCULAR SECTION—YOUNG INVESTIGATOR SYMPOSIUM

Symposium

(*Sponsored by:* Cardiovascular Section)

MON. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 22

CHAIRED: S. GOULOPOULOU

COCHAIRED: E. BELIN DE CHANTEMELE

Cardiovascular

1:30 Inhibition of FPR2 impaired leukocyte get-in signal and triggers non-resolving inflammation in heart failure. **V. Kain**. Univ. of Alabama at Birmingham.

1:45 Leptin-Induced Endothelial Dysfunction Is Mediated by Endothelial Mineralocorticoid Receptor Epithelial Sodium Channel Activation in Female Mice. **J.L. Faulkner, S. Kennard, I. Jaffe, E.J. Belin de Chantemele.** Augusta University and Tufts University. **(843.32)**

2:00 Endothelial TRPA1 Channels Are Activated by Hypoxia in Cerebral Arteries and Protect Against Ischemic Damage. **P.W. Pires, S. Earley.** University of Nevada, Reno School of Medicine. **(845.2)**

2:15 Mineralocorticoid Receptor Signaling Regulates Parenchymal Arteriole Vasodilation and Cognitive Function. **J.M. Diaz-Otero, T-C. Yen, C. Fisher, W.F. Jackson, A.M. Dorrance.** Michigan State University. **(711.14)**

2:30 Inducible Deletion of Endothelial *Hba1* Significantly Reduces Exercise Fitness in Mice. **A.S. Keller, S. Brooks, A. Islam, T. C.S. Keller, A.K. Best, M.K. Cortese-Krott, Z. Yan, H. Ackerman, B.E. Isakson.** University of Virginia, National Heart, Lung, and Blood Institute, National Institutes of Health and Heinrich-Heine University of Düsseldorf, Germany. **(704.7)**

2:45 Neddylation Is Essential for Cardiac Development via Regulation of Notch Signaling. **R.E. Littlejohn, J. Zou, W. Ma, J. Li, N. Weintraub, J. Zhou, H. Su.** Augusta University and Augusta University, Republic of Korea. **(900.5)**

320. BIOPHYSICAL AND METABOLIC REGULATION OF STEM CELLS

Symposium

(*Sponsored by:* Cell and Molecular Physiology Section)

Mon. 1:30 pm—San Diego Convention Center, Room 25C

Chaired: J. Rehman

Cochaired: J-W. Shin

Neuroscience

Cardiovascular

1:30 Introduction: Key questions in the biophysical and metabolic regulation of stem cells. **Jae-Won Shin.** University of Illinois at Chicago.

1:35 Biomechanical regulation of hematopoietic stem cell potential. **Pamela Wenzel.** University of Texas Health Sciences Center.

2:00 Oxygen and mechanics to control vascular differentiation and network assembly. **Sharon Gerecht.** Johns Hopkins University.

2:25 Dietary control of stem cells in physiology and disease. **Ömer Yilmaz.** Mass Instit Tech.

2:50 Wrap-up: Future directions. **Jalees Rehman.** University of Illinois at Chicago.

321. APS PRESIDENT'S SYMPOSIUM SERIES II. EXOSOMES: THE NEW FRONTIER. PATHOPHYSIOLOGY OF EXOSOMES

Symposium

President's Symposium Series

Mon. 1:30 pm—San Diego Convention Center, Room 20A

Chaired: C. Théry

Cancer and Therapy

Neuroscience

Microbiome

1:30 Pathological role of exosomes and other extracellular vesicles in cancer. **Lorraine O'Driscoll.** Trinity College Dublin.

2:00 Neurodegenerative diseases and extracellular vesicles. **Shilpa Buch.** Univ. of Nebraska Med. Ctr.

2:30 Mediation of host-bacterial interactions by exosomes. **Bruce Stanton.** Geisel Sch. of Med., Dartmouth Med. Sch.

322. BIOSENSORS ADVANCING HEALTH AND DISEASE RESEARCH

Symposium

(*Sponsored by:* APS Physiologists in Industry Committee)

Mon. 1:30 pm—San Diego Convention Center, Room 26AB

Chaired: B. Bucher

Cochaired: T.D. Olver

Emerging Technologies

1:30 The use of telemetry to study glucose metabolism. **Patrick Tso.** University of Cincinnati Medical Center.

2:00 Wearable technology for injury prevention and optimal performance. **Mark Buller.** U.S. Army Research Institute of Environmental Medicine.

2:30 Closed-loop neuromodulation in physiological and translational research. **Stavros Zanos.** Fienstein Institute for Medical Research.

323. THE PHYSIOLOGICAL CHALLENGES OF ESCAPING EXTREME ENVIRONMENTS: DISABLED SUBS AND STRATOSPHERIC BAILOUTS

Symposium

(*Sponsored by:* History of Physiology Group)

Mon. 1:30 pm—San Diego Convention Center, Room 28B

Chaired: K. Ryan

Cochaired: J. Dean

Physiology of Extreme Environments

1:30 33 Gs of deceleration, anoxia and frozen eyeballs: Bailout at 40,000 feet in 1943.. **Jay Dean.** Univ. of South Florida.

2:00 Stratospheric supersonic freefall flight test lessions learned. **Jonathan Clark.** Baylor Col. of Med. and Florida Inst. for Human and Machine Cognition.

2:30 Disabled submarine (DISSUB) escape and rescue. **Anthony Bielawski.** US Navy Undersea Rescue Command.

324. THE ROLE OF REDD1 IN THE REGULATION OF SKELETAL MUSCLE METABOLISM

Symposium

(*Sponsored by:* Endocrinology and Metabolism Section)

MON. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 28A

CHAIRED: F. FAVIER

Metabolism and Metabolic Disease

1:30 REDD1- mediated redox control governs autophagy and skeletal muscle ATP generation to promote exercise capacity. **Leif Ellisen.** Massachusetts General Hospital.

2:00 The role of REDD1 during muscle hypertrophy and atrophy. **Scot Kimball.** Pennsylvania State University College of Medicine.

2:30 The role of REDD1 in the exerciseinduced change in gene expression. **Bradley Gordon.** University of Central Florida.

325. HANS USSING LECTURE OF THE EPITHELIAL TRANSPORT GROUP

Featured Topic

(*Sponsored by:* Epithelial Transport Group)

MON. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 25A

CHAIRED: Y. AKIBA

Metabolism and Metabolic Disease

Nutrition/Obesity

1:30 Epithelial acid-base balance, claudins, and gastric barrier properties. **Ursula Seidler.** Hannover Med. Sch., Germany.

2:00 Novel Mouse Model of a Human Mutation in NKCC1 Confirms Its Mistargeting in Epithelia. **R. Koumangoye, S. Omer, E. Delpire.** Vanderbilt University School of Medicine. **(747.14)**

2:15 The Sodium/Hydrogen Exchanger 2 (SLC9A2/NHE2) Is Involved in the Differentiation of Colonic Intestinal Epithelial Cells. **K. Nikolovska, C. Li, Y. Yu, Z. Yuan, A. Seidler, A. Kini, S. Yeruva, A.K. Singh, B. Riederer, U. Seidler.** Hannover Medical School, Germany. **(747.15)**

2:30 Intestinal Epithelial-Specific NHE3 Knockout Causes Metabolic Acidosis. **A. Valdez, J.A. Dominguez Rieg, R.A. Fenton, T. Rieg.** University of South Florida and Aarhus University, Denmark. **(747.13)**

2:45 Chip Regulates Aquaporin-2 Quality Control and Body Water Homeostasis. **Q. Wu, H.B. Moeller, D.A. Stevens, R. Sanchez-Hodge, G. Childers, M.L. A. Kortenoeven, L. Cheng, L.L. Rosenbaek, C. Rubel, C. Patterson, T. Pisitkun, J.C. Schisler, R.A. Fenton.** Aarhus University, Denmark, University of North Carolina at Chapel Hill and Presbyterian Hospital. **(624.1)**

326. NCAR HOT TOPICS IN AUTONOMIC REGULATION

Featured Topic

(*Sponsored by:* Neural Control and Autonomic Regulation Section)

MON. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 28DE

CHAIRED: K.W. MATHIS

COCHAIRED: C.T. BANEK

Neuroscience

1:30 Hypertensive Young Adult Female Obese Zucker Rats (OZR) Do Not Have the Blunted Baroreflexes and Poor Glycemic Control Observed in Age-Matched Hypertensive Male OZR. **P. Chaudhary, A.M. Schreihofer.** University of North Texas Health Science Center. **(885.21)**

1:45 Thoracic TRPV1 Receptor Spinal Afferent Ablation Prevents the Development and Progression of Hypertension in SHR but Not in Ang II-Infused Rats. **J.A. Shanks, S. Del Bem Velloso de Morais, H. Wang, I.H. Zucker.** University of Nebraska Medical Center. **(885.4)**

2:00 The Inflammatory Reflex Controls Inflammation in Response to Viral Challenges. **D. Martelli, D.G. S. Farmer, E.N. Komegae, M.J. McKinley, R.M. McAllen.** Università di Bologna, Italy, Florey Institute of Neuroscience and Mental Health, Australia and University of São Paulo, Brazil. **(885.2)**

2:15 A Forebrain-Hypothalamic Circuit Mediates Hepatic Steatosis. **K.A. Blackmore, C.J. Houchen, H. Simonyan, C.N. Young.** The George Washington University School of Medicine and Health Sciences. **(885.14)**

2:30 Corticotropin-Releasing Hormone Receptor 2 in the Nucleus of the Solitary Tract Contributes to the Intermittent Hypoxia Induced Hypertension. **L. Wang, D. Nguyen, S. Cross, S. Mifflin.** University of North Texas Health Science Center. **(885.11)**

2:45 Resting Regional Brain Activity and Functional Connectivity Varies with Resting Blood Pressure but Not Muscle Sympathetic Nerve Activity in Normotensive Humans. **V.G. Macefield, S. Kobuch, L.A. Henderson.** Baker Heart and Diabetes Institute, Australia, Western Sydney University, Australia and University of Sydney, Australia. **(885.15)**

327. ADVANCES IN RENAL PHYSIOLOGY I

Featured Topic

(*Sponsored by:* Renal Section)

MON. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 25B

CHAIRED: P. ORTIZ

COCHAIRED: R. CORNELIUS

Microbiome

1:30 Kidney-Specific COP9 Signalosome (Csn) Deletion Mimics Fhht Effects on WNK/NCC Signaling. **R.J. Cornelius, C-L. Yang, D.H. Ellison.** Oregon Health & Science University. **(716.12)**

1:45 A Sympathetically Mediated α1-Adrenoceptor Dependent Pathway Promotes Renal Sodium Chloride Cotransporter Activity in Age-Related Hypertension. **A.A. Frame, R.D. Wainford.** Boston University School of Medicine. **(621.8)**

2:00 SPAK (*STK39*) Is Involved in NKCC2 Phosphorylation and Salt-Sensitive Hypertension in Dahl Salt-Sensitive Rats. **J. A. Garcia-Pedraza, P.A. Ortiz.** Henry Ford Hospital. **(620.9)**

2:15 Renal Expression of Adhesion GPCR GPR116 (ADGRF5) Plays a Role in Urinary Concentration in Mice. **N. Zaidman, J. Pluznick.** Johns Hopkins University. **(619.6)**

2:30 Elevated Superoxide Production in Response to Angiotensin II by Proximal Tubules of Rats Consuming a Moderately Enriched Fructose Diet. **A. Gonzalez-Vicente, N. Yang, A. Morris, J.L. Garvin.** Case Western Reserve University. **(716.11)**

2:45 Tubular NHE3 Is a Determinant of the Acute Natriuretic and Chronic Blood Pressure Lowering Effect of the SGLT2 Inhibitor Empagliflozin. **W. Huang, R. Patel, A. Onishi, M. Crespo Masip, M. Soleimani, B. Freeman, V. Vallon.** University of California, San Diego and VA San Diego Healthcare System, University of Lleida, Spain and University of Cincinnati. **(620.17)**

328. CARL LUDWIG DISTINGUISHED LECTURESHIP OF THE APS NEURAL CONTROL AND AUTONOMIC REGULATION SECTION

Lecture

(*Sponsored by:* Neural Control and Autonomic Regulation Section)

MON. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 24AB

Cardiovascular

Neuroscience

1:30 Heart meets brain/brain meets heart: Therapeutic opportunities. **David Paterson.** University of Oxford.

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

Lecture

(*Sponsored by:* Environmental and Exercise Physiology Section)

MON. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 27AB

Cardiovascular

1:30 Muscle microcirculation: Gateway to function and dysfunction. **David Poole.** Kansas State Univ. Col. of Veterinary Med.

330. SYNERGIZING TEACHING AND SCHOLARSHIP

Symposium

(*Sponsored by:* Teaching of Physiology Section)

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 28B

CHAIRED: D.M. HARRIS

Education

Career and Professional Development

3:30 How to apply learning theories to teaching and scholarship. **Denise Kay.** Univ. of Central Florida.

4:00 How to choose an appropriate research design. **John Dobson.** Georgia Southern Univ.

4:30 Statistical analyses in educaitonal research. **Doug Everett.** Natl. Jewish Hlth.

331. ALTERING PHENOTYPE WITHOUT GENOTYPE

Symposium

(*Sponsored by:* Translational Physiology Interest Group)

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 25B

CHAIRED: J. SONES

COCHAIRED: D. REIJNDERS-MOST

Nutrition/Obesity

Metabolism and Metabolic Disease

Cardiovascular

3:30 Maternal obesity and neonatal body mass biometry. **Leanne Redman.** LSU Pennington Biomedical Research Center.

4:00 The milk of paradise? Maternal obesity, milk composition, and infant growth. **Ellen Demerath.** University of Minnesota.

4:30 Eating for two: parental dietary effects on offspring. **Rebecca Simmons**. Perelman Sch. of Med., Univ. of Pennsylvania

332. BROWN ADIPOSE TISSUE AND CARDIOVASCULAR FUNCTION: INSULIN RESISTANCE, VASCULAR TONE, AND CARDIOPROTECTIVE EFFECTS

Symposium

(*Sponsored by:* Cardiovascular Section)

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

CHAIRED: K. STANFORD

COCHAIRED: M. SCHERRER-CROSBIE

Cardiovascular

3:30 Origin and function of human beige adipocytes. **Silvia Corvera.** University of Massachusetts Medical School.

4:00 The cardioprotective role of brown adipose tissue. **Kristin Stanford.** Ohio State University.

4:30 Neuro-vascular interactions in adipose tissue. **Kristy Townsend.** University of Maine.

333. COMPARATIVE PERSPECTIVES ON MAXIMAL O_2 AND CO_2 TRANSPORT IN ANIMALS

Symposium

(*Sponsored by:* Comparative & Evolutionary Physiology Section)

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 25C

CHAIRED: M. HEDRICK

Cardiovascular

3:30 What limits cardiac output in vertebrates? **William Joyce.** University of Aarhus.

4:00 Getting to the heart of the matter: oxygen supply and demand in fish. **Georgina Cox.** University of Pennsylvania.

4:30 Maximum gas exchange rates: Lessons from across the vertebrate spectrum. **James Hicks.** University of California—Irvine.

334. MOLECULAR, CELLULAR AND SYSTEMS-LEVEL MECHANISMS DRIVING VENTILATION AND CO_2 SENSITIVITY DURING ACUTE AND CHRONIC HYPERCAPNIA

Featured Topic

(*Sponsored by:* Respiration Section)

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 25A

CHAIRED: M. HODGES

COCHAIRED: V. HAWKINS

Neuroscience

3:30 Molecular physiology of RTN respiratory chemoreceptor neurons. **Douglas Bayliss.** University of Virginia.

4:00 Ablation of neuromedin b (NMB)-expressing neurons located within retrotrapezoid nucleus (rtn) reduces the central respiratory chemoreflex (crc) selectively in conscious rats. **G. Souza, R. Kanbar, D. Stornetta, R. Stornetta, P. Guyenet.** University of Virginia and Lebanese American University. **(894.10)**

4:15 Ventilatory CO_2/H^+ chemoreflex during chronic hypercapnia in healthy goats. **N. Burgraff, K. Buchholz, S. Neumueller, M. Hodges, L. Pan, T. Langer, H. Forster.** Medical College of Wisconsin, Carthage College and Marquette University. **(894.11)**

4:30 Acute and Chronic Respiratory Effects from Repeated Audiogenic Seizures in $SS^{KCNJ16-/-}$ Rats. **A.D. Manis, G.C. Mouradian; Jr., S. Alvarez-Argote, A. Staruschenko, O. Palygin, M.R. Hodges.** Medical College of Wisconsin. **(894.14)**

4:45 Hypercapnic Ventilatory Response (HCVR) Is Increased in a Rat Model of Alzheimer's Disease. **M.C. Vicente, K.C. Bicego, D.C. Carrettiero, M. C. Almeida, L.H. Gargaglioni.** Sao Paulo State University, Brazil and Universidade Federal do ABC, Brazil. **(894.5)**

335. IMPACT OF DIET ON BLOOD PRESSURE REGULATION

Featured Topic

(*Sponsored by:* Water and Electrolyte Homeostasis Section)

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 28A

CHAIRED: A. GREENE

COCHAIRED: T. STODOLA

Microbiome

Nutrition/Obesity

Metabolism and Metabolic Disease

3:30 The DASH Diet Produces a Natriuretic Effect and Interacts with the Renin-Angiotensin-Aldosterone System. **S.A. Maris, S. Brown, P.R. Conlin, J.S. Williams.** Brigham & Women's Hospital and Harvard Medical School and Veterans Affairs Boston Healthcare System. **(763.7)**

3:45 Differential Sympathetic and RAAS Responses to a Low Sodium Diet. **M.C. Babcock, A.T. Robinson, J.C. Watso, K.U. Migdal, M.M. Wenner, S.D. Stocker, W.B. Farquhar.** University of Delaware and University of Pittsburgh. **(763.8)**

4:00 Female BALB/c Mice Develop Salt-Sensitive Hypertension and Endothelial Dysfunction in Association with Activation of the Renin-Angiotensin Aldosterone System. **J.L. Faulkner, D. Harwood, L. Bender, J. Morwitzer, M. Brands, S. Kennard, G. Antonova, E.J. Belin de Chantemele.** Augusta University. **(904.5)**

4:15 Effects of Parental Dietary Protein Source on Hypertension, Renal Injury, and Renal Inflammation. **J.M. Abais-Battad, H. Lund, J. H. Dasinger, D.J. Fehrenbach, D.L. Mattson.** Medical College of Wisconsin. **(883.2)**

4:30 The Short and Long-Term Effects of Food Restriction on Body Composition and the Renin Angiotensin System. **A. Souza, C.A. West, G. Campos, A.V. Pai, H. Ji, K. Sandberg.** Georgetown University and Universidade Federal de Ouro Preto, Brazil. **(904.7)**

4:45 Timing of Blood Pressure Rhythms Predict Risk of Renal Injury in the Dahl Salt-Sensitive Rats. **D. Chen, J.N. Booth III, C. Houchin, J.C. Colson, C. Jin, A.W. Cowley, A. Geurts, P. Muntner, M.E. Young, D.M. Pollock, J.S. Pollock.** University of Alabama at Birmingham and Medical College of Wisconsin. **(905.11)**

336. PROTECTIVE MECHANISMS IN THE VASCULATURE: WIGGERS AWARD SESSION

Featured Topic

(*Sponsored by:* Cardiovascular Section)

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 22

CHAIRED: C. SIGMUND

Cardiovascular

3:30 PPARgamma-dependent pathways protect the vasculature. **Curt Sigmund.** University of Iowa.

3:30 CD70 Modulates the Role of eNOS in Endothelial Cells. **A.K. Pandey, J.D. Brown, D.G. Harrison, H.A. Itani.** Vanderbilt University Medical Center. **(845.7)**

3:30 Mitochondrial-Targeted Antioxidant (MitoQ) Improves Vascular Function in Healthy Late Middle-Aged and Older Adults. **M.J. Rossman, J.R. Santos-Parker, C.A. C. Steward, N.Z. Bispham, L.M. Cuevas, H.L. Rosenberg, K.A. Woodward, M. Chonchol, R.A. Gioscia-Ryan, M.P. Murphy, D.R. Seals.** University of Colorado Boulder, University of Colorado Anschutz Medical Campus and Medical Research Council Mitochondrial Biology Unit, United Kingdom. **(845.8)**

3:30 Protective Effects of Diet and Sex on Cell Death and Intracellular Calcium in Resistance Arteries During Oxidative Stress. **C.E. Norton, S.Y. Sinkler, C.M. Manrique, S.S. Segal.** University of Missouri. **(845.3)**

3:30 Loss of Lymphocyte Adaptor Protein Lnk Predisposes to Acute Aortic Dissection. **F. Laroumanie, M.A. Saleh, L. Xiao, B.L. Dale, K.A. Gavulic, A. Korneva, M.R. Bersi, J.D. Humphrey, M.S. Madhur.** Vanderbilt University Medical Center and Yale University. **(845.4)**

337. SOLOMON BERSON DISTINGUISHED LECTURESHIP OF THE APS ENDOCRINOLOGY AND METABOLISM SECTION

Lecture

(*Sponsored by:* Endocrinology and Metabolism Section)

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 27AB

Metabolism and Metabolic Disease

3:30 The BIG story: The beautiful, integrative, glucose metabolism and exercise. **Erik Richter.** Univ. of Copenhagen.

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

Lecture

(*Sponsored by:* Renal Section)

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

3:30 *In the Flow.* Cell-specific expression and regulation of BK channels in the distal nephron. **Lisa Satlin.** Ichan Sch. of Med. at Mount Sinai.

339. JOSEPH ERLANGER DISTINGUISHED LECTURESHIP OF THE APS CENTRAL NERVOUS SYSTEM SECTION

Lecture

(*Sponsored by:* CNS Section)

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 26AB

Neuroscience

3:30 Getting the best reward: Neuronal mechanisms for utility maximisation. **Wolfram Schultz.** Univ. of Cambridge.

340. MCS LANDIS AWARD LECTURE AND BUSINESS MEETING

Lecture

(*Sponsored by:* Microcirculatory Society (MCS))

MON. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 20A

CHAIRED: S. PEIRCE-COTTLER

COCHAIRED: J. LOMBARD

Cardiovascular

3:30 Following the yellow brick road toward a better understanding of human arteriolar function requires courage, heartfelt collaborations and presence of mind. **David Gutterman.** Med. Col. of Wisconsin.

341. HENRY PICKERING BOWDITCH AWARD

Lecture

APS

MON. 5:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 24AB

5:30 Oxygen sensing pathways: A critical link between inflammation and cancer. **Yatrik Shah.** Univ. of Michigan.

TUESDAY, APRIL 24

Across Societies

342. NIH K AWARDS: NAVIGATING NIH PROGRAMS TO ADVANCE YOUR CAREER

Workshop

Tues. 9:00 am—San Diego Convention Center, Room 31 A

Career and Professional Development

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.

9:00 Speaker. **M. Matthews**. NIH.

343. POSTER/ORAL PRESENTATION PRACTICE & MENTORING SESSIONS

Workshop

Tues. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, Peer Mentor Pod

Career and Professional Development

FASEB Diversity Resources Program will sponsor Presentation Practice & Mentoring Sessions beginning Saturday, April 21, to provide FASEB DREAM poster/oral presentation travel award recipients and other interested EB2018 student/postdoc attendees with an opportunity to practice their presentations and obtain feedback from designated Workshop Mentors/Coaches. If you would like to participate in the poster/oral presentation & mentoring sessions, sign-up by using the following link, http://bit.ly/EB18SignUp1on1Session

344. CAREER CORNER SESSIONS WITH DR. ADAMS

Workshop

Tues. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, Career Corner

Career and Professional Development

Drop in or sign-up for one-on-one or group sessions for career counseling/career planning sessions with Dr. Howard G. Adams in between his presentations in the EB2018 Career Center. Dr. Adams will be available in the "Career Corner" in the EB2018 Career Center located in Hall D beginning on Saturday, April 21. Sign up by using the following link, http://bit.ly/EB18SignUp1on1Session.

345. ONE-ON-ONE RESUME CRITIQUE/CV, CAREER COUNSELING, ESSAY PERSONAL STATEMENT ASSESSMENTS

Workshop

Tues. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, Career Counseling Room

Career and Professional Development

One-on-one sessions for CV/resume critiques, career counseling, and essay/personal statement assessments will begin on Saturday, April 21. Sign-up by using the following link, http://bit.ly/EB18SignUp1on1Session.

346. HOW SENSATIONS AND PERCEPTIONS INFLUENCE YOUR BEHAVIOR

Workshop

Tues. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

The neuroscience of sensations and perceptions is often presented separate from behaviors we choose; yet, they are essential antecedents causing us to behave the way we do. In this seminar, we will review the neuroscience of sensations and perceptions and learn how these unique physiological and cognitive processes influence our behavior. This understanding will help better prepare you to achieve your goals when networking and interviewing, in addition to helping you do well in all interactions, such as with professors and colleagues.

9:00 Speaker. **J. Blumenthal.** Montgomery Col., Rockville, MD and Univ. of Maryland Univ. Col., Adelphi, MD.

347. WHAT YOU SEEK IS WHAT YOU GET

Workshop

Tues. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

It is generally agreed that sharing in a mentoring relationship can boost one's career/professional/technical growth and development. One common concern of some professionals in today's workplace regarding mentoring is this: "Since I am not privileged to have formal mentoring available to me, how do I find and choose a mentor on my own?" This seminar provides

an overview of essential strategies for identifying, screening, selecting, and using a mentor(s). Key topics:

- Decoding the Language of Mentoring.
- Establishing Mentoring Needs and Expectations.
- Identifying, Screening, and Selecting a Mentor.
- Building a Mentorship Alliance.
- Developing Mentorship Goals and Action Steps.

9:00 Speaker. **H. Adams.** H.G. Adams & Assoc., Norfolk, VA

348. CAREER OPPORTUNITIES IN SCIENCE COMMUNICATIONS

Workshop

Tues. 9:00 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

Do you enjoy talking about science more than doing it? Are you the person your labmates ask to edit their manuscripts? Are you a podcast junkie, and wonder how they do it? This career session will explore careers in science communication. In science journalism, institutional communication and multimedia careers, you use your science training to make a living talking about science. If it sounds like a dream come true, then this workshop is for you.

9:00 Speakers. **R. Skibba, S. Brown.** Science Writers.

349. JOB HUNTING IN BIOTECH PART 3: COMPENSATION NEGOTIATION FOR SCIENTIST POSITIONS

Workshop

Tues. 10:30 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

So you've landed a job offer for an industry scientist position! Now, how do you know if the compensation package is competitive, and how do you ask for more? In this seminar you will learn how to:

- Separate out the typical components of an industry job offer letter, so you know what to ask for
- Determine if an offer is competitive and when to ask for more
- Ask for additional compensation in a way that represents your interests while maintaining positive relationships.

(This is part 3 of a 3-part series. Each seminar can be taken separately, but together they provide comprehensive information about the industry job search process.)

10:30 Speaker. **B. Lindstaedt**. UCSF.

350. BUT I HAVE NO SKILLS! EXPLODING MYTHS & EXPLORING CAREER OPTIONS FOR PHDS

Workshop

Tues. 10:30 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

Are the skills you developed in graduate training really useful outside of the academic lab? Many PhD candidates and postdocs exploring careers beyond the academy assume—incorrectly—that employers will not find them or their skills attractive. In this session you will have the opportunity to identify skills that you currently possess, and also to find career fields that might be a good fit for these skills.

10:30 Speaker. **J. Lombardo.** LifeWork Choices.

351. TRANSLATING YOUR CV INTO AN EFFECTIVE RESUME + LINKEDIN PROFILE

Workshop

Tues. 10:30 am—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

Now that you've completed the exploration phase, and honed in on your new professional areas of interest, how do you present yourself on paper and in-person as a compelling, credible candidate. This presentation focuses on how to transform your academic CV into an effective resume, as well as, how to write a strong cover letter and prepare for future interviews.

10:30 Speaker. **A. Green.** Univ. of California, Berkeley.

352. HOW TO CHOOSE YOUR IDEAL CAREER

Workshop

Tues. 1:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

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, especially since there are so many different directions scientists can go with their careers?

There are more than FIFTY career options available to biomedical sciences PhD's. If you'd like to see a list of these career options, while learning about how to select the best option for you, then don't miss this thought-provoking and interactive workshop! Here you will learn about a logical, step-by-step process for exploring your career options and deciding which will provide the best fit for your own set of skills, values and interests.

1:00 Speaker. **B. Lindstaedt**. UCSF.

353. NAVIGATING DOCTORAL WORK PROTOCOLS/ MILESTONES/ REQUIREMENTS

Workshop

Tues. 1:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

Success in graduate school starts with goal setting and the formation of an action plan to achieve 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 and milestones. Session participants will be guided through exercises and provided with templates for developing a graduate program plan. Session topics: Planning in the context of the Graduate School Process, Establishing Realistic Program Goals, Objectives, and Milestones, the Planning Process-Writing and Implementing a Graduate Degree Plan, and Charting Milestones to Monitor Progress and Refine Actions Steps.

1:00 Speaker. **H. Adams.** H.G. Adams & Assoc., Norfolk, VA.

354. NIH F AWARDS: NAVIGATING NIH PROGRAMS TO ADVANCE YOUR CAREER

Workshop

Tues. 12:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

This presentation will focus on the NIH's Ruth L. Kirschstein National Research Service Awards (NRSA). The NRSA research training fellowship (F) awards are targeted to individuals with or seeking research doctoral degrees (Ph.D. and equivalent) and clinical doctoral degrees (M.D. and equivalent). Among the F awards discussed will be the F30, NRSA Individual Predoctoral MD/PhD or Other Dual-Doctoral Degree Fellowship Award, the F31 NRSA Individual Predoctoral Fellowship, the F31 NRSA Individual Predoctoral Fellowship to Promote Diversity in Health-Related Research Award, the F32 NRSA Individual Postdoctoral Fellowship Award, and the NRSA Individual Senior Fellowship 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 pre- an postdoctoral fellows and senior investigators.

1:30 Speaker. **M. Matthews.** NIH.

355. NEXT GEN PHDS AND CAREERS

Workshop

Tues. 2:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

There are more career options than ever before for life science PhDs. This session will provide actionable advice on how to determine what career path to pursue and how to best position yourself for your desired career.

2:00 Speaker. **P. Clifford.** Univ. of Illinois at Chicago.

356. CAREER OPPORTUNITIES IN SCIENCE COMMUNICATIONS

Workshop

Tues. 2:30 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-3

Career and Professional Development

Do you enjoy talking about science more than doing it? Are you the person your labmates ask to edit their manuscripts? Are you a podcast junkie, and wonder how they do it? This career session will explore careers in science communication. In science journalism, institutional communication and multimedia careers, you use your science training to make a living talking about science. If it sounds like a dream come true, then this workshop is for you.

2:30 Speakers. **R. Skibba, S. Brown.** Science Writers.

357. GLOBAL INTERVIEW SKILLS: A PRACTICE WORKSHOP FOR INTERNATIONAL CANDIDATES

Workshop

Tues. 3:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-1

Career and Professional Development

This interview practice workshop is customized for international job candidates. The key topics are: The four central questions in virtually every employment interview, understanding cultural and communication dynamics, the STAR method, and how to use "small talk" for big results.

3:00 Speaker. **D. Behrens.** Univ. of California, Berkeley.

358. THE STRATEGIC POSTDOC: HOW TO FIND & LEVERAGE YOUR POSTDOC EXPERIENCE

Workshop

Tues. 3:00 pm—San Diego Convention Center, Hall D, EB 2018 Career Center, CRC-2

Career and Professional Development

Many PhDs just kind of fall in to 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, a small college, national lab, 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.

3:00 Speaker. **A. Green.** Univ. of California, Berkeley.

Anatomy

359. NEUROBIOLOGY AWARD HYBRID SYMPOSIUM

Symposium

Tues. 8:30 am—San Diego Convention Center, Room 11B

Chaired: G. Schoenwolf

Neuroscience

C.J. Herrick Award Lecture in Neuroanatomy featuring 2018 Young Investigator Award Recipient, Helen Bateup

8:30 **359.1** Intersectional Genetic Approaches for Studying Dopaminergic Subpopulations. **H. Bateup.** University of California, Berkeley.

9:00 **359.2** Cardiolipin Exposure on the Outer Mitochondrial Membrane Modulates α-Synuclein Proteostasis in hPSC-Derived Parkinson's Disease Neurons. **S.D. Ryan, T.L. Ryan, V.V. Bamm, M.G. Stykel, C.C. Coackley, K. Humphries, G. Harauz.** University of Guelph, Canada.

9:15 **359.3** The Role of Neuropeptides in Peripheral Taste Signaling. **A.Y. Huang, S.Y. Wu.** Southern Illinois University School of Medicine.

9:30 **359.4** Axonal Pathology in hPSC-Based Models of Parkinson's Disease Results from Loss of Nrf2-Transcriptional Activity at the MAP1B Gene Locus. **T. Ryan, J. Drolet, K. Sherriff, C.C. Coackley, S.D. Ryan.** University of Guelph, Canada.

9:45 **359.5** Nociceptive Stimulus in the Neonatal Period Affects Satellite Glial Cells Morphology in Adult Life, with Differences Between Male and Female Rats. **A. L.B. Simoes, G. A.R. Silva, C. Giorgetto, E.C. Carmo, V. P.S. Fazan.** Ribeirão Preto Medical School and University of São Paulo, Brazil.

360. FROM BATS TO WHALES: FEEDING SHAPES DIVERSITY IN THE MAMMALIAN SKULL

Symposium

Tue. 8:30 am—San Diego Convention Center, Room 11A

Cochaired: E. Brainerd and A. Summers

Evolution/Anthropology

8:30 **360.1** Food, Form and Function: Motor Control, Movement and Modulation during Mastication in Mammals. **S.H. Williams.** Ohio University Heritage College of Osteopathic Medicine.

9:00 **360.2** Feeding in Marine Mammals: An Integration of Evolution and Ecology Through Time. **A. Berta, A. Lanzetti.** San Diego State University.

9:30 **360.3** Dietary Adaptations of the Feeding Apparatus in Bats. **S. Santana.** University of Washington.

361. BONE DEVELOPMENT AND DISEASE

Symposium

Tues. 8:30 am—San Diego Convention Center, Room 9

Chaired: R.J. Sherwood

Bones/Muscle/Connective Tissue

8:30 **361.1** Birth Defects of the Craniofacial Skeleton and the Potential for Prevention. **P. Trainor.** Stowers Institute for Medical Research.

9:00 **361.2** Heterotopic Ossification in Fibrodysplasia Ossificans Progressiva—How Does One Tissue Become Another? **E.M. Shore.** Perelman School of Medicine and University of Pennsylvania.

9:30 **361.3** Genetic Influences on Craniofacial Morphology. **R.J. Sherwood, D.L. Duren, J. Subedi, S. Williams-Blangero, M.C. Mahaney.** University of Missouri School of Medicine, Miami University and The University of Texas Rio Grande Valley.

362. GRADUATE ANATOMY EDUCATION; SUCCESSES AND CHALLENGES IN A CHANGING HEALTHCARE WORLD

Symposium

Tues. 8:30 am—San Diego Convention Center, Room 8

Chaired: A. Notebaert

Education

8:30 **362.1** Creating a Unique Graduate Training Program for Educator Scholars in the Anatomical Sciences. **A. Notebaert.** University of Mississippi Medical Center.

9:00 **362.2** The Value of Anatomy Coursework for Professional School. **E. Robertson.** The University of Mississippi Medical Center.

9:30 **362.3** A Postdoctoral Fellowship in Anatomy Education—Is It Needed? **A. Schaefer.** Indiana University School of Medicine-Evansville.

363. NEW PERSPECTIVES ON THE DEVELOPMENT AND EVOLUTION OF THE CEREBELLUM

Symposium

Tues. 10:30 am—San Diego Convention Center, Room 11B

Chaired: A. Iulianella

Evolution/Anthropology

Neuroscience

10:30 **363.1** Cerebellar Neuron Diversity in the Zebrafish: More Atoh1 Genes for More Atoh1 Fates? **C.U. Kidwell.** Fred Hutchinson Cancer Research Center.

11:00 **363.2** Constraints and Catalysts in Cerebellar Evolution. **R. Wingate.** King's College London, United Kingdom.

11:30 **363.3** Morphogenetic Mechanisms Generating Cell Fates in the Cerebellum. **A. Iulianella.** Dalhousie University, Canada.

364. VERTEBRATE MORPHOLOGY AND EVOLUTION PLATFORM

Symposium

Tues. 10:30 am—San Diego Convention Center, Room 11A

Chaired: C. Holliday

Vertebrate Paleontology

Evolution/Anthropology

10:30 **364.1** Gene Regulatory Network and Tissue Interactions Important for Head and Heart Development and Evolution. **J.M. Ziermann.** Howard University College of Medicine.

10:45 **364.2** Integration, Evolvability, and Constraint Within the Primate Functional Shoulder Complex. **E.R. Agosto, B.M. Auerbach.** University of Tennessee.

11:00 **364.3** A Mixed Model for the Relationship Between Latitude and Human Post-Cranial Form. **K.R. R. Savell, D.C. Katz, B.M. Auerbach, T.D. Weaver.** University of Tennessee, Knoxville, University of Calgary, Canada, University of California, Davis.

11:15 **364.4** Reconstructing Jaw Movement and Musculature in the Xenacanth Shark *Orthacanthus texensis*. **A.W. Bronson, A. Heers.** American Museum of Natural History and Stanford University.

11:30 **364.5** Differences Between Human and Great Ape Distal Humeral Articular Axes. **K.G. Zelazny, A.D. Sylvester, C.B. Ruff.** Johns Hopkins University School of Medicine.

11:45 **364.6** Myofascial Efficiency in Bipedalism: Progression of the Dynamic Body in Evolution and Environment. **L.D. Nemetz.** Pace University and Anatomy Trains.

365. FUTURE OF OSTEOPOROSIS TREATMENT

Symposium

Tues. 10:30 am—San Diego Convention Center, Room 9

Chaired: M. Elsalanty

Bones/Muscle/Connective Tissue

10:30 **365.1** A Novel Model to Assess the Effects of Osteoporosis Medications on Bone Quality. **D.R. Sumner, R. Ross.** Rush University and Rush University Medical Center.

11:00 **365.2** Targeting the Intestine to Treat Osteoporosis. **J. Schepper, N. Rios, H. Kang, N. Parameswaran.** Michigan State University.

11:30 **365.3** Pathophysiology of Anti-Resorptive Medication-Related Osteonecrosis. **T. Aghaloo.** University of California, Los Angeles School of Dentistry.

366. ANATOMY EDUCATION PLATFORM 3—COMPETENCIES, LEARNING STRATEGIES, AND OUTCOMES

Symposium

Tues. 10:30 am—San Diego Convention Center, Room 8

Cochaired: C. Vasan and A. Zumwalt

Education

10:30 **366.1** Embracing Active Learning: A Novel Approach to Teaching Embryology at the Larner College of Medicine. **S.A. McCarthy, L.A. Holterman.** University of Vermont.

10:45 **366.2** Teaching Clinical Anatomy Without Lectures in an Integrated Medical School Curriculum. **M.R. Spencer, M.E. DeSantis, J.R. Stadler, J. Woodcock, W. Saltarell**i. Central Michigan University and Western Michigan University.

11:00 Can 3D Printed and Virtual Whole Embryo Models Save Embryology Education?. **A.N. Dueñas, J. Stratford, E. Salcedo, B. Blezinski, L.M. J. Lee.** University of Colorado Anschutz Medical Campus and University of Colorado Boulder. **(508.14)**

11:15 **366.3** Student Perceptions and Experiences with Team-Based Learning (TBL) in a Graduate Histology Course. **H.M. Azim, K.W. Condon, J.J. Brokaw.** Indiana University School of Medicine.

11:30 **366.4** The Implementation and Evaluation of a Clinically Oriented Anatomy Laboratory Session (COALS) for Undergraduate Nursing Students. **V. Roach.** Oakland University William Beaumont School of Medicine.

11:45 **366.5** Benefits of Anatomy-Centered Interdisciplinary Review Sessions. **W. Lackey-Cornelison, J. Woodcock.** Western Michigan University and Homer Stryker **M.D.** School of Medicine.

367. ASSEMBLING THE PERIPHERAL NERVOUS SYSTEM

Symposium

Tues. 2:00 pm—San Diego Convention Center, Room 11B

Chaired: L. Taneyhill

Neuroscience

2:00 **367.1** When PNS Assembly Goes Awry: Familial Dysautonomia. **F. Lefcort, L. George, M. Chaverra.** Montana State University.

2:30 **367.2** Colonization of the Lower Urinary Tract by Neural Crest and Development of Pelvic Autonomic Innervation. **E.M. Southard-Smith.** Vanderbilt University Medical Center.

3:00 **367.3** The Warburg Effect and Lactate Signaling Augment FGF Signaling to Promote Sensory-Neural Development in the Otic Vesicle. **B. Riley, H. Kantarci.** Texas A&M University.

368. "WELL-PRESERVED" ANATOMISTS—KEEPING LIFE FUN AND PRODUCTIVE IN RETIREMENT

Symposium

Tues. 2:00 pm—San Diego Convention Center, Room 11A

Cochaired: D. Rhodes and J. Rhodes

Career and Professional Development

2:00 The Wide Open Spaces of Post-retirement Life. **Bruce Carlson.** The University of Michigan.
2:20 Life after the Lab: One Thing Leads to Another. **Gina Schatteman.** University of Iowa.
2:40 Keep Teaching and See the World. **Stephen Carmichael.** Mayo Clinic.
3:00 Tomorrow in Focus. **Debra Anderson, CFP.** TIAA.
3:15 Q & A.

369. STEM CELLS, TISSUE ENGINEERING & REGENERATION PLATFORM

Symposium

Tues. 2:00 pm—San Diego Convention Center, Room 9

Chaired: K. Kramer

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

2:00 **369.1** The roles of histone methyl-transferase *KMT2D* in vasculogenesis. **A. Serrano, B.L. Demarest, M. Tristani-Firouzi, H.J. Yost.** Eccles Institute of Human Genetics—University of Utah and Nora Eccles Harrison Cardiovascular Research and Training Institute.
2:15 **369.2** Hair Follicle-Derived Neural Crest Stem Cells (HF-NCSCs) as a Cell Source of Enteric Neurons. **Z. Wang, H. Zhao, T.L. Lee, J. Rudd, W.Y. Chan.** The Chinese University of Hong Kong, Hong Kong.
2:30 **369.3** Critical Role of Claudin-7 in Maintaining Intestinal Crypt Stem Cell Functions. **T. Xing, S. Sabu, L.J. Benderman, Y. Che**n. East Carolina University.
2:45 Characterizing the Adult Hematopoietic Stem Cell (HSC) Niche in a Zebrafish Model for Fetal Bone Marrow. **S. Agarwala, K-Y. Kim, E.A. Bushong, M.H. Ellisman, J.E. Henninger, L.I. Zon, O.J. Tamplin.** University of Illinois at Chicago, University of California, San Diego, Harvard University and Boston Children's Hospital. **(645.8)**
3:00 ARHGAP29 Expression and Localization in Cutaneous Wound Healing. **T. Reeb, M. Dunnwald.** University of Iowa. **(645.9)**
3:15 **369.4** Whole Cell and Bacterial Movement: The Identification of the Ubiquitin E2 Enzyme (UBE2N) as a Novel Actin-Associated Protein. **M.D. Chua, K-M. Moon, L.J. Foster, J.A. Guttman.** Simon Fraser University, Canada and University of British Columbia, Canada.

370. ANATOMY IN TRANSITION: CHALLENGES AND OPPORTUNITIES ADDRESSED THROUGH HISTORICAL AND ETHICAL INQUIRY

Symposium

Tues. 2:00 pm—San Diego Convention Center, Room 8

Cochaired: S. Hildebrandt and T. Champney

Education

2:00 **370.1** The Transition from "Unclaimed Bodies" to Body Donation—an Ongoing Process. **A. Winkelmann.** Medical School Brandenburg, Germany.
2:30 **370.2** Ethical Questions for Anatomical Body Programs in an Age of Digital Technology. **J. Cornwall.** Victoria University of Wellington, New Zealand.
3:00 **370.3** Reframing Anatomy as a "Safe Space" for Acquiring Professional Competencies: The Role of History and Ethics of Anatomy in Medical Education. **S. Hildebrandt.** Boston Children's Hospital/Harvard Medical School.

371. HENRY GRAY SCIENTIFIC AWARD LECTURE

Lecture

Tues. 4:00 pm—San Diego Convention Center, Room 9

Chaired: K. Topp

Award Lectures

4:00 Chair's introduction.
4:05 **371.1** Pathogenesis of Bronchopulmonary Dysplasia: An Unanticipated Journey. **K.H. Albertine.** University of Utah.
4:20 Q & A.

372. HENRY GRAY DISTINGUISHED EDUCATOR AWARD LECTURE

Lecture

Tues. 4:30 pm—San Diego Convention Center, Room 9

Education

Award Lectures

4:30 **Chair's** introduction.
4:35 **372.1** Authentic Anatomy Education: Leave Your Ego at the Door to Create Memorable Learning Experiences. **V.D. O'Loughlin.** Indiana University School of Medicine.
4:50 Q & A.

373. A. J. LADMAN EXEMPLARY SERVICE AWARD LECTURE

Lecture

Tues. 5:00 pm—San Diego Convention Center, Room 9

Award Lectures

5:00 Chair's introduction.
5:05 **373.1** "For of Those to Whom Much Is Given...". **J.T. Laitman.** Icahn School of Medicine at Mount Sinai.
5:20 Q & A.

Biochemistry and Molecular Biology

374. WAKE-UP! IT'S TRIVIA TIME

Society Events

(*Sponsored by:* ASBMB Membership Committee)

Tues. 7:00 am—San Diego Convention Center, Room 6B

Workshops & Events

Calling all trivia junkies! Join your colleagues for a daily dose of trivia, music, fun and prizes! It's a lively way to jump-start your day—the complimentary coffee and nosh also helps! Prize values increase over the course of the meeting, so come back each morning! ASBMB members and biochemistry registrants welcome. Space is limited with first come, first served.

375. ASBMB-MERCK AWARD

Lecture

(*Sponsored by:* Merck & Co.)

Tues. 8:00 am—San Diego Convention Center, Room 6B

Award Lectures

8:00 Awardee introduction.
8:05 **375.1** Black Spot, Black Death, Black Pearl: The Tales of Bacterial Effectors. **K. Orth.** Howard Hughes Medical Institute and The University of Texas Southwestern Medical Center.

376. RUTH KIRSCHSTEIN DIVERSITY IN SCIENCE AWARD

Lecture

Tues. 8:30 am—San Diego Convention Center, Room 6B

Diversity in Science

Award Lectures

8:30 Awardee introduction.
8:35 **376.1** Vision Cycle Proteins: Their Function, Structure and Links to Retinal Disease. **A. Tsin.** The University of Texas Rio Grande Valley School of Medicine.

377. DELANO AWARD FOR COMPUTATIONAL BIOSCIENCES

Lecture

Tues. 9:00 am—San Diego Convention Center, Room 6B

Award Lectures

9:00 Awardee introduction.
9:05 **377.1** Solutions to the Computational Protein Folding Problem. **C. Sander, D. Marks.** Harvard Medical School and Dana-Farber Cancer Institute and Harvard Medical School.

378. ADVANCES IN SINGLE CELL OMICS

Symposium

Tues. 10:00 am—San Diego Convention Center, Room 6E

Chaired: J.H. Eberwine

Genomics, Proteomics

10:00 **378.1** Super-Resolution Imaging of Transcription in Live Mammalian Cells. **I.I. Cissé.** Massachusetts Institute of Technology.
10:30 **378.2** Single-Cell Resolution of Developing Tissues and Cell Identity Programming. **B.J. Wold.** California Institute of Technology.
11:00 **378.3** Electrophoretic Cytometry: High-Selectivity Measurement of Isoforms Using Microfluidics. **A.E. Herr.** University of California, Berkeley.
11:30 **378.4** Multimodal Single Mouse and Human Cell 'omics: Is Variability Distinct Across Cellular Modalities? **J.H. Eberwine.** Perelman School of Medicine and University of Pennsylvania.

379. BIOCHEMISTRY OF AUTOPHAGY AND ORGANELLE TRAFFICKING

Symposium

Tues. 10:00 am—San Diego Convention Center, Room 6F

Chaired: K-L. Guan

Lipids and Membranes

10:00 **379.1** Hippo Pathway in Nutrient Response and Cell Growth. **K-L. Guan.** University of California and San Diego.
10:30 **379.2** Initiation, Targeting and Sculpting of the Phagophore. **J.H. Hurley.** University of California, Berkeley.
11:00 **379.3** AMPK: Guardian of Metabolism and Mitochondrial Homeostasis. **R.J. Shaw.** Salk Institute for Biological Studies.
11:30 **379.4** Migrosome and Migrocytosis. **L. Yu, D. Jiang, Z. Jiang, A. Meng.** Tsing Hua University, People's Republic of China.

380. PLANTS DO IT ALL

Symposium

Tues. 10:00 am—San Diego Convention Center, Room 6C

Chaired: S.R. Cutler

Plant Biochemistry

10:00 **380.1** Engineering Plant Signal Transduction for Water Smart Crops. **S.R. Cutler.** University of California, Riverside.
10:30 **380.2** Spatiotemporal Phytochrome-Dependent Regulation of Photosynthesis and Growth. **B.L. Montgomery.** Michigan State University.
11:00 **380.3** Discovery and Engineering of Plant Chemistry for Plant and Human Health. **E. Sattely.** Stanford University.
11:30 **380.4** Genome Editing and Plant Agriculture. **D. Voytas.** University of Minnesota.

381. RNA-MEDIATED EPIGENETICS

Symposium

Tues. 10:00 am—San Diego Convention Center, Room 1AB

Chromatin, Epigenomics

RNA

10:00 **381.1** Exploring the Biosynthesis of Hypermodified Bases One Step at a Time. **V. Bandarian.** University of Utah.
10:30 **381.2** The Dynamic Epitranscriptome: Control of mRNA Fate and Function by Nucleotide Modifications. **S. Jaffrey.** Weill Cornell Medicine and Cornell University.
11:00 **381.3** Smrt-Cappable-Seq Reveals Complex Operon Variants in Bacteria. **L. Ettwiller, B. Yan.** New England BioLabs Inc.
11:30 **381.4** Beyond the Central Dogma: The tRNA Epitranscriptome and an Alternative Genetic Code Tune Translation During Stress in Eukaryotes, Prokaryotes and Viral Infections. **P. Dedon.** Massachusetts Institute of Technology.

382. SIGNAL TRANSDUCTION, PATHOGENESIS AND DISEASE

Symposium

Tues. 10:00 am—San Diego Convention Center, Room 6D

Chaired: K. Orth

Cell Signaling, Signal Transduction

10:00 **382.1** Single Protein-Catalyzed Ubiquitination: Chemistry and Implications in Cell Signaling. **Z-Q. Luo.** Purdue University.
10:30 **382.2** Proteasomal Regulation of Hormone Signaling in *Mycobacterium tuberculosis*. **K.H. Darwin.** New York University School of Medicine.
11:00 **382.3** Structure and Signaling Mechanisms of G Protein-Coupled and B-arrestin-Biased Chemokine Receptors. **T. Handel, M. Gustavsson, Y. Zheng, B. Stephens, G. Baker, T. Ngo, L. Holden, R. Stevens, V. Cherezov, R. Abagyan, I. Kufareva.** University of California, San Diego, Scripps Research Institute and University of Southern California.
11:30 **382.4** New Technologies to Interrogate G Protein-Coupled Receptor Signaling. **A. Kruse.** Harvard Medical School.

383. STRUCTURAL BIOLOGY

Symposium

Tues. 10:00 am—San Diego Convention Center, Room 14A

Chaired: T. Thompson

Structural Biology/Biophysics

10:00 Molecular Mechanisms in Wnt Signaling. **William Weis.** Stanford Univ.
10:25 Talk tba. **Vince Luca.** Moffitt Cancer Ctr & Res. Inst.
10:50 Talk tba. **Joseph Schlessinger.** Yale Univ.
11:15 Biased Agonism in Receptor Tyrosine Kinase Signaling. **Mark Lemmon.** Yale Univ.
11:40 General discussion.

384. ASBMB MEET THE SPEAKERS

Society Events

Tues. 12:30 pm—San Diego Convention Center, Exhibit Halls A-D

Workshops & Events

Visit the ASBMB Lounge, across from ASBMB Booth #1316, to meet the morning presenters and continue the scientific discussion—a GREAT networking opportunity for all. Also visit the daily posters while you're in the exhibit hall.

385. ASBMB MEET THE SPEAKERS

Society Events

Tues. 1:30 pm—San Diego Convention Center, Exhibit Halls A-D

Workshops & Events

Visit the ASBMB Lounge, across from ASBMB Booth #1316, to meet the morning presenters and continue the scientific discussion—a GREAT networking opportunity for all. Also visit the daily posters while you're in the exhibit hall.

386. DNA DAMAGE AND REPAIR

Symposium

Tues. 2:30 pm—San Diego Convention Center, Room 30A

Chaired: D. Wang

2:30 High-Resolution Maps of Genome-Wide Human Damage and Repair. **O. Adebali, J. Hu, A. Sancar.** University of North Carolina at Chapel Hill. **(647.3)**
2:45 A New Pathway of Transcription-Coupled Repair**. K. Myka, R. Washburn, K. Kusters, M. Gottesman**. Columbia University, Department of Microbiology and Immunology and Columbia University. **(786.1)**
3:00 Rad5 Prevents the Accumulation of ssDNA Gaps at Stressed DNA Replication Forks. G.W. Brown, D.W. Gallo, S. Kim, Z. Zhang, D. Branzei. University of Toronto, Canada and International Foundations of Medicine, Italy. **(266.1)**
3:15 RecQ4 Helicases Stimulate Nuclease Activity During DNA Inter-Strand Crosslink Repair. **M.L. Bochman, C.M. Rogers.** Indiana University. **(522.1)**
3:30 **386.1** Molecular Mechanism of Transcription Transcription-Coupled Repair. **D. Wang.** University of California and San Diego.

387. MECHANISMS OF G PROTEIN SIGNALING

Symposium

Tues. 2:30 pm—San Diego Convention Center, Room 30B

Chaired: A.M. Lyon

2:30 Coordinated Cross-Talk Between Calcium and cAMP in Regulating Pulsatile Insulin Secretion: A Novel Role for the Unique Inhibitory G-Protein, Gαz,in Regulating β-Cell Function. **M. Schaid, J. Harington, H. Wienkes, M. Merrins, M. Kimple.** University of Wisconsin—Madison. **(666.9)**

2:45 New Insights into the Role of SmgSDS as a Major Integrator of Signaling by Ras and Rho Family Members in Cancer**. C. Williams, P. Gonyo, A. Brandt, O. Koehn, E. Lorimer, B. Unger, S-W. Tsaih, Y. Sun, M. McNally, H. Rui, M. Flister, C. Bergom**. Medical College of Wisconsin. **(661.8)**

3:00 Phosphorylation of G Protein γ Subunit Ste18 and the Ste5 Scaffold Form a Braking System that Governs Pathway Activation Kinetics and Switch-Like Signaling in Yeast**. M. Torres, S. Choudhury, P. Baradaran-mashinchi**. Georgia Institute of Technology. **(661.1)**

3:15 Plasma Membrane PI(4,5)P2 Threshold Regulates Chemotactic Signaling Pathways and Cell Morphology. **N. Bawazir, M. Beshay, A. Ring, C. Janetopoulos.** University of the Sciences. **(533.27)**

3:30 **387.1** Conformational Regulation of Phospholipase C Enzymes. **A. Lyon, E.E. Garland-Kuntz, F.S. Vago, M. Van Camp, M. Sieng, C. Corpstein, A.T. Blaine, W. Jiang.** Purdue University.

388. MEMBRANE LIPID BIOCHEMISTRY

Symposium

Tues. 2:30 pm—San Diego Convention Center, Room 30D

Chaired: J. Burke

Lipids and Membranes

2:30 Crystallographic and Enzyme Kinetic Analyses of the Human Inositol Polyphosphate Multikinase (IPMK). **R. Blind.** Vanderbilt University. **(671.6)**

2:45 Structure and Function of Lipins: Key Enzymes in Triglyceride Metabolism. **M. Airola.** Stony Brook University. **(672.6)**

3:00 A Novel Multi-Domain Phosphatidylinositol Transfer Protein/Oxysterol Binding Protein Senses Specific Phosphoinositide Pools on *Toxoplasma* Dense Granules. **A. Grabon, V.A. Bankaitis.** Texas A&M University. **(540.7)**

3:15 Novel Biosensors for an Enigmatic Phosphoinositide. **B. Goulden, J. Zewe, R. Wills, G. Hammond.** University of Pittsburgh. **(540.6)**

3:30 Sphingomyelin-Cholesterol Complexes in Plasma Membranes. **S. Endapally, D. Frias, D. Tomchick, A. Radhakrishnan.** The University of Texas Southwestern Medical Center. **(671.1)**

389. METABOLIC REPROGRAMMING

Symposium

Tues. 2:30 pm—San Diego Convention Center, Room 30C

Chaired: J. Ellis

Metabolism and Metabolic Disease

2:30 Dynamic Actin Reorganization and Vav/Cdc42-Dependent Actin Polymerization Promote Macrophage Aggregated LDL Uptake and Catabolism. **R.K. Singh, A.S. Haka, P. Bhardwaj, F.R. Maxfield.** Weill Cornell Medicine and Cornell University. **(539.11)**

2:45 Metabolic Reprogramming of Macrophages Exposed to *Pseudomonas aeruginosa* Biofilm. **M. C.B. Ammons, A. Fuchs, V. Copie.** Idaho Veterans Research and Education Foundation and Montana State University. **(669.23)**

3:00 Distinct Roles of Dietary Fat and Sugar in the Development of Obesity, Insulin Resistance, Atherosclerosis and Cardiac Dysfunction in LDL Receptor Knockout Mice. **L.R. Perazza, N. Daniel, M. J. Dubois, G. Pilon, P. Mitchelle, K. Le Quang, D. Lachance, E. Plante, T. Varin, R. Bouchareb, P. Mathieu, Y. Pouliot, S. Gauthier, D. Roy, C. Asselin, M. Blais, M. Lessard, A. Marette.** Laval University, Canada and Sherbrooke University, Canada. **(670.27)**

3:15 Long Non-Coding RNA H19 Serves as a Lipid Sensor to Reprogram Hepatic Lipid and Glucose Homeostasis by Interaction with RNA Binding Protein PTBP1. **Z. Yang, C. Liu, J. Wu, D-J. Shin, M. Tran, L. Wang.** University of Connecticut. **(539.3)**

3:30 Impact of Short- and Long-Term Weight Loss on the Inflammatory Profile of Metabolically Healthy and Unhealthy Obese Patients. **M. Clark, F. Barrenäs, M. Rajan, M. Sotak, V. Wallenius, E. Borgeson.** Institute of Medicine, University of Gothenburg, Sweden, Department of Cell and Molecular Biology, Uppsala University, Sweden, Institute of Clinical Sciences and University of Gothenburg, Sweden. **(670.12)**

390. METALS IN BIOLOGY

Symposium

Tues. 2:30 pm—San Diego Convention Center, Room 30E

Chaired: A.E. Palmer

2:30 PRL Phosphatases Promote Tumor Progression by Regulating the Level of Intracellular Magnesium. **S. Hardy, E. Kostantin, S. J. Wang, N. Uetani, M.L. Tremblay.** McGill University, Canada. **(533.73)**

2:45 Zinc-Mediated Oligomerization of S100a12. **S.M. Damo, V. Garcia, S. Little, D. Franklin, J.A. Gaddy.** Fisk University and Vanderbilt University. **(792.40)**

3:00 Heme-Free H-NOX from *Vibrio cholerae* Is Activated by Oxidation via a Zinc Ligand Switch Mechanism. **E. Yukl, K. Chacon, J. Jarvis.** New Mexico State University and Reed College. **(533.91)**

3:15 ATP as an Allosteric Modulator and Chelator of Fe^{3+} from Fe^{3+}-Transferrin Is ATP a Major Fe^{3+} Carrier. **R.E. Cowart, T.B. Shaffer, R.D. O'Hara, J.A. Campbell, L.L. Schneider-Tugan, S.K. Binz, M.A. Pope, R.B. Gregory.** University of Dubuque and Lindenwood University. **(799.1)**

3:30 A New Membrane Potential ($\delta\psi$)-Independent Iron Indicator Selectively Detects Mitochondrial Chelatable Iron but Not Calcium in Living Cells. **J. Hu, A-L. Nieminen, A. Kholmukhamedov, C.C. Lindsey, C.C. Beeson, J.J. Lemasters.** Medical University of South Carolina. **(657.6)**

391. PROTEIN FOLDING: EVERY WHICH WAY BUT LOOSE

Symposium

Tues. 2:30 pm—San Diego Convention Center, Room 31A

Chaired: J.E. Kim

2:30 Modulation of Fluorescent Protein Chromophore to Detect Protein Aggregation. **Y. Liu, C. Wolstenholme, G. Carter, C. Hoelzel, L. Grainger, M. Fares, X. Zhang.** Pennsylvania State University. **(794.6)**

2:45 The Amyloid-β Peptide in Alzheimer´s Disease: Molecular Interactions and Structure Conversions. **A. Gräslund.** Stockholm University, Sweden. **(795.11)**

3:00 The Disordered Landscape of the 20s Proteasome Substrates and the Mechanism of Their in Vitro and in Vivo Degradation. **Y. Shaul, N. Myres, A. Biran, N. Reuven.** Weizmann Institute of Science, Israel. **(795.14)**

3:15 A Nucleotide-Dependent Switch in Proteasome Assembly Mediated by the Nas6 Chaperone. **S. Park, F. Li, V. Sokolova.** University of Colorado Boulder. **(526.41)**

3:30 Biophysical Analysis of Human Neuropeptide Y: Mutations in the Hairpin Core Reveal Unusual Thermal Stability Linked to Higher-Order Self-Association. **M.M. Hopkins, D.L. Bain.** University of Colorado Anschutz Medical Campus. **(792.28)**

392. STRUCTURE AND MECHANISM IN NATURAL PRODUCT BIOSYNTHESIS ENZYMES

Symposium

Tues. 2:30 pm—San Diego Convention Center, Room 31B

Chaired: A.K. Boal

2:30 Transport and Synthesis of a Bacterial Natural Product. **L.M. K. Dassama, G.E. Kenney, A.C. Rosenzweig.** Boston Children's Hospital, Dana-Farber Cancer Institute, and Harvard Medical School and Northwestern University. **(796.1)**

2:45 Comparative Analysis of Bacterial Cytochromes P450 Involved in the Biosynthesis of 16-Membered Ring Macrolide Antibiotics**. M.D. DeMars, S. Yang, F. Sheng, N.L. Samora, S. R. Park, A.N. Lowell, K.N. Houk, L.M. Podust, D.H. Sherman**. University of Michigan, University of California, Los Angeles, University of California and San Diego. **(529.4)**

3:00 Structural Insights into Peptide Recognition and Modification by the Radical SAM Enzyme SuiB**. K.M. Davis**. Princeton University. **(796.9)**

3:15 Biosynthesis of Oxetanocin: Are Two Cofactors Better Than One? **J. Bridwell-Rabb, H-w. Liu, A. Zhong, C. Drennan.** University of Michigan, The University of Texas and Massachusetts Institute of Technology. **(796.25)**

3:30 **392.1** A Crystallographic View of the Reaction Cycle in Iron(II) and 2-(Oxo)-Glutarate-Dependent Oxygenases. **A.K. Boal.** Pennsylvania State University.

393. TOOLS FOR EXPLORING GLYCOBIOLGY

Symposium

Tues. 2:30 pm—San Diego Convention Center, Room 31C

Chaired: K. Godula

2:30 Engineering Synthetic Glycan Co-Receptors Into the Glycocalyx of Muscle Cells to Control Early Stages of Neuromuscular Junction Development. **K. Godula.** University of California and San Diego. **(673.21)**

2:45 Encoding and Estimating the Remarkable Diversity of Possible Sialyltrisaccharides in Nature**. A. Sasmal, Z. Khedri, S. Diaz, N. Lewis, A. Varki**. University of California and San Diego. **(673.22)**

3:00 System Metaglycomes: Mapping Dynamic Cell Surface N-Glycome, O-Glycome and Glycolipidome by Mass Spectrometry**. M. Barboza, M. Wong, J. Luke, Z. Cheng, G. Xu, M. Gareau, H. Raybould, C.B. Lebrilla**. University of California, Davis. **(673.11)**

3:15 Glycosense™: A Rapid Method for Monitoring *in Vitro* Glycoengineering. **L. Yang, M.J. Saunders, K.N. Samli, R.J. Woods.** Lectenz Bio and University of Georgia. **(544.20)**

3:30 **393.1** Synthesis of Bioorthogonal Muramyl Glycans That Illuminate and Track Bacterial Peptidoglycan. **K.E. DeMeester, H. Liang, Z. Jones, J.A. Taylor, M.S. Siegrist, N.R. Salama, C.L. Leimkuhler-Grimes.** University of Delaware, Fred Hutchinson Cancer Research Center and University of Massachusetts Amherst.

394. NOVEL ANTIBIOTICS & ALTERNATIVES

Symposium

Tues. 3:00 pm—San Diego Convention Center, Room 14A

Chaired: D. Hassett

3:00 A non-toxic "two-headed monster" that kills all bacteria. **Dan Hassett.** Univ. of Cincinnati.

3:25 Predatory Bacteria Our New Ally in the Fight Against Infection. **Daniel Kadouri.** Rutgers Univ.

3:50 Antibiotic Adjuvants Based Upon Marine Natural Products. **Christian Melander.** NC State Univ.

4:15 New Drugs for Old Bugs. **Vanessa Sperandio.** UT Southwestern Med. Ctr.

4:40 General discussion.

395. CELL STRESS, AUTOPHAGY AND MITOPHAGY

Symposium

Tues. 4:00 pm—San Diego Convention Center, Room 31C

Chaired: F. Zhang

4:00 IL-6 and Bile Acids Are Skin-Derived Factors That Regulate Whole-Body Metabolism in SCD1 Deficient Mice. **S.N. Dumas, C-A. Guo, J.M. Ntambi.** University of Wisconsin—Madison. **(539.10)**

4:15 Posttranslational Arginylation Enzyme Ate1 Is a Mitochondrial-Derived Master Regulator That Coordinates Glycolysis and Respiration in the Warburg Effect. **F. Zhang, C. Jiang, D. Patel, B. Moorthy, A. Kumar, M. Birnbaum, J. Huang, A. Barrientos, T. Lampidis, F. Fontanesi.** University of Miami. **(791.19)**

4:30 Autophagy Modulates Lipid Metabolism to Support Liver Kinase B1 (LKB1)-Deficient Lung Tumor Growth. **V.D. Bhatt, Z. Hu, X. Su, J. Y. Guo.** Rutgers University. **(811.4)**

4:45 Zyflamend Induces Apoptosis in Pancreatic Cancer Cells via Modulation of Endoplasmic Reticulum Stress and Autophagy. **D. Puckett, D. Alani, S. Chahed, V. Frankel, J. Whelan, A. Bettaieb.** University of Tennessee and Knoxville. **(664.1)**

5:00 Oleic Acid Protected Pancreatic β-Cell Against Saturated Fatty Acid Induced Lipotoxicity. **X. Liu, X. Chen, L. Li, R. Luo, D. Long, Y. Lu, Y. Chen.** West China Hospital and Sichuan University, People's Republic of China. **(812.32)**

396. CHROMATIN, REPLICATION AND REPAIR

Symposium

Tues. 4:00 pm—San Diego Convention Center, Room 31B

Chaired: S. Forsburg

4:00 Heterochromatin Proteins Influence the Choice of DNA Repair in Euchromatin Domains. **S. Forsburg, A. Jensen, C. Jones, T-T. Li, J-P. Yuan.** University of Southern California. **(786.14)**

4:15 Rad53p Activation Alters Chromatin Structure, Induces Respiration and Elevates Cellular ATP Level**. P. Bu, A. Shah, J. Zeng, M.S. Bhagwat, S. Nagar, A. Vancura**. St. John's University. **(523.11)**

4:30 Analysis of CoREST Complex-Chromatin Interactions with Chemical Tools**. M. Wu, D. Hayward, J.H. Kalin, Y. Song, J. Schwabe, P.A. Cole**. Brigham and Women's Hospital and Harvard Medical School, Johns Hopkins University School of Medicine and University of Leicester, United Kingdom. **(524.7)**

4:45 Structure of Eukaryotic CMG Helicase at a Replication Fork and Implications for Replisome Architecture and Origin Initiation. **Z. Yuan, R. Georgescu, B. Lin, R.d. L.A. Santos, D. Zhang, O. Yurieva, M. O'Donnell, H. Li.** Van Andel Institute and Rockefeller University. **(646.7)**

5:00 **396.1** Deconstructing Lagging-Strand Synthesis *in Vivo*. **D. Smith.** New York University.

397. ENGINEERING BIOLOGY

Symposium

Tues. 4:00 pm—San Diego Convention Center, Room 31A

Chaired: A. Chatterjee

4:00 Engineering Yeast Endosymbionts as a First Step Towards Laboratory Evolution of Mitochondria. **A. Mehta, L. Supekova, F. Supek, P. Schultz.** Scripps Research Institute and The Genomics Institute of the Novartis Research Foundation. **(530.3)**

4:15 Base Editing: Chemistry on the Genome**. A.C. Komor**. University of California and San Diego. **(649.6)**

4:30 Identifying the Substrate Proteins of E3 Ubiquitin Ligase by Orthogonal Ubiquitin Transfer (OUT)**. J. Yin, Y. Wang, K. Bhuripanyo, G. Chen, L. Zhou, R. Liu, H. Zhou**. Georgia State University. **(654.13)**

4:45 Mini-Ins: A Monomeric Human Insulin Inspired from Cone Snail Venom Peptides. **D. Chou.** University of Utah. **(798.16)**

5:00 **397.1** Development and Applications of Universal Platforms for Genetic Code Expansion. **A. Chatterjee, J.S. Italia.** Boston College.

398. HIGH-THROUGHPUT METHODS FOR CONNECTING TRANSCRIPTOMES, PROTEOMES, AND SECRETOMES

Symposium

Tues. 4:00 pm—San Diego Convention Center, Room 30E

Chaired: S. Zhong

4:00 A System for Global Analysis of Correlation Between Protein Expression and mRNA. **K. Johnson, S. Zhong.** University of California and San Diego. **(651.10)**

4:15 Interactome Mapping of the Pathogen *Helicobacter pylori* Using All-vs-All Sequencing (Ava-Seq). **S. Ramadan, S. Andrews, N. Al-Thani, I. Ahmed, J. Malek.** Weill Cornell Medicine-Qatar, Qatar. **(652.4)**

4:30 Genome-Scale Reconstructions of the Mammalian Secretory Pathway Predict Metabolic Costs and Limitations of Protein Synthesis and Secretion. **N. Lewis.** University of California and San Diego. **(526.18)**

4:45 Functional Somatic Noncoding ncRNA of Extracelular Vesicles (EV) for Vascular Epigenetics: A Genomic Crossword Puzzle in Adaptation of Cells Under Stress. **J.H. Wissler.** ARCONS Institute for Applied Research and Didactics, Germany. **(787.23)**

5:00 Localized Single Transcript Detection of EML4-ALK in NSCLC Using Co-Localization Quantum Dot Fluorescent in Situ Hybridization (Coqfish). **N. Huang, Y. Jiang, S. Zhong.** University of California and San Diego. **(532.7)**

399. MOLECULAR BASIS OF SIGNALING

Symposium

TUES. 4:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 30D

CHAIRED: K. GEHRING

4:00 Regulation of Mitophagy by the Parkin Ubiquitin Ligase and PINK1 Ubiquitin Kinase. **K. Gehring.** McGill University, Canada. **(654.11)**

4:15 Protein Kinase Cα (PKCα) Gain-of-Function Variant in Alzheimer's Disease Displays Enhanced Catalysis by a Mechanism That Evades Down-Regulation. **J. Callender, Y. Yang, N. Stephenson, A. Jones, J. Brognard, A. Newton.** University of California, San Diego, Cancer Research UK Manchester Institute, United Kingdom, National Cancer Institute at Frederick and National Institutes of Health. **(662.7)**

4:30 Novel Crystal Structure of Calcium Independent Phospholipase iPLA2β: Mechanism of Activity Regulation and Membrane Localization. **S. Korolev, O. Koroleva, K. Malley.** Saint Louis University School of Medicine. **(672.2)**

4:45 Chemoproteomic Discovery of Ligand Binding Hotspots in the Lipid Kinome. K-L. Hsu. University of Virginia. **(540.1)**

5:00 Sac1 Degrades Its Lipid Substrate Ptdins4*P* in the Er to Maintain a Steep Electrochemical Gradient on Donor Membranes. **G. Hammond, J. Zewe, S. Sangappa, R. Wills, B. Goulden.** University of Pittsburgh. **(814.10)**

400. NUTRITION, GENETICS AND METABOLISM

Symposium

TUES. 4:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 30C

CHAIRED: C-L.E. YEN

4:00 Decreased Consumption of Specific Dietary Macronutrients Restores Metabolic Health to Diet-Induced Obese Mice. **D.W. Lamming, N.E. Cummings, H. Pak, E.M. Williams, E.N. Konon, M.M. Walter, M.E. Barnes, D. Yu.** University of Wisconsin—Madison. **(812.30)**

4:15 **400.1** Leveraging Mouse Liver Co-Expression Networks and Human Lipid GWAS Data to Identify and Validate Cholesterol Metabolism Genes. **B.W. Parks, Z. Li, J. Nguyen, F. Leyva-Jaime**s. University of Wisconsin—Madison.

4:30 Selenium and Sex: Competition Between Brain and Testes for Selenium Results in Male-Specific Consequences in Mice and Men. **M.J. Berry, M. Pitts, P. Kremer, A. Hashimoto, L. Seale, A. Ogawa-Wong, D. Torres.** University of Hawaii. **(812.46)**

4:45 Long-Chain Acyl-CoA Synthetase 6 Deficiency Reduces the Omega-3 Fatty Acid DHA in the Brain and Disrupts Motor Control. **J.M. Ellis, R.F. Fernandez, Y. Zhao, J.L. Counihan, D.K. Nomura, J.A. Chester.** Purdue University and University of California. **(539.21)**

5:00 **400.2** Triacylglycerol Synthesis, Energy Metabolism, and Glucose Homeostasis: A Gut Reaction? **C-L E. Yen, D. Nelson, M-I. Yen, D. Amador-Noguez, K. Veldkamp.** University of Wisconsin—Madison.

401. RIBOSOMES AND TRANSLATIONAL REGULATION

Symposium

TUES. 4:00 PM—SAN DIEGO CONVENTION CENTER, ROOM 30B

CHAIRED: S. VASUDEVAN

4:00 High Throughput Discovery of Novel Regulators of Human Ribosome Biogenesis. **S.J. Baserga, K.I. Farley-Barnes, K. McCann, L. Ogawa, J. Merkel, Y. Surovtseva.** Yale University School of Medicine, Yale School of Medicine and National Institute of Environmental Health Sciences, National Institutes and Yale West Campus. **(526.25)**

4:15 Pervasive, Coordinated Protein Level Changes Driven by Transcript Isoform Switching. **G. Brar, G. Otto, Z. Cheng, E. Powers, A. Keskin, M. Jovanovic.** University of California, Berkeley and Columbia University. **(651.9)**

4:30 Regulation of Protein Translation Initiation by Estrogen. **M.K. Holz.** Yeshiva University. **(651.3)**

4:45 A Post-Transcriptional Program of Chemoresistance Regulators in Quiescent Cancer Cells. **S. Vasudevan, S. Lee, S.I. A. Bukhari, S.S. Truesdell, M. Boukhali, D. Lee, M.A. Mazzola, R. Raheja, A. Langenbucher, N.J. Haradhvala, M. Lawrence, R. Gandhi, D. Sweetser, W. Haas.** Massachusetts General Hospital and Harvard Medical School and Brigham and Women's Hospital. **(651.12)**

5:00 Novel *in-Vitro* Tag-and-Modify Protein Sample Generation Methods for Multiplexed Single-Molecule Fret Screening. **K.M. Hamadani, N. Hite, J.J. Howe.** California State University and San Marcos. **(792.39)**

5:15 **401.1** How ribosomes stop protein synthesis without a stop codon. **H. Jin, F. Zeng,** Univ. of Illinois at Urbana-Champaign.

402. ASBMB WOMEN SCIENTISTS MENTORING AND NETWORKING EVENT

Society Events

TUES. 5:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 6A

CHAIRED: K. ALLEN

COCHAIRED: K. TEN HAGEN AND S. BASERGA

Career and Professional Development

Workshops & Events

Join us in discussing strategies for career advancement and how to successfully promote oneself. We will also discuss ideas about the formation of a new advocacy group within the ASBMB to promote the career trajectories and professional growth of all women biochemists at all career stages (Women in Biochemistry and Molecular Biology or WIBMB).

All ASBMB members and biochemistry registrants welcome.

Pathology

403. ASIP COTRAN EARLY CAREER INVESTIGATOR AWARD LECTURE

In Conjunction with the SCVP Symposium: Non-Conventional Players in Heart Disease

Lecture

Tues. 8:30 am—San Diego Convention Center, Room 2

Award Lectures

Cardiac Pathobiology

Immunopathology

8:30 T-cell Immune Responses and Cardiotropism in Heart Failure. **P. Alcaide.** Tufts Univ. School of Medicine Medical School.

404. SCVP SYMPOSIUM: NON-CONVENTIONAL PLAYERS IN HEART DISEASE

Symposium

(*Sponsored by the ASIP and the Society for Cardiovascular Pathology)*

Tues. 8:30 am—San Diego Convention Center, Room 2

Chaired: J. Stone

Cochaired: T. Parry

Cardiac Pathobiology

Cardiovascular

9:30 Cardiomyocytes Initiate Inflammation and Contribute to Remodeling in Non-ischemic Heart Disease through the Activity of CaM Kinase II. **J. Brown.** UCSD.

10:10 Differential Cellular Impact of BAR signaling on Cardiac Function and Repair. **D. Tilley.** Lewis Katz School of Medicine, Temple Univ.

10:50 Mitchondrial Quality Control in Heart Failure. **A. Gustafsson.** UCSD.

405. ACVP-IEPC SYMPOSIUM: VECTOR-BORNE DISEASES: BRIDGING SCALE

Symposium

(*Sponsored by the Sponsored by ASIP and the American College of Veterinary Pathologists)*

Tues. 8:30 am—San Diego Convention Center, Room 3

Chaired: A.S. Davis

Cochaired: N. Gottdenker

Bacteria, Parasitology, Microbiome, Antibiotics

Environmental and Toxicologic Pathology

8:30 Tissue and Cellular Tropism of Rift Valley Fever Virus in Sheep. **L. Odendaal.** Univ. of Pretoria.

9:15 Virus-Vector-Host Interactions in Vector-Borne Diseases. **B. Drolet.** United States Department of Agriculture.

10:00 Chagas Disease Transmission in Fragmented Forest Landscapes. **N. Gottdenker.** Univ. of Georgia College of Veterinary Medicine.

10:45 Experimental Approaches to Studying Impacts of Global Climate Change on Mosquito Borne Disease Transmission. **C. Murdock.** Univ. of Georgia College of Veterinary Medicine.

406. PATHOGENESIS OF TISSUE INFLAMMATION: NEW MOLECULES AND MECHANISMS

Symposium

Tues. 8:30 am—San Diego Convention Center, Room 4

Chaired: S. Keely

Cochaired: A. Neish

Inflammation/Immunity

Cell and Tissue Injury

Immunopathology

8:30 **406.1** Platelet Activating Factor Receptor (PAFR) Regulates Colitis-Induced Pulmonary Inflammation. **G. Liu, S. Mateer, A. Mathe, B. Goggins, A. Hsu, K. Minahan, J. Bruce, M. Fricker, P. Wark, P. Hansbro, S. Keely.** Hunter Medical Research Institute and University of Newcastle, Australia.

8:45 **406.2** The Influence of High Fiber Diet and Probiotic Supplementation in a Murine Model of Colitis. **J. Owens, B. Saeedi, T. Darby, R. Jones.** Emory University.

9:00 **406.3** The Metabolomic Signature of *Giardia* Sp. **T. Allain, R. Groves, I.A. Lewis, A.G. Buret.** University of Calgary, Canada.

9:15 **406.4** Diets Rich in Stearidonic Acid Impact on Joint Inflammation in a Murine Model of Rheumatoid Arthritis. **M.S. Doucet, N.E. Pichaud, L.H. Boudreau, M.E. Surette.** Université de Moncton, Canada.

9:30 **406.5** Tumor Nuclear *YAP1* Expression Status and Molecular Characteristics in Relation to Immune Response to Colorectal Carcinoma. **J. Borowsky, C. Du, K. Kosumi, T. Hamada, T. Morikawa, A.d. Silva, K. Nosho, J.A. Nowak, R. Nishihara, J.K. Lennerz, M. Giannakis, A.T. Chan, J.A. Meyerhardt, C.S. Fuchs, S. Ogino.** Dana-Farber Cancer Institute, Dana-Farber Cancer Institute and Harvard Medical School, The University of Tokyo, Japan, Sapporo Medical University School of Medicine, Japan, Brigham and Women's Hospital and Harvard Medical School, Massachusetts General Hospital and Harvard Medical School and Yale Cancer Center.

9:45 **406.6** Corticotrophin Releasing Hormone Regulates NLRP6 and Disrupts Mucosal Homeostasis in Functional Dyspepsia. **J. Bruce, G. Burns, A. Mathe, N. Koloski, P.S. Foster, M.M. Walker, N.J. Talley, S. Keely.** University of Newcastle, Australia.

10:00 **406.7** Protein Kinase R Modulates Nlrp3 Inflammasome in Cardiac Fibroblasts in Sepsis. **X. Xu, A. Tao, R. Kao, C. Martin, T. Rui.** Lawson Health Research Institute, Canada and The Affiliated People's Hospital of Jiangsu University, People's Republic of China.

10:15 **406.8** PRAP1: A Novel Epithelial Secreted Protein. **A. Wolfarth, A. Neish.** Emory University.

10:30 **406.9** RGDSK Peptide Functionalized Helical Rosette Nanotubes (RGDSK-HRNs) Inhibit *E. coli* Adherence to Jejunal Epithelium by Blocking Integrin αvβ3. **N.P. K. Le, C.C. Quach, G. Aulakh, V. Gerdts, H. Fenniri, B. Singh.** Western College of Veterinary Medicine, University of Saskatchewan, Canada and Northeastern University.

10:45 **406.10** Regulation of HMGB1 in Hepatocytes by MYD88 and Type-I Interferon (IFN-I) During *Ehrlichia*-Induced Acute Liver Injury. **M. Kader, M. Scott, C. Yates, N. Ismail.** University of Pittsburgh School of Medicine and University of Pittsburgh School of Nursing

11:00 **406.11** A Discovery Platform to Identify Novel Beneficial Bacteria. **T. Darby, J. Owens, B. Saeedi, L. Luo, B. Robinson, R. Jones.** Emory University.

11:15 **406.12** Describing the Molecular Mechanism by Which the A2 Protein Improves Survival in Mice with Endotoxemia. **M. Martinez, Q. Da, T.A. Fisipe, M.A. Cruz.** Baylor College of Medicine.

407. CARCINOGENESIS: MODELS, MECHANISMS, AND MODULATORS

Symposium

TUES. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 5A

CHAIRED: S.A. OAKES

COCHAIRED: G. POST

Neoplasia

Cancer and Therapy

In Conjunction with the Molecular and Cellular Basis of Cancer Program

8:30 **407.1** Anti-Cancer Activity of Non-Pungent Capsaicin Analogs: A Structure-Activity Study. **J.R. Friedman, R.S. Gadapalli, A.T. Akers, N.A. Nolan, K.C. Brown, K.W. Colclough, S.L... Miles, J.M. Rimoldi, P. Dasgupta.** Joan C. Edwards School of Medicine, Marshall University and University of Mississippi.

8:45 **407.2** Prion Protein Is Required for Tumor Necrosis Factor Alpha (TNFα)-Triggered Nuclear Factor Kappa B (NF-κB) Signaling and Cytokine Production. **C. Li.** Wuhan Institute of Virology and Chinese Academy of Sciences, People's Republic of China.

9:00 **407.3** *Bifidobacterium* Genus in Colorectal Carcinoma Tissue in Relation to Tumor Characteristics and Patient Survival. **J. Borowsky, K. Kosumi, T. Hamada, H. Koh, S. Bullman, T.S. Twombly, Y. Masugi, L. Liu, A. da Silva, Y. Chen, C. Du, M. Gu, C. Li, W. Li, H. Liu, Y. Shi, M. Song, K. Nosho, J.A. Nowak, R. Nishihara, H. Baba, X. Zhang, K. Wu, C. Huttenhower, W.S. Garrett, M. Meyerson, J.K. Lennerz, M. Giannakis, A.T. Chan, J.A. Meyerhardt, C.S. Fuchs, S. Ogino.** Dana-Farber Cancer Institute and Harvard Medical School, Harvard T.H. Chan School of Public Health, Sapporo Medical University School of Medicine, Japan, Brigham and Women's Hospital and Harvard Medical School, Kumamoto University, Japan, Broad Institute of Massachusetts Institute of Technology and Harvard, Massachusetts General Hospital and Harvard Medical School and Yale Cancer Center.

9:15 **407.4** Search for Hidden Germline Mutations in Bilateral Retinoblastoma. **O. Okonkwo.** University of Pennsylvania.

9:30 **407.5** BZW1 Is an Independent Prognosis Marker for Non-Small-Cell Lung Cancer. **J. Chiou, M. Hsiao.** Academia Sinica, Taiwan.

9:45 **407.6** Peri-Arteriolar Glioblastoma Stem Cell Niches Express Bone Marrow Hematopoietic Stem Cell Niche Proteins. **V. Hira.** Cancer Center Amsterdam and VUmc, Netherlands.

10:00 **407.7** Identification and Characterization of TGF-Beta-Induced Long Noncoding RNAs in Lung Cancer. **T-C. Lai, M. Hsiao.** Academia Sinica, Taiwan.

10:15 **407.8** Patient-Derived and Cell Line Xenograft Growth in the B6;129-*Rag2*^{tm1Fwa}*IL2rg*^{tm1Rsky}/DwlHsd (R2g2) Mouse Model. **J. Naden.** Envigo.

10:30 **407.9** Transient Downregulation of Indoleamine 2,3-Dioxygenase (IDO) Is Critical for Bladder Cancer Cell Invasion. **H. J.S. P. Santos, S.V. Dalmazzo, L. H.G. Matheus, L.A. Pereira, M.B. Floriani, H. Dellê.** Universidade Nove de Julho, Brazil.

10:45 **407.10** From RNASeq to Immunohistochemistry: Keratin 17 Defines Pancreatic Cancer Subtypes. **L. Roa-Peña, E.A. Vanner, A. Akalin, J. Bandovic, R.A. Moffitt, C. Iacobuzio-Donahue, L.F. Escobar-Hoyos, K.R. Shroyer.** Stony Brook Medicine, University of Massachusetts Medical School Memorial Medical Center and Memorial Sloan Kettering Cancer Center.

11:00 **407.11** Identification of a Novel Phenotype of Myeloid Cells in Classical Hodgkin Lymphoma. **G.R. Post, Y. Yuan, S.R. Post.** University of Arkansas for Medical Sciences.

11:15 **407.12** Pancreatic Neuroendocrine Tumors Require Homeostatic Signaling from the Unfolded Protein Response. **S.A. Oakes, P.C. Moore, J.Y. Qi, R. Warren, M. Thamsen, R. Ghosh, M.J. Gliedt, A. Hiniker, G.E. Kim, D.J. Maly, B.J. Backes, F.R. Papa.** University of California, San Francisco and University of Washington.

408. ASIP SCIENTIFIC SLEUTHING OF HUMAN DISEASE FOR UNDERGRADUATE STUDENTS AND HIGH SCHOOL TEACHERS AND STUDENTS

Workshop

(*Sponsored by:* the ASIP Education Committee)

TUES. 9:30 AM—SAN DIEGO MARRIOTT MARQUIS & MARINA, MARINA BALLROOM SALON G

CHAIRED: K. NEJAK-BOWEN

COCHAIRED: M. FURIE

Workshops & Events

Pulmonary Pathobiology

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Bacteria, Parasitology, Microbiome, Antibiotics

10:00 Welcome and Introductions. **K. Nejak-Bowen.** Univ. of Pittsburgh.

10:25 Menacing Microbes: The Threat of Bioterrorism. **M. Furie.** Stony Brook Univ.

11:15 Break.

11:25 Smoking-Related Lung Disease in 3D: Not Your Standard Lecture. **D. Zander.** Univ. of Cincinnati Medical Ctr.

12:10 Specimen Viewing.

12:40 Stem Cells: A Case of Dr. Jekyll and Mr. Hyde. **S. Monga.** Univ. of Pittsburgh.
1:30 Visit the Exhibit Hall.

409. LUNCH AND LEARN: SCIENCE, STATISTICS AND GETTING IT RIGHT

Society Events

(*Sponsored by:* the ASIP Education Committee)

Tues. 11:45 am—San Diego Marriott Marquis & Marina, Marina Ballroom Salon F

Workshops & Events

Digital and Computational Pathology

Registration Required

11:45 An interactive lunch session will include an opportunity for participants to review case vignettes featuring common problems in scientific research statistics followed by a presentation and discussion with statistical faculty. **D. Milner.** American Society for Clinical Pathology.

410. THE HISTOCHEMICAL SOCIETY (HCS) JOURNAL OF HISTOCHEMISTRY AND CYTOCHEMISTRY MEET THE EDITOR

Society Events

Tues. 12:00 pm—San Diego Convention Center, Exhibit Hall, Booth 320

Workshops & Events

Imaging, Immunohistochemistry and Microscopy

411. ASIP OUTSTANDING INVESTIGATOR AWARD LECTURE

In Conjunction with the Symposium: What's the Big Deal About Big Data: Mining Molecular Epidemiology for Insights into Pathogenesis

Lecture

Tues. 2:00 pm—San Diego Convention Center, Room 2

Award Lectures

Digital and Computational Pathology

Immunopathology

2:00 Integrative Immunology-MPE (Molecular Pathological Epidemiology): Frontier for Pathobiological Discovery from Big Data. **S. Ogino.** Brigham & Women's Hospital, Dana-Farber Cancer Inst., Harvard School of Public Health.

412. WHAT'S THE BIG DEAL ABOUT BIG DATA: MINING MOLECULAR EPIDEMIOLOGY FOR INSIGHTS INTO PATHOGENESIS

Symposium

Tues. 3:00 pm—San Diego Convention Center, Room 2

Chaired: W.B. Coleman

Cochaired: M. Sobel

Digital and Computational Pathology

Cancer and Therapy

3:00 Divining the 'Om' in 'Omics': Making Actionable Sense out of a Mountain of Data. **A. Chinnaiyan.** Univ. of Michigan.
4:00 Computational Biology and the Microbiome: Predicting Therapeutic Responses to Infectious Assaults. **G. Gerber.** Harvard Univ.

413. SIPMET SYMPOSIUM: IMMUNOPATHOGENESIS OF CANCER—FROM BASIC KNOWLEDGE TO MARKERS FOR CANCER DIAGNOSIS AND THERAPEUTICS

Symposium

(*Sponsored by the ASIP and the Società Italiana di Patologia e Medicina Traslazionale /Italian Society of Pathology and Translational Medicine)*

Tues. 2:00 pm—San Diego Convention Center, Room 3

Chaired: M. Locati

Neoplasia

Immunopathology

Cancer and Therapy

2:00 Leveraging the Immune System in the War on Cancer. **D. Hansel.** Univ. of California, San Diego.
3:00 Activation and Biological Properties of Tumor Associated Macrophages. **M. Locati.** Univ. of Milan.
4:00 Immune Editing and Surveillance in Breast Cancer. **J. Bui.** Univ. of California, San Diego.

414. MATRIX, MUCOSA, AND INFLAMMATION: AN UNEASY ALLIANCE

Symposium

Tues. 2:00 pm—San Diego Convention Center, Room 4

Chaired: A. Nusrat

Cochaired: R. Jones

Inflammation/Immunity

Matrix Pathobiology

Epithelial and Mucosal Pathobiology

2:00 **414.1** Galectin-9 Is a Novel Modulator of Epithelial Restitution. **B.S. Robinson, B. Saeedi, C. Naudin, C. Arthur, T. Darby, R. Jones, S. Stowell, A. Neish.** Emory University.

2:15 **414.2** Bi-Directional Macrophage-Fibroblast Crosstalk Directs Wound Resolution Factors. **Z.I. Johnson, S. LoPresti, B. Lantonio, A. Wells, N. Ismail, B.N. Brown, C.C. Yates.** University of Pittsburgh.

2:30 **414.3** Elevated Thrombospondin-2 Contributes to Delayed Wound Healing in Diabetes. **B. Kunkemoeller, T.R. Kyriakides.** Yale University.

2:45 **414.4** Consecutive, but Not Concurrent, Cathepsin Incubation with Type I Collagen Results in Extended Proteolysis. **A.N. Parks, J.S. Temenoff, M.O. Platt.** Georgia Institute of Technology.

3:00 **414.5** Fibrokine™ Peptides: A Broad-Spectrum of Anti-Fibrotic Chemokine Peptides to Treat Organ Fibrosis. **C.C. Yates, Z.I. Johnson, M.S. Willis, J. Jayne.** University of Pittsburgh, University of North Carolina School of Medicine and Tuskegee University.

3:15 **414.6** TNF-α Mediated β1 Integrin Inactivation Is a Novel Mechanism Mediating Left Ventricular Dilatation. **G.L. Brower, J.A. Stewart; Jr.** Texas Tech University Health Sciences Center and The University of Mississippi.

3:30 **414.7** Inflammatory Mediators and Fibroblasts. **L.T. James, T.A. Reaves.** Medical University of South Carolina.

3:45 **414.8** TRPV4 Channels Regulates Matrix Stiffness and TGFβ1-Induced Epithelial-Mesenchymal Transition. **S.O. Rahaman, S. Sharma, R. Goswami.** University of Maryland.

4:00 **414.9** Mechanosensitive TRPV4 Channel Is Involved in Fibrotic Transdifferentiation of Retinal Pigment Epithelial Cells. **S. Tamiya, K. McDonald, S. Ueda.** University of Louisville.

4:15 **414.10** Personalized Gene Expression Profile Information Predicts Severity of Systemic Sclerosis Despite Heterogeneity of Disease. **Z.I. Johnson, T. Medsger, T. Li, C. Feghali-Bostwick, Y. Conley, C.C. Yates.** University of Pittsburgh, AccuraScience and Medical University of South Carolina.

415. LIVER REGENERATION, CHOLESTATIC INJURY, AND CANCER

Symposium

Tues. 2:00 pm—San Diego Convention Center, Room 5A

Chaired: S. Glaser

Cochaired: L. Wang

Liver Pathobiology

Neoplasia

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Cell and Tissue Injury

In Conjunction with the Molecular and Cellular Basis of Cancer Program

2:00 **415.1** Hepatocyte Specific Knockout of MicroRNA-21-5p Alleviates Acetaminophen-Induced Hepatotoxicity by Activation of Autophagy. **C. Xu, L. Wang.** Department of Physiology & Neurobiology and University of Connecticut.

2:15 **415.2** Acetaminophen-Induced Liver Injury in Mice Can Be Alleviated by Reducing Hepatic TGFβ1 Signaling. **M. McMillin, S. Grant, G. Frampton, J. Kain, A. Petrescu, E. Williams, S. DeMorrow.** Central Texas Veterans Health Care System.

2:30 **415.3** Critical Role of Plasmin in Macrophage Activation During Liver Injury. **K. Roth, N. Joshi, R. Albee, J.P. Luyendyk, B. Copple.** Michigan State University.

2:45 **415.4** Non Parenchymal Wnts Regulate Beta-Catenin Signaling in Murine Liver Zonation and Regeneration. **M. Preziosi, H. Okabe, M. Poddar, S. Singh, S. Monga.** University of Pittsburgh.

3:00 **415.5** Upregulation of Stromal-Derived Factor-1 by Hypoxia Requires Hypoxia-Inducible Factor-1α and Transforming Growth Factor-1. **J.D. Strickland, D. Garrison, B. Copple.** Michigan State University.

3:15 **415.6** Pde4 Inhibitor Rolipram Mitigates Liver Ischemia Reperfusion Injury in a Rat Model by Preventing Neutrophil Accumulation. **J. Frimodig, A. Matheson, C. McClain, P. Matheson.** University of Louisville.

3:30 **415.7** Hepatocyte Specific Ablation of β- and γ-Catenin Leads to Altered Hepatocyte Polarity and Microvillae Association. **T. Pradhan, A. Adebayo, L. Molina, S. Pal Monga.** University of Pittsburgh.

3:45 **415.8** Deletion of MicroRNA-34a Alleviates Endothelial Dysfunction and Inflammatory Response During Experimental Cholestasis. **F. Meng, T. Zhou, H. Francis, G. Alpini.** Baylor Scott & White Healthcare and Texas A&M College of Medicine.

4:00 **415.9** Treatment of a Mouse Model of Cholestasis with a Thyromimetic Improves Biliary Injury but Exacerbates Hepatocyte Injury. **K. Kosar, K. Nejak-Bowen.** University of Pittsburgh School of Medicine and University of Pittsburgh.

4:15 **415.10** Opposite Effects of Knocking Out MT1 and MT2 Melatonin Receptor on Senescence and Fibrosis of Cholangiocytes and Hepatic Stellate Cells During Cholestatic Liver Injury. **N. Wu, K. Kyritsi, J. Venter, F. Meng, P. Invernizzi, F. Francesca Bernuzzi, K. Sato, E. Gaudio, T. Zhou, H.L. Francis, P. Onori, A. Franchitto, G. Alpini, S.S. Glaser.** Texas A&M Health Science Center, Baylor Scott & White Health, Humanitas Clinical and Research Center, Italy, Histological, and Forensic Medicine and Orthopedic Sciences, Italy and Eleonora Lorillard Spencer Cenci Foundation, Italy.

4:30 **415.11** Loss of Histamine Signaling Reduces Biliary and Hepatic Damage, Mast Cell Migration and Tumor Formation in 52-Wk Old Multidrug Resistance-2 Knockout Mice. **L. Kennedy, J. Demieville, L. Hargrove, V. Meadows, H. Francis.** Texas A&M Health Science Center/College of Medicine and Central Texas Veterans Health Care System.

4:45 **415.12** Shp2/PTPN11 Deletion Suppresses Liver Tumorigenesis Driven by Met, β-Catenin and Pik3ca. **J. Liu.** University of California and San Diego.

416. CLUB HEPATOMANIA™ MEET THE EXPERTS

Society Events

Tues. 5:30 pm—San Diego Convention Center, Room 5A

Liver Pathobiology

Workshops & Events

417. SCIENTIFIC INTEREST GROUP (SIG) INTERACTIVE POSTER DISCUSSIONS

Society Events

Tues. 5:30 pm—San Diego Convention Center, Ballrooms 20BC

Workshops & Events

Interactive discussions of invited posters representing the SIGs of the ASIP

Pharmacology

418. JULIUS AXELROD AWARD IN PHARMACOLOGY LECTURE

Lecture

Tues. 8:30 am—San Diego Convention Center, Room 16A

Award Lectures

Cell Signaling, Signal Transduction

The Julius Axelrod Award was established in 1991 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. The Axelrod Award is presented for significant contributions to understanding the biochemical mechanisms underlying the pharmacological actions of drugs and for contributions to mentoring other pharmacologists.

8:30 Introduction.
8:35 Unraveling the Molecular and Structural Determinants of GPCR Functional Selectivity; Potential for Drug Discovery. **M. Bouvier.** Université de Montréal.

419. JULIUS AXELROD SYMPOSIUM: THE PLURIDIMENSIONALITY OF G PROTEIN-COUPLED RECEPTOR (GPCR) SIGNALING

Symposium

Tues. 9:30 am—San Diego Convention Center, Room 16A

Chaired: M. Bouvier

Cochaired: A. Salahpour

Cardiovascular

Drug Discovery and Development

Neuroscience

9:30 Introduction. **A. Salahpour.** Univ. of Toronto.
9:40 Intracellular Propagation of GPCR Signaling. **M. von Zastrow.** Univ. of California, San Francisco.
10:08 Study of the Biased Signaling and Trafficking of the Angiotensin II Type 1 Receptor. **S. Laporte.** McGill Univ.—MUHC.
10:36 A Pathogen Reveals Hidden Aspects of B2-Adrenergic Receptor Functioning. **S. Marullo.** Université Paris-Descartes-Institut Cochin.
11:04 Genome-Wide CRISPR Screens Reveal Wnt-Frizzled Functional Selectivity in Pancreatic Cancer. **S. Angers.** Univ. of Toronto.
11:32 GRKs and Arrestins-Based Bias in the Neuronal Function of GPCRs. **M. Caron.** Duke Univ.

420. 'BATH SALTS': THE EVER-CHANGING LANDSCAPE OF SYNTHETIC CATHINONES

(*Sponsored by:* La Jolla Alcohol Research, Inc.)

Symposium

(*Co-Sponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

Tues. 9:30 am—San Diego Convention Center, Room 16B

Chaired: S. Kohut

Cochaired: M.A. Taffe

Behavioral Pharmacology

Neuroscience

Toxicology

9:30 Introduction. **S. Kohut.** Harvard Med. Sch.
9:35 Structure-Activity Relationships of 'Bath Salt' Constituents. **R. Glennon.** Virginia Commonwealth Univ.
10:05 In Vivo Pharmacology of Novel Synthetic Cathinones. **M. Gatch.** Univ. of North Texas Health Science Ctr.
10:35 Locomotor Stimulant and Rewarding Effects of Inhaled 'Bath Salts'. **J. Nguyen.** Scripps Research Inst.
10:50 Neurochemical Deficits Induced by Synthetic Cathinones. **A. Fleckenstein.** Univ. of Utah.
11:20 Reinforcing Effects of Novel Synthetic Cathinones and Their Mixtures. **G. Collins.** Univ. of Texas Health Science Ctr. at San Antonio.
11:50 Development and Preclinical Testing of a Vaccine for 3,4-Methylenedioxypyrovalerone (*R,S*)-MDPV) Substance Use Disorders. **S.J. McClenahan, C. Kormos, M. Gunnell, M. Hambuchen, P. Lamb, I. Carroll, A. Lewin, S.M. Owens.** University of Arkansas for Medical Sciences and Research Triangle Institute. **(550.7)**

421. CAN METABOLIC VULNERABILITIES IN TUMORS BE THERAPEUTICALLY EXPLOITED?

Symposium

(*Sponsored by:* ASPET Division for Cancer Pharmacology (DCP))

Tues. 9:30 am—San Diego Convention Center, Room 15A

Chaired: S. Cole

Cochaired: K. van de Wetering

Cancer and Therapy

Metabolism and Metabolic Disease

Molecular Pharmacology

Translational and Clinical Pharmacology

9:30 Modulating the Oncogenic Phenotype with Metabolites. **G. Siuzdak.** The Scripps Research Inst.

10:01 Metabolic Transitions in Cancer: Lessons from Viral Infection. **H. Christofk.** Univ. of California, Los Angeles.

10:32 The Glutamate/Cystine Antiporter SLC7A11/xCT Regulates Glucose Dependency in Cancer Cells: Mechanism and Therapeutic Implications. **B. Gan.** The Univ. of Texas MD Anderson Cancer Ctr.

11:03 ABBC5: A Multidrug Efflux Transporter with an Unusual Substrate Spectrum. **K. van de Wetering.** Thomas Jefferson Univ.

11:34 Raloxifene Compromises Mitochondria, Induces ROS Stress and the Unfolded Protein Response, and Synergizes Gemcitabine's Cytotoxicity in Pancreatic Cancer Cells. **H. True, J. Trinh, Q. Love, A. Badejo, D. Rao, A. Malhotra.** School of Pharmacy, Pacific University, College of Arts and Sciences and Pacific University. **(835.6)**

11:47 Molecular Targeting and Inactivation of Glutaminase and CDK4/6 in Mantle Cell Lymphoma. **B.E. Gibbs, C.P. Masamha.** Butler University. **(566.11)**

422. CHALLENGES AND PROMISES OF CNS ORPHAN DRUG DEVELOPMENT: STORIES FROM BENCH TO CLINIC

Symposium

(*Sponsored by:* ASPET Division for Translational and Clinical Pharmacology (TCP))

Tues. 9:30 am—San Diego Convention Center, Room 15B

Chaired: D. Davies

Cochaired: J. Paul

Translational and Clinical Pharmacology

Neuroscience

Drug Discovery and Development

9:30 Regulatory Considerations in Orphan Drug Development. **E. Pacifici.** Univ. of Southern California Sch. of Pharmacy.

9:55 Spinal Muscular Atrophy: An Overview from Genetics to Therapeutics. **K. Chen.** Spinal Muscular Atrophy Foundation.

10:20 Getting Rid of the Bad: HTT Lowering Therapeutics Development. **D. Macdonald.** CHDI Management / CHDI Foundation.

10:45 Translating Breakthrough Science Discoveries into Novel Therapeutics for Rett Syndrome (RTT) **R. Carpenter.** RETT Syndrome Research Trust.

11:10 Opportunities for Drug Development in Amyotrophic Laterals Sclerosis (ALS). **L. Bruijn.** The ALS Association.

11:35 AAV9 Based Gene Therapy for Neurological Disorders. **K. Meyer.** Nationwide Children's Hosp.

423. THERE'S ALWAYS ROOM FOR DESSERT: EXAMINING THE EFFECT OF INSULIN AND HIGH FAT DIET ON NEUROTRANSMISSION, MOTIVATION AND COGNITION

Symposium

(*Sponsored by:* ASPET Division for Neuropharmacology (NEU))

Tues. 9:30 am—San Diego Convention Center, Room 17A

Chaired: C. Ferrario

Cochaired: L. Reagan

Neuroscience

Nutrition/Obesity

Metabolism and Metabolic Disease

Inflammation/Immunity

9:30 How Sweet It Is: Diet, Insulin, Dopamine, and Reward. **M. Rice.** New York Univ. Sch. of Med.

10:05 Fighting Fat with Fat: Dietary Supplementation with Omega-3 Fatty Acids Prevents and Reverses High Fat Diet-Induced Enhanced Sensitivity to the Behavioral Effects of Dopaminergic Drugs. **K. Serafine.** Univ. of Texas at El Paso.

10:40 Why Did I Eat That? Effects of Insulin on Striatal Glutamatergic Transmission and Food-Seeking. **C. Ferrario.** Univ. of Michigan.

11:15 Do You Remember What You Had for Lunch? Novel Roles for Insulin in Cognition and Hippocampal Plasticity. **L. Reagan.** Univ. of South Carolina Sch. of Med.

11:50 Effects of Chronic, Intermittent Sucrose Consumption on the Discriminative Stimulus Effects of Dopamine or Opioid Antagonists. **M.A. Marek, D.R. Rothbauer, E.N. Schulz, A.C. Barton, A.M. Tryhus, D.J. Hardorn-Papke, L.J. Brandt, D.C. Jewett.** University of Wisconsin—Eau Claire. **(822.7)**

424. ASPET DAILY DATABLITZ

Poster Discussion

Tues. 1:00 pm—San Diego Convention Center, Exhibit Halls A-D
Aspet poster discussion area Booth #820

Chaired: A. Mughal

Experience the daily ASPET datablitz, a rapid-fire oral presentation of research in the ASPET poster discussion lounge in the poster hall. These brief snippets of research are an introduction to their full presentations that will take place at their poster boards afterwards. You won't want to miss this fast-paced overview of the most exciting science of the day.

1:00 Pharmacokinetic Modeling of Acetylcholine-Induced Contraction of Mouse Trachea. **C.M. Kieffer.** Creighton University School of Medicine. **(834.1)**

1:05 Identification of Human Antigen R (HuR) as a Central Mediator of Cardiac Fibrosis. **L.C. Green, S.R. Anthony, L. Lanzillotta, S. Jones, M. Nieman, J. Lorenz, X. Wu, L. Xu, M. Tranter.** University of Cincinnati and Kansas University. **(839.5)**

1:10 Endothelial TRPV4 Channel Function Is Impaired in Pulmonary Arterial Hypertension. **C. Marziano, K. Hong, E.L. Cope, S.K. Sonkusare.** University of Virginia. **(837.10)**

1:15 Structure-Activity Relationship of Novel Compounds Based on Tamoxifen with Proposed Sigma-2 Receptor Activity. **C.R. T. Stang, L.R. Inbody, C.B. Orahood, M.J. Dick, A.M. Eichel, A.H. Mohamed, A.D. Faler, A.E. Zaibek, D.H. Kinder, R.A. Schneider.** University of Findlay College of Pharmacy and Ohio Northern University College of Pharmacy. **(836.5)**

1:20 Synergistic Effect of Combined Inhibition of the Checkpoint Kinase 1 and G9a Methyltransferase Pathways in Pancreatic Cancer. **G. Urrutia, A. Salmonson, G. Lomberk.** Medical College of Wisconsin. **(835.1)**

1:25 Break.

1:30 Influence of Liver-Specific Ablation of gp78 E3-Ligase on Hepatic Cytochrome P450-Dependent Drug Metabolism: Clinical Implications. **D. Kwon, S-M. Kim, M.A. Correia.** University of California, San Francisco. **(833.1)**

1:35 Sphingosine Kinase 2 Expression in CD11b^{+} Macrophages Negatively Regulates cGAS-STING Activity and Resolves Lung Injury. **J. C. Joshi, I. Rochford, S. Baweja, B. Joshi, M. Z. Akhter, M. Tauseef, K. R. Chava, V. Natarajan, D. Mehta.** University of Illinois at Chicago and Chicago State University. **(832.18)**

1:40 Relaxation of Porcine Isolated Irides by Novel Hydrogen Sulfide-Releasing Compounds. **J. Robinson, L. Mitchell-Bush, M. Whiteman, C. Opere, S. Ohia, Y. F. Njie-Mbye.** Texas Southern University, University of Exeter Medical School, United Kingdom and Creighton University. **(829.1)**

1:45 Discovery and Characterization of a Novel Series of D2 Dopamine Receptor-Selective Antagonists Though Iterative Chemistry of a BET Bromodomain Inhibitor. **C.T. Fearce, M.C. Donegan, M.M. Day, M. Yoshioka, J.W. Strovel, R.B. Free, D.R. Sibley.** Molecular Neuropharmacology Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health, ConverGene and LLC. **(827.1)**

1:50 Protein Kinase Cβ Inhibitors Attenuate Amphetamine-Stimulated Behaviors Through Direct and Indirect Mechanisms in Different Brain Regions. **R. Altshuler, M. Gnegy, E. Jutkiewicz.** University of Michigan. **(820.2)**

1:55 Discussion.

425. BERNARD B. BRODIE AWARD IN DRUG METABOLISM LECTURE

Lecture

(*Sponsored by:* ASPET Division for Drug Metabolism and Disposition (DMDD))

TUES. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 16B

Drug Metabolism and Disposition

The Bernard B. Brodie Award in Drug Metabolism was established to honor the fundamental contributions of Bernard B. Brodie in the field of drug metabolism and disposition. The Award recognizes outstanding original research contributions in drug metabolism and disposition, particularly those having a major impact on future research in the field.

2:30 Introduction.

2:35 Sex Differences in Drug Metabolism: From Steroids and P450s to Transcription Factors and Chromatin States. **D. Waxman.** Boston Univ. Sch. of Med.

426. DIVISION FOR CARDIOVASCULAR PHARMACOLOGY TRAINEE SHOWCASE

Symposium

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology (CVP))

TUES. 2:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 16A

CHAIRED: C. MARZIANO

COCHAIRED: S. SCHUMACHER

Cardiovascular

2:30 Introduction.

2:35 Hypoxic Stimulation of Vasoreparative Functions in Human CD34^{+} Cells Is Mediated by Angiotensin Converting Enzyme-2 and Mas Receptor. **S. Joshi, E. Leclerc, Y. Jarajapu.** North Dakota State University. **(699.5)**

2:50 Anchored G_s-Coupled Purinergic Receptor Regulation of L-Type $Ca_V1.2$ and Vascular Tone in Diabetic Hyperglycemia. **M. P. Prada, A.U. Syed, O.R. Buonarati, D. Ghosh, M.A. Nystoriak, G.R. Reddy, K.C. Sasse, S.M. Ward, Y.K. Xiang, L.F. Santana, M. Nieves-Cintrón, J.W. Hell, M.F. Navedo.** University of California, Davis, University of Louisville, University of Nevada, University of Nevada, Reno. **(569.10)**

3:05 Apelin and Acetylcholine Activate Distinct Nitric Oxide Signaling Pathways to Cause Endothelium-Dependent Relaxation of Isolated Coronary Arteries. **A. Mughal, C. Sun, S.T. O'Rourke.** North Dakota State University. **(699.4)**

3:20 Calcium/calmodulin-Dependent Protein Kinase II (CaMKII) Signaling in Cardiomyocytes Initiates Inflammatory Responses Required for Adverse Cardiac Remodeling in Response to Pressure Overload. **T. Suetomi, A. Willeford, M. Li, S. Miyamoto, J. Heller Brown.** University of California and San Diego. **(698.4)**

3:35 Protective RhoA Signaling Regulates DRP1 and Mitochondrial Fission in Cardiomyocytes. **C.S. Brand, V.P. Tan, J. Heller Brown, S. Miyamoto.** University of California and San Diego. **(839.3)**

3:50 GPER Attenuates Angiotensin II-Induced Oxidative Stress via cAMP-Mediated Regulation of NOX4. **B.O. Ogola, M.A. Zimmerman, V.N. Sure, P.V. G. Katakam, S.H. Lindsey.** Tulane University. **(700.1)**

4:05 Conclusion.

427. COMPUTATIONAL APPROACHES TO G PROTEIN-COUPLED RECEPTOR STRUCTURE AND FUNCTION

Symposium

(*Sponsored by:* British Pharmacological Society (BPS))

(*Cosponsored by:* ASPET Division for Drug Discovery and Development (DDD))

Tues. 3:30 pm—San Diego Convention Center, Room 17A

Chaired: E. Kelly

Cochaired: A. Conibear

Drug Discovery and Development

Emerging Technologies

Metabolism and Metabolic Disease

3:30 Introduction.

3:35 X-Ray Structures of GPCRs Provide Insights into New Binding Sites for Drug Discovery. **J. Mason.** Heptares Therapeutics Ltd.

4:00 Molecular Simulation and Machine Learning for the Design of Finely Tuned Drugs. **R. Dror.** Stanford Univ.

4:25 The Role of Dynamic Conformational Ensembles in GPCR Function. **I. Tikhonova.** Queen's Univ. Belfast.

4:50 Computational Medicinal Chemistry Approaches to GPCR Drug Discovery. **C. de Graaf.** VU Univ. Amsterdam.

5:15 Probing GPCR Cell Biology by Quantitative Proteomics. **M. von Zastrow.** Univ. of California, San Francisco.

5:40 Panel discussion.

428. DIVISION FOR DRUG METABOLISM AND DISPOSITION GILLETTE AWARDS AND JUNIOR INVESTIGATOR PLATFORM SESSION

Symposium

(*Sponsored by:* ASPET Division for Drug Metabolism and Disposition (DMDD))

Tues. 3:30 pm—San Diego Convention Center, Room 16B

Chaired: N. Isoherranen

Cochaired: X. Ding

Drug Metabolism and Disposition

3:30 Cell-Specific Role of Aryl Hydrocarbon Receptor in Liver Fibrosis. **J. Yan, W. Xie.** University of Pittsburgh. **(563.7)**

3:43 Detoxification of Polycyclic Aromatic Hydrocarbons (PAHs) by UDP-Glycosyltransferase 3A2 (UGT3A2) Variants Using Alternative Sugars. **A.G. Vergara, C.J. W. Watson, G. Chen, P. Lazarus.** Washington State University. **(564.15)**

3:56 Belinostat Inhibits Rifampicin Induced CYP3A4 and MDR1 Gene Expression. **K.L. Abbott, C.S. Chaudhury, N. Narayanan, S.R. Pondugula.** Auburn University. **(694.2)**

4:09 In Vitro Evaluation of the Hepatic Disposition of Colistin. **B. Qi, I. Spriet, J. Wauters, P. Annaert.** Katholieke Universiteit Leuven, Belgium. **(693.10)**

4:22 Utilizing SULT4A1 Mutant Mouse Models to Characterize SULT4A1. **P.L. Garcia, M.I. Hossain, S.A. Andrabi, C.N. Falany.** University of Alabama at Birmingham. **(833.12)**

4:35 Multidrug Resistance Protein 4 (MRP4), a Drug Transporter Is a Novel Genetic Determinant for Adipogenesis. **A.C. Donepudi, J.E. Manautou.** University of Connecticut. **(693.3)**

4:48 Differential Inactivation Mechanism and Covalent Adduct Formation of ALDH1A1 and ALDH1A2 by WIN18,446. **G. Zhong, A. Zelter, T.N. Davis, M.R. Hoopmann, R.L. Mortiz, M. MacCoss, W.L. Nelson, N. Isoherranen.** University of Washington. **(833.10)**

5:01 CRISPR/Cas9 Genetic Modification of CYP3A5 *3 in HuH-7 Human Hepatocyte Cell Line Leads to Cell Lines with Increased Midazolam and Tacrolimus Metabolism. **C. Dorr.** Minneapolis Medical Research Foundation at Hennepin County Medical Ctr.

5:30 Interaction of 2,4-Diaminopyrimidine Containing Drugs Including Fedratinib and Trimethoprim with Thiamine Transporters. **M. Giacomini.** Gilead Sciences.

429. DIVISION FOR MOLECULAR PHARMACOLOGY POSTDOCTORAL AWARD COMPETITION AND KEYNOTE ADDRESS

Symposium

(*Sponsored by:* ASPET Division for Molecular Pharmacology (MP))

Tues. 3:30 pm—San Diego Convention Center, Room 15B

Chaired: L. Hazelwood

Cochaired: H. Dohlman

Molecular Pharmacology

3:30 Introduction.

3:35 Drugging Undruggable Targets with Macrocyclic Peptides. **D. Pei.** The Ohio State Univ.

4:25 CRISPR/Cas9-Mediated Knockout of G Proteins and β-Arrestins Determines Transducer Specific Contributions to Dopamine D1 Receptor Signaling. **M.K. Jain, A.N. Nilson, D.E. Felsing, A. Inoue, J.A. Allen.** The University of Texas Medical Branch and Tohoku University, Japan. **(827.7)**

4:55 An Automated Live-Cell Microscopy System for Drug Profiling and Screening. **E.C. Greenwald, R. Wollman, J. Zhang.** University of California, San Diego, University of California, Los Angeles. **(690.3)**

5:25 Modulation of Synaptic Transmission: Quantitative Analysis of Gβγ Specificity to Adrenergic α_{2a} Receptor and SNARE. **Y. Y. Yim, K. Betke, W.H. McDonald, R. Gilsbach, Y. Chen, K. Hyde, Q. Wang, L. Hein, K. Schey, H. Hamm.** Vanderbilt University, University of Freiburg, Germany and University of Alabama at Birmingham School of Medicine. **(557.6)**

5:55 Conclusion.

430. NOVEL GENETIC-BASED TOOLS FOR TOXICITY SCREENING, PRECISION MEDICINE, AND MODE OF ACTION ANALYSIS

Symposium

(*Sponsored by:* ASPET Division for Toxicology (TOX))

TUES. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 15A

CHAIRED: A. HARRILL

COCHAIRED: B. CUMMINGS

Toxicology

3:30 Novel Methods for Rapid Assessment of Toxicant-Induced Changes in DNA Methylation: Alternatives to Pyrosequencing and Methylome Analysis. **B. Cummings.** Univ. of Georgia.

3:55 High-Throughput Transcriptomics in in vitro Chemical Screens, a Sensitive Tool for Benchmark Dose Assessment. **J. Harrill.** U.S. Environmental Protection Agency.

4:20 Weighted Gene Co-Expression Network Analysis (WGCNA): Systems Biology Approaches to Understanding Adverse Outcomes. **Y. Wang Webster.** Lilly Research Laboratories.

4:45 Diversity Outbred Mice—A Genetic Reference Population That Enabling Risk Predictions for Sensitive Subpopulations. **A. Harrill.** National Inst. of Environmental Health Sciences/NIH.

5:10 Pharmacogenetic Assessment of Drug Toxicity Using Diversity Outbred Mice. **D. Gatti.** The Jackson Laboratory.

5:35 Genome Wide and Targeted CRISPR Functional Approaches in Toxicology. **C. Vulpe.** Univ. of Florida.

431. HOT TOPICS IN CARDIOVASCULAR PHARMACOLOGY

Symposium

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology (CVP))

TUES. 4:10 PM—SAN DIEGO CONVENTION CENTER, ROOM 16A

CHAIRED: W.J. KOCH

COCHAIRED: S. LINDSEY

Cardiovascular

4:10 PAR1 and p38 MAPK Regulation of Endothelial Pro-Inflammatory Responses. **C. Rada, N. Grimsey, I. Canto, H. Mejia-pena, J. Trejo.** University of California and San Diego. **(837.1)**

4:23 Deletion of Rap1 Increases Atherosclerosis Development in ApoE Mice by Increasing Macrophage Infiltration and Foam Cell Formation. **X. Chen, A. Xu, E. H. C. Tang.** The University of Hong Kong, People's Republic of China. **(568.4)**

4:36 Carvedilol Uniquely Stimulates βarrestin2-Dependent SERCA2a Activity via the β_1-Adrenergic Receptor to Exert Positive Inotropy in Cardiac Myocytes. **B.M. Parker, K.A. McCrink, A. Brill, J. Maning, V.L. Desimine, Y. Duarte, S.L. Wertz, A. Lymperopoulos.** Nova Southeastern University. **(839.12)**

4:49 Sirtuin 3 Attenuates Diabetic Cardiomyopathy via Suppression of p53 Acetylation and Regulating Cardiomyocyte Metabolism. **J-X. Chen, H. Zeng, L. Li.** University of Mississippi Medical Center. **(838.1)**

432. PAUL M. VANHOUTTE DISTINGUISHED LECTURESHIP IN VASCULAR PHARMACOLOGY

Lecture

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology (CVP))

TUES. 5:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 16A

Cardiovascular

Award Lectures

The Paul M. Vanhoutte Distinguished Lectureship 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.

5:30 Presentation of Awards.

5:34 Introduction of Dr. Miller.

5:37 Estrogen and Vascular Function: The Clash between Basic Pharmacology and Clinical Practice. **V. Miller.** Mayo Clinic.

6:02 Introduction of Dr. Michel.

6:05 Life History of eNOS. **T. Michel.** Brigham and Women's Hosp., Harvard Medical Sch.

Physiology

433. HALLMARKS OF GROUND RULES FOR PRODUCTIVE COLLABORATIONS IN SCIENCE. PREVENTING AND MANAGING CONFLICT.

Symposium

(*Sponsored by:* APS Careers in Physiology Committee)

Tues. 7:00 am—San Diego Convention Center, Room 25B

Chaired: J. Brandauer

Cochaired: B. Becker

Career and Professional Development

7:00 Preventing and managing conflict. **I. Zucker.** Univ. of Nebraska Med. Ctr.
7:20 Preventing and managing conflict. **C. Moreno Quinn.** MedImmune, Cambridge, UK.
7:40 Panel discussion.

434. 2018 MENTORING SYMPOSIUM: RECOGNIZING AND RESPONDING TO IMPLICIT BIAS IN SCIENCE II

Symposium

(*Sponsored by:* APS Women in Physiology Committee)

Tues. 7:00 am—San Diego Convention Center, Room 25C

Chaired: D. Al Alam

Cochaired: K. Wallace and D.H. Ho

Diversity in Science

Career and Professional Development

7:00 Surviving and thriving in the post-Weinstein world. **Gretchen Dahlinger Means.** Univ. of Southern California.
7:30 General discussion.

435. DO IT AGAIN: HOW TO ACHIEVE RIGOROUSLY REPRODUCIBLE RESEARCH III

Symposium

(*Sponsored by:* APS Trainee Advisory Committee)

Tues. 7:00 am—San Diego Convention Center, Room 25A

Chaired: R. Downey

Cochaired: I. Obi

Career and Professional Development

7:00 Publishing reproducible research: ensuring that editors, reviewers, and readers have confidence in your findings. **Kim Barrett.** UCSD Sch. of Med.

436. MOLECULAR MECHANISMS FOR SALT-INDUCED CARDIOVASCULAR DISEASE

Symposium

(*Sponsored by:* Cell and Molecular Physiology Section)

Tues. 8:30 am—San Diego Convention Center, Room 24AB

Chaired: A. Kirabo

Cochaired: N. Ruggeri Barbaro

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Cardiovascular

Metabolism and Metabolic Disease

8:30 Salt, inflammation, and NKCC2. **Steven Crowley.** Duke University School of Medicine.
9:00 Renal nerves and renal inflammation in salt-induced hypertension: Afferent or efferent? **John Osborn.** University of Minnesota.
9:30 The brain and Salt Sensing in Cardiovascular Disease. **Sean Stocker.** University of Pittsburgh.

437. NEUROPLASTICITY OF AIRWAY REFLEXES

Symposium

(*Sponsored by:* Respiration Section)

Tues. 8:30 am—San Diego Convention Center, Room 26AB

Neuroscience

8:30 Plasticity of nociceptive signaling fom the airways. **Thomas Taylor-Clark.** University of South Florida.
8:52 Neural mechanisms of airway hyperreactivity. **Leah Reznikov.** University of Florida.
9:14 Effect of cervical spinal contusion on pulmonary C-fiber induced laryngeal closure. **Kun-Ze Lee.** National Sun Yat-Sen University.
9:36 The importance of spinal pathways in the regulation of swallow. **Teresa Pitts.** Unviersity of Louisville.

438. MECHANISMS UNDERLYING SKELETAL MUSCLE ADAPTATION IN HEALTH AND DISEASE

Symposium

(*Sponsored by:* Endocrinology and Metabolism Section)

Tues. 8:30 am—San Diego Convention Center, Room 22

Chaired: C. Lang

Cochaired: P. Molina

Metabolism and Metabolic Disease

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Nutrition/Obesity

8:30 Impact of impaired stem cell differentiation on alcohol-induced muscle wasting. **Liz Simon.** LSU Health Science Ctr.

9:00 Proteasomal activation in remodeling muscle during aging and disuse. **Sue Bodine.** University of Iowa.

9:30 Changes in muscle protein synthesis: role in catabolic muscle loss in humans. **Stuart Phillips.** McMaster University.

439. NEURO-IMMUNE INTERACTIONS IN INFLAMMATORY HOMEOSTASIS

Symposium

(*Sponsored by:* Neural Control and Autonomic Regulation Section)

Tues. 8:30 am—San Diego Convention Center, Room 23ABC

Chaired: P. Marvar

Inflammation/Immunity

Neuroscience

8:30 Inflammatory homeostasis: A role for MAMPs, DAMPs and microRNA. **Monika Fleshner.** University of Colorado Boulder.

9:00 CNS immune activation and effects on mesolimbic dopamine in a non-human primate model of peripheral cytokine-induced depression. **Jennifer Felger.** Emory.

9:30 CNS immune interactions in multiple sclerosis. **Robert Miller.** George Washington University.

440. TISSUE-DISTRIBUTED CONTROL OF SEX DIFFERENCES IN DIABETES AND CARDIOVASCULAR DISEASE

Symposium

(*Sponsored by:* Integrative Physiology Symposium Series)

Tues. 8:30 am—San Diego Convention Center, Room 20A

Chaired: J.M. Stafford

Cardiovascular

Nutrition/Obesity

8:30 Sex differences in adipose tissue growth and remodeling contribute to metabolic risk. **Susan Fried.** Ichan Sch. of Med. at Mount Sinai.

8:52 Estrogen mediated cardioprotection. **Elizabeth Murphy.** NHLBI, NIH.

9:14 Gender risk of autoimmunity: Estrogen and aire. **Nadine Dragin.** Sorbonne Univ., UPMC-INSERM UMRS 974

9:36 Hepatic actions of estrogens and androgens in control glucose and lipid metabolism with obesity. **John Stafford.** Vanderbilt Univ. Sch. of Med.

441. THE EFFECTS OF ENVIRONMENTAL CHALLENGES ON PERFORMANCE AND METABOLISM

Featured Topic

(*Sponsored by:* Comparative & Evolutionary Physiology Section)

Tues. 8:30 am—San Diego Convention Center, Room 25C

Chaired: C. Williams

Cochaired: A. Hindle

Metabolism and Metabolic Disease

8:30 From lab to field and into the future, gaining insights into environmental and physiological drivers of crocodilian performance. **Craig Franklin.** The University of Queensland.

9:00 Environmental Chemicals Can Disrupt Neonatal Cardiomyocyte Physiology. **M. Ramadan, M. Sherman, R. Jaimes, L. Swift, N. Posnack.** Children's National Health System. **(859.11)**

9:15 Behavioral Thermoregulation of Antarctic Teleosts with and Without Hemoglobin in Response to Acute Thermal Challenge. **I.I. Ismailov, J.B. Scharping, I.E. Andreeva, M.J. Friedlander.** Virginia Tech Carilion Research Institute and Virginia Tech Carilion School of Medicine and Research Institute. **(859.2)**

9:30 Glucose Metabolism After Sleep Restriction, Total Sleep Deprivation, and Recovery. **E-M. Elmenhorst, E. Hennecke, D. Lange, J. Fronczek, A. Bauer, D. Elmenhorst, D. Aeschbach.** German Aerospace Center (DLR), Germany and Research Center Jülich, Germany. **(859.12)**

9:45 Development of Thermoregulatory Capability in Weddell Seal Pups. **L.E. Pearson, E. Weitzner, S. Whoriskey, L. Tomanek, H.E. M. Liwanag.** California Polytechnic State University and The Marine Mammal Center. **(859.1)**

442. GETTING BLOOD TO WHERE IT NEEDS TO GO: EMERGING MECHANISMS REGULATING SKELETAL MUSCLE BLOOD FLOW IN HEALTH AND DISEASE

Featured Topic

(*Sponsored by:* Environmental and Exercise Physiology Section)

TUES. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 25B

CHAIRED: S. ROMERO

COCHAIRED: C. HEARON

Cardiovascular

Metabolism and Metabolic Disease

8:30 Mechanisms of Age-Related Compensatory Vasodilation: Insight from Passive Leg Movement. **J.D. Trinity, R.M. Broxterman, J.R. Gifford, O. S. Kwon, J.R. Hydren, A.C. Kithas, A.D. Nelson, D.E. Morgan, J.E. Jessop, A. Bledsoe, R.S. Richardson.** Salt Lake City VA Medical Center and University of Utah. **(726.7)**

8:45 Augmented Skeletal Muscle Vasodilation to Intravascular ATP During Exercise and Systemic Hypoxia in Humans. **J.D. Terwoord, M.L. Racine, C.M. Hearon; Jr., J.C. Richards, G.J. Luckasen, M.J. Joyner, F.A. Dinenno.** Colorado State University, University of Colorado Health and Mayo Clinic and Foundation. **(726.3)**

9:00 Endothelium Mediated Dilation Does Not Blunt α_1-adrenergic Vasoconstriction in First Order Arterioles. **B.S. Ferguson, E. Kozina, M.A. Hill, P.S. Clifford.** University of Illinois at Chicago and University of Missouri. **(726.5)**

9:15 Effect of Increased Skeletal Muscle Temperature on Intramuscular Histamine Concentrations. **J. Mangum, D. Sieck, M. Ely, E. Larson, C. Minson, J. Halliwill.** University of Oregon. **(726.2)**

9:30 Limiting the constrictor influence: a parallel tale on scientific mindset and vascular control in humans. **Frank Dinenno.** Colorado State University.

443. INTERROGATING NEURONAL CIRCUITS MEDIATING BODY FLUID HOMEOSTASIS

Featured Topic

(*Sponsored by:* CNS Section)

TUES. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 28A

CHAIRED: E. KRAUSE

COCHAIRED: L.A. WANG

Neuroscience

8:30 Salt and the NTS. **Brad Lowell.** Harvard.

9:00 Differential Effects of Osmotic Stress on Synaptic vs. Paracrine Signaling Mechanisms in Oxytocinergic Magnocellular Neurons. **C.J. Frazier, W. Sheng, S.W. Harden.** University of Florida. **(598.10)**

9:15 Chronic Chemogenetic Activation of OVLT Neurons Alters Body Fluid Homeostasis and Sympathetically-Mediated Hypertension. **S.D. Stocker, W.B. Farquhar, M.M. Wenner.** University of Pittsburgh and University of Delaware. **(598.12)**

9:30 Prefrontal Cortical Regulation of Chronic Stress-Induced Cardiovascular Susceptibility. **B. Myers, D. Schaeuble, A.E. B. Packard, J.M. McKlveen, R.L. Morano, S. Fourman, B.L. Smith, J.R. Scheimann, B.A. Packard, S.P. Wilson, J. James, D.Y. Hui, Y.M. Ulrich-Lai, J.P. Herman.** Colorado State University, University of Cincinnati, University of South Carolina and Cincinnati Children's Hospital Medical Center. **(598.11)**

9:45 Identifying 'Angiotensin Sensitive' Neurons in the Lamina Terminalis That Coordinate Endocrine, Cardiovascular and Behavioral Responses Mediating Body Fluid Homeostasis. **E.G. Krause, A.R. Alleyne, K.M. Cahill, M.D. Smeltzer, E.B. Bruce, Y. Tan, S.W. Harden, C.J. Frazier, A.D. de Kloet.** University of Florida. **(598.7)**

444. ADVANCES IN RENAL PHYSIOLOGY II

Featured Topic

(*Sponsored by:* Renal Section)

TUES. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 25A

CHAIRED: E. INSCHO

COCHAIRED: J. NESPOUX

8:30 Absence of the Na-Glucose Cotransporter SGLT1 Ameliorates Kidney Recovery in a Murine Model of Acute Kidney Injury. **J. Nespoux, R. Patel, W. Huang, H. Koepsell, B. Freeman, V. Vallon.** University of California, San Diego and VA San Diego Healthcare System and University of Würzburg, Germany. **(849.5)**

8:45 Bowman's Capsule Corrected: Undiscovered Vascular Chambers in the Renal Glomerulus. **D.O. Bates, K.P. Arkill, J.S. Bell, C.P. Winlove, S.J. Harper, C.R. Neal.** University of Nottingham, United Kingdom, University of Exeter, United Kingdom and University of Bristol, United Kingdom. **(721.22)**

9:00 The Role of Renal Vascular Reactivity in the Development of Renal Dysfunction During the Phase of Compensated and Decompensated Congestive Heart Failure. **V. Kratky, L. Kopkan, J. Sadowski, L. Cervenka.** Institute for Clinical and Experimental Medicine, Czech Republic, Mossakowski Medical Research Centre and Polish Academy of Science, Poland. **(721.4)**

9:15 Renal Mechanism for Regulation of Blood Pressure by the Circadian Clock Protein Per1. **L.G. Douma, M. Holzworth, K. Solocinski, K-Y. Cheng, S. Masten, I.J. Lynch, B.D. Cain, C.S. Wingo, M.L. Gumz.** University of Florida. **(716.13)**

9:30 The Protective Effects of Atrial Natriuretic Peptide Infusion in Salt-Sensitive Hypertension. **D. Ilatovskaya, V. Levchenko, A. Zietara, K. Winsor, D.R. Spires, A. Staruschenko.** Medical College of Wisconsin. **(619.2)**

9:45 Enhanced Hydrogen Peroxide and Renin Release in Primary Cultures of Juxtaglomerular (JG) Cells from Diabetic Mice. **M. Mendez.** Henry Ford Hospital. **(721.15)**

445. ENDOTHELIAL CELL CONTRACTION OR RETRACTION (INSIGHTS INTO BARRIER FUNCTION AND PERMEABILITY)

Featured Topic

(*Sponsored by:* Cardiovascular Section)

Tues. 8:30 am—San Diego Convention Center, Room 28B

Chaired: C. Webb

Cochaired: C.F. Wenceslau

Cardiovascular

8:30 Endothelial contractile cytoskeleton and barrier dysfunction. **Sarah Yuan.** University of South Florida.

9:00 N-Cadherin Signaling via RhoGEF Trio Stabilizes Ve-Cadherin Junctions and Regulates Vascular Permeability. **K.J. Kruse, Q. Lee, Y. Sun, X. Yang, J. Klomp, F. Huang, S. Vogel, L.M. Tai, A.B. Malik, J. W. Shin, Y.A. Komarova.** University of Illinois at Chicago. **(846.5)**

9:15 Mitochondria N-Formyl Peptides in Plasma of Polytrauma Patients Cause Vascular Endothelial Barrier Dysfunction Through Formyl Peptide Receptor-1 Activation. **P. Martinez Quinones, C. White, C.G. McCarthy, S. Ogbi, K. O'Malley, R. C. Webb, C. Ferreira Wenceslau.** Medical College of Georgia at Augusta University. **(846.2)**

9:30 A Disintegrin and Metalloproteinase 15-Mediated Glycocalyx Disruption Contributes to Vascular Leakage During Septic Injury. **X. (. Yang, J.E. Meegan, M. Jannaway, D.C. Coleman, S. Rodriguez Ospina, S.Y. Yuan.** University of South Florida. **(846.1)**

9:45 Estrogen Receptor Alpha Mediated Activation of the Endothelial Epithelial Sodium Channel: Role in the Genesis of Arterial Stiffness. **C. Manrique, Y. Yang, A. Lising, D. Chen, A. Aroor, J.R. Sowers, M. Hill.** University of Missouri. **(846.7)**

446. NOVEL DISCOVERIES IN VASCULAR PHYSIOLOGY

Featured Topic

(*Sponsored by:* Cardiovascular Section)

Tues. 8:30 am—San Diego Convention Center, Room 27AB

Chaired: S. Earley

Cardiovascular

8:30 Introduction.

8:35 Parallel Processing of Multiple Stimuli in the Vascular Endothelium. **M.D. Lee, C. Wilson, C.D. Saunter, J.M. Girkin, J.G. McCarron.** University of Strathclyde, United Kingdom and Durham University, United Kingdom. **(843.2)**

8:50 Peroxynitrite-Induced Reversible Impairment of Endothelial TRPV4 Channel Function in Obesity. **K. Hong, E. Cope, C. Marziano, L. DeLalio, B. Isakson, S. Sonkusare.** University of Virginia. **(843.21)**

9:05 Dynamic Blood Flow Control by ATP-Sensitive K^+ Channel in Heart. **G. Zhao, H.C. Joca, W.J. Lederer.** University of Maryland School of Medicine. **(843.24)**

9:20 Junctional Pericytes Serve as Directional Control Elements in K^+-Mediated Functional Hyperemia. **A.L. Gonzales, M. Nelson.** University of Vermont. **(843.23)**

9:35 Functional hyperemia in the brain regulated by retrograde C^{2+} signals. **Scott Earley.** University of Nevada, Reno School of Medicine.

447. HISTORY OF PHYSIOLOGY GROUP LECTURE

Lecture

(*Sponsored by:* History of Physiology Group)

Tues. 1:00 pm—San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 3-4

1:00 Bengt Saltin, M.D., D.Sci. (1935–2014): Exercise is medicine. **Peter Raven.** Univ. of North Texas Hlth. Sci. Ctr.

448. APS PRESIDENT'S SYMPOSIUM SERIES III. EXOSOMES: THE NEW FRONTIER. EXOSOMES IN DIAGNOSTICS AND THERAPEUTICS

Symposium

President's Symposium Series

Tues. 1:30 pm—San Diego Convention Center, Room 20A

Chaired: J.C. Jones

Cancer and Therapy

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Emerging Technologies

1:30 Exosomes as drug delivery vehicles. **Samir El-Andaloussi.** Univ. of Oxford.

2:00 Exosomes as liquid biopsies for disease diagnosis. **Jhan Skog.** Exosome Diagnostics Inc.

2:30 Stem cell derived exosomes for tissue regeneration. **Johnathon Anderson.** Univ. of California—Davis Medical Center.

449. STEROID RECEPTOR SIGNALING IN CARDIOVASCULAR HEALTH AND DISEASE

Symposium

(*Sponsored by:* Cardiovascular Section)

Tues. 1:30 pm—San Diego Convention Center, Room 22

Chaired: M. Hamblin

Cochaired: J. Clayton

Cardiovascular

1:30 Estrogen-dendrimer conjugate protection against cardiac ischemic-reperfusion injury is ablated in mice with endothelial-specific loss of ER-alpha. **Elizabeth Murphy.** National Heart Lung and Blood Institute.

1:52 Crucial role of mitofilin and cyclophilin D interaction in post-ischemic GPER1-induced cardioprotection against ischemia-reperfusion injury. **Jean Bopassa.** University of Texas Health Science Center at San Antonio.

2:14 The role of aldosterone-mineralocorticoid receptor activation in pulmonary vascular remodeling and right ventricular dysfunction in pulmonary hypertension. **Jane Leopold.** Brigham and Women's Hospital.

2:36 Mineralocorticoid receptors in vascular function and CVD. **Iris Jaffe.** Tufts University Medical Center.

450. STRUCTURE AND FUNCTION OF RENAL EPITHELIAL CILIA

Symposium

(*Sponsored by:* Renal Section)

Tues. 1:30 pm—San Diego Convention Center, Room 28DE

Chaired: P.D. Bell

Cochaired: D. Ilatovskaya

Metabolism and Metabolic Disease

1:30 Mechanosensitive differentiation of proximal tubule cells. **Ora Weisz.** Univ. of Pittsburgh.

2:00 Dietary interventions in polycystic kidney disease: taking advantage of metabolic defects for therapy. **Thomas Weimbs.** Univ. of California, Santa Barbara.

2:30 Unilateral nephrectomy activates kidney immune cells and accelerates cyst growth in polycystic kidney disease. **Takamitsu Saigusa.** Univ. of Alabama at Birmingham.

451. SYMPATHETIC NEUROVASCULAR TRANSDUCTION IN HUMANS: ARE WE THERE YET?

Symposium

(*Sponsored by:* Neural Control and Autonomic Regulation Section)

Tues. 1:30 pm—San Diego Convention Center, Room 28B

Chaired: J.K. Shoemaker

Neuroscience

1:30 Neurovascular transduction in humans: New approaches to old questions. **Can Tan.** Harvard Medical School.

2:00 Sympathetic transduction: Implications for health and disease. **Paul Fadel.** University of Texas at Arlington.

2:30 From one generation to the next: differential distribution of sympathetic receptors in skeletal muscle microvasculature. **Baraa Al-Khazraji.** Western University.

452. MOLECULAR TRANSDUCERS OF THE PHYSIOLOGICAL ADAPTATIONS TO EXERCISE AND AGING

Symposium

(*Sponsored by:* Environmental and Exercise Physiology Section)

Tues. 1:30 pm—San Diego Convention Center, Room 25C

Chaired: D.R. Seals

Cochaired: C.R. Martens

Cardiovascular

Inflammation/Immunity

Metabolism and Metabolic Disease

1:30 Symposium introduction. **Douglas Seals.** University of Colorado Boulder.

1:40 Molecular mechanism of reversal of age-related decline of muscle mitochondria in humans. **Sreekumaran (Sree) Nair.** Mayo Clinic.

2:00 Inter-individual response heterogeneity: a window into molecular transducers of exercise adaptation. **Marcas Bamman.** University of Alabama Birmingham.

2:20 Metabolites as key molecular transducers of exercise and metabolic capacity. **Jane Shearer.** University of Calgary.

2:40 Epigenetic patterns with aging and exercise are associated with indicators of healthpsan in humans. **Christopher Martens.** University of Delaware.

453. THE VASCULOME: AN INTEGRATED EXPLORATION OF VASCULAR REACTIVITY, LINEAGE, AND SPECIALIZATION

Symposium

(*Sponsored by:* Cardiovascular Section)

Tues. 1:30 pm—San Diego Convention Center, Room 28A

Chaired: Z. Galis

Cochaired: L. Yin

Cardiovascular

1:30 The *what* and *why* of the vasculome. **Zorina Galis.** National Heart Lung and Blood Institute.

1:40 Why we need the vasculome: Lessons from the coronary circulation. **William Chilian.** Northeast Ohio Medical University.

2:00 Mapping vascular smooth muscle development, diversity and reprogramming. **Mark Majesky.** University of Washington.

2:20 Tracing the origin of vascular lineage in development and diseases. **Bin Zhou.** Shanghai Institutes for Biological Sciences.

2:40 Panel discussion.

454. PHYSIOLOGICAL ADAPTATIONS TO HYPOXIA: FROM MOUNTAIN TOP TO OCEAN BOTTOM

Featured Topic

(*Sponsored by:* Hypoxia Group)

Tues. 1:30 pm—San Diego Convention Center, Room 26AB

Chaired: M.B. Harris

Cochaired: E.A. Moya

Inflammation/Immunity

Metabolism and Metabolic Disease

Cardiovascular

1:30 Lahiri-Cherniak Lecture of the APS Hypoxia Interest Group. **William Milsom.** Univ. of British Columbia.

2:15 Mechanisms of Neuroprotection Against Oxidative Stress in the Anoxia Tolerant Turtle *Trachemys scripta*. **M. Reiterer, S.L. Milton.** Florida Atlantic University. **(858.6)**

2:30 High Altitude Hypoxia Impacts Omega-3 Fatty Acid Metabolites in Plasma of Fetal and Newborn Sheep. **V. Lopez, M. La Frano, R. Bosviel, J. Newman, R. Thorpe, O. Feihn, L. Zhang, S.M. Wilson.** Occidental College Los Angeles, California Polytechnic State University, University of California, Davis, Loma Linda University School of Allied Health Professions and Loma Linda University School of Medicine. **(858.5)**

2:45 Sweet Success: Metabolic Substrate Adaptations to Acute Hypoxia in the Naked Mole Rat *(Heterocephalus glaber).* **M.E. Pamenter, A.M. Kirby, A.J. Shuhendler.** University of Ottawa, Canada. **(858.8)**

455. EPITHELIAL MECHANO-SENSITIVITY IN HEALTH AND DISEASE

Featured Topic

(*Sponsored by:* Cell and Molecular Physiology Section)

Tues. 1:30 pm—San Diego Convention Center, Room 25A

Chaired: A. Beyder

Cochaired: F. Chebib

Neuroscience

1:30 Mechanical forces controlling epithelial cell numbers. **Jody Rosenblatt.** University of Utah.

2:15 Role of the Mechanosensitive Ion Channel Piezo1 in Autosomal Dominant Polycystic Kidney Disease (ADPKD). **F. Chebib, A. Beyder, X. Wang, C. Alcaino, B. Ehrlich, V. Torres.** Mayo Clinic and Yale University. **(868.2)**

2:30 Piezo2 Mechanosensitive Ion Channel Role in Primary Enterochromaffin (Ec) Cell Mechanosensitivity. **C. Alcaino, K. Knutson, G. Yildiz, D. Linden, J.H. Li, A. Leiter, G. Farrugia, A. Beyder.** Mayo Clinic and University of Massachusetts Medical School. **(868.3)**

2:45 N-Glycan and Heparan Sulphate Components of the Extracellular Matrix Are Essential for Laminar Shear Stress Response of the Epithelial Sodium Channel (ENaC). **Z. Ashley, D. Barth, J.P. Baldin, M. Fronius.** University of Otago, New Zealand. **(868.1)**

456. GI AND LIVER PHYSIOLOGY AND DISEASE

Featured Topic

(*Sponsored by:* GI and Liver Physiology Section)

TUES. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 23ABC

CHAIRED: M. FREY

Nutrition/Obesity

Inflammation/Immunity

Emerging Technologies

1:30 Colonic Bile Acids Regulate Epithelial Wound Healing. **N.K. Lajczak, M.S. Mroz, B. Goggins, S. Keely, S.J. Keely.** Royal College of Surgeons in Ireland, Ireland, School of Biomedical Sciences and Pharmacy and University of Newcastle, Australia. **(873.15)**

1:45 The Impact of Antibiotics on the Intestinal Microbiome and the Gut-Brain Axis in Zebrafish. **E.A. Bell, A.G. Ball, K.L. Deprey, J.K. Uno.** Elon University. **(765.1)**

2:00 Tofacitinib Inhibits Intestinal Epithelial Jak-Stat Signaling and Prevents Barrier Dysfunction Induced by Interferon-Gamma (IFN-γ). **A. Sayoc, R. Preciado, M. Krishnan, D.F. McCole.** University of California, Riverside. **(873.20)**

2:15 *Helicobacter pylori* Alters the Expression of Circadian Clock Components Per2 and Bmal1 During Infection. **E.L. Teal, J. Li, J.L. Chakrabarti, N. Steele, D. Rosselot, N. Sundaram, J. Hawkins, C. Hong, M.A. Helmrath, T.L. Diwan, Y.L. Zavros.** University of Cincinnati, University of Michigan and Cincinnati Children's Hospital Medical Center. **(873.21)**

2:30 Enteric Neuroinflammation Driven by Exposure to Pyridostigmine Bromide Is a Possible Contributing Factor to Gulf War Illness. **S. Hernandez-Rivera, V. Grubišić, D. Fried, B.D. Gulbransen.** Michigan State University. **(871.1)**

2:45 C-SRC Mediates Intestinal Stem Cell Response to High Fat Diet. **A.L. Theiss, J. Han, D.L. Jackson, J. Park, K. H. Jung, B.A. Kaipparettu.** Baylor Scott & White Research Institute and Baylor College of Medicine. **(759.2)**

457. CELL PLASTICITY: CALCIUM, CAMP AND BEYOND

Featured Topic

(*Sponsored by:* Respiration Section)

TUES. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 25B

CHAIRED: D. MEHTA

Inflammation/Immunity

Metabolism and Metabolic Disease

1:30 New insights into STIM-ORAI-dependent calcium signalling. **Patrick Hogan.** La Jolla Inst. for Allergy and Immunol.

1:45 Role of Mitochondrial Reactive Oxygen Species (ROS) and TRPV4 Activation in Microvascular Endothelial Cell Dysfunction in PAH. **K. Suresh, L. Servinsky, H. Jiang, Z. Bigham, J. Zaldumbide, J. Huetsch, C. Kliment, M. Damarla, L. Shimoda.** Johns Hopkins University. **(746.6)**

2:00 Extracellular Vesicles: An Additional Compartment for the Second Messenger, Cyclic Adenosine Monophosphate (cAMP). **S.L. Sayner, M. Maulucci, A. Scruggs, C. Zhou, N. Bauer.** University of South Alabama. **(746.1)**

2:15 Ceramide Containing Microparticles from Aged Stored Platelets Recapitulate Aspects of Murine Transfusion Related Acute Lung Injury. **M.J. McVey, M. Maishan, W.L. Lee, C. Spring, J.W. Semple, W.M. Kuebler.** University of Toronto, Canada, Keenan Research Centre for Biomedical Science, St. Michael's Hospital, Canada and Charité-Universitätsmedizin Berlin, Germany. **(746.2)**

2:30 Protease Activated Receptor 2 Deficiency in Alveolar Macrophages Impairs cAMP Generation Leading to Nfat-Dependent Pro-Inflammatory Signalling and Lung Injury. **R. R. Sheikh, J. C. Joshi, T. Mohammad, I. Rochford, S. Baweja, M. Koichiro, M. Hollenberg, D. Mehta.** University of Illinois at Chicago, Chicago State University and University of Calgary, Canada. **(746.5)**

2:45 Pannexin 1 and a Venous-Specific Purinergic Cascade Induces Endothelial Leak in Response to TNFα. **H.S. Comstra, D. Begandt, S. Molina, N. Krüger, L. Biwer, S.R. Johnstone, A. Lohman, M.E. Good, L.J. DeLalio, H. Bacon, B.E. Isakson, M. Koval.** Emory University, Walter and Eliza Hall Institute of Medical Research, Germany and University of Virginia School of Medicine. **(746.8)**

458. ORIGINS OF CARDIOVASCULAR DISEASE: DOES METABOLIC DISEASE ALWAYS COME FIRST?

Featured Topic

(*Sponsored by:* Water and Electrolyte Homeostasis Section)

TUES. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 27AB

CHAIRED: F.T. SPRADLEY

COCHAIRED: A. SOUZA

Nutrition/Obesity

Metabolism and Metabolic Disease

1:30 Obesity, cardiometabolic and kidney dysfunction: mechanistic links. **John Hall.** Univ. of Mississippi Med. Ctr.

2:00 Early Life Stress Induces Endothelial-Derived HDAC9 and ET-1 Expression. **K.C. McPherson, D.H. Ho, Y.D. Pettway, X. Liu, K.A. Hyndman, J.S. Pollock.** University of Alabama at Birmingham. **(905.2)**

2:15 Sex Differences in the Development of Renal Injury in Obese Dahl Salt-Sensitive Leptin Receptor Mutant Rats During Prepubertal Obesity. **B. Poudel, C.A. Shields, D.C. Cornelius, J.M. Williams.** University of Mississippi Medical Center. **(906.5)**

2:30 Nighttime Sodium Intake Is Associated with Cardiometabolic Risk and Insulin Resistance in Night Shift Nurses. **J.S. Speed, H.E. Molzov, R.L. Johnson, B.K. Becker, D.M. Pollock, K.L. Gamble.** University of Alabama at Birmingham. **(906.11)**

2:45 AMPK as a Metabolic Sensor Regulates Inflammatory Response During Ischemic Insults. **J. Li, X. Chen, C. Cates, T. Rousselle, X. Li.** University of Mississippi Medical Center. **(906.9)**

459. RESPIRATORY AND LIMB SKELETAL MUSCLE WEAKNESS IN DISEASE AND AGING: MECHANISMS AND TREATMENTS

Symposium

(*Sponsored by:* Environmental and Exercise Physiology Section)

TUES. 3:30 PM—SAN DIEGO CONVENTION CENER, ROOM 25C

Reactive oxygen species and diaphragm contractile dysfunction in heart failure and aging. **Leo Ferreira.** University of Florida.

3:50 Mechanisms of diaphragm dysfunction in the critically ill. **Coen Ottenheijm.** VU University Medical Center Amsterdam.

4:15 Intracellular calcium leak as a mediator of muscle weakness in disease and aging. **Andrew Marks.** Columbia University.

4:40 Exercise training as a therapeutic treatment for muscle weakness in chronic disease. **Scott Bowen.** University of Leeds.

460. HEBERT LECTURE OF THE EPITHELIAL TRANSPORT GROUP

Featured Topic

(*Sponsored by:* Epithelial Transport Group)

TUES. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 25A

CHAIRED: A.R. SUBRAMANYA

Metabolism and Metabolic Disease

Emerging Technologies

3:30 Potassium diet and blood pressure. **Alicia McDonough.** USC.

4:00 The β-Adrenergic Stimulation of the Renal NaCl Cotransporter Is Mediated via a cAMP-Dependent Activation of Protein Phosphatase 1 Inhibitor 1. **D. Penton Ribas, S. Moser, A. Wengi, J. Czogalla, L.L. Rosenbaek, N. Faresse, R. Fenton, D. Loffing-Cueni, J. Loffing.** University of Zurich, Switzerland and Aarhus University, Denmark. **(624.23)**

4:15 Collecting-Duct-Principal-Cell-Select Knockout (KO) of the Mechanistic-Target-of-Rapamycin (mTOR) Alters Sodium and Acid/base Homeostasis. **M.B. Fluitt, A.L. Brown, S. Tiwari, L. Li, C.M. Ecelbarger.** Georgetown University and Sanjay Gandhi Post-Graduate Institute of Medical Sciences, India. **(624.26)**

4:30 Characterization of P2RX7 Knockout in PCK (Polycystic Kidney) Rats. **S.N. Arkhipov, D. Potter, A.M. Geurts, T.S. Pavlov.** Henry Ford Health System and Medical College of Wisconsin. **(624.5)**

4:45 WNK3 and WNK4 Exhibit Opposite Sensibility for Cell Volume and Intracellular Chloride Concentration. **D. Pacheco-Alvarez, D.L. Carrillo-Pérez, A. Mercado, K. Leyva-Ríos, E. Moreno, N. Vazquez, G. Gamba.** Universidad Panamericana, Mexico, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico, Instituto Nacional de Cardiología Ignacio Chávez, Mexico and Instituto de Investigaciones Biomédicas—UNAM, Mexico. **(624.17)**

461. EXERCISE AND SKELETAL MUSCLE AS KEY REGULATORS OF WHOLE BODY AGING

Featured Topic

(*Sponsored by:* Muscle Biology Group)

TUES. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 22

CHAIRED: M. JACKSON

COCHAIRED: S. BROOKS

Metabolism and Metabolic Disease

Nutrition/Obesity

3:30 Muscle mitochondrial signaling as a regulator of whole body proteostasis. **Anne McArdle.** University of Liverpool.

4:00 Senescent Skeletal Muscle Produces a Distinct Cytokine Secretory Profile in Response to Endotoxin Exposure *in Vitro*. **A.J. Mattingly, O.J. Laitano, T.L. Clanton.** University of Florida. **(907.12)**

4:15 Metformin Blunts Exercise-Induced Improvements in Skeletal Muscle Mitochondrial Respiration Independent of Changes in Mitochondrial Biogenesis. **A.R. Konopka, W.M. Castor, J. Reid, H. Schoenberg, J. Laurin, C. Wolff, K. Hamilton, B. Miller.** University of Illinois at Urbana-Champaign and Colorado State University. **(907.10)**

4:30 Aerobic Exercise Training Reduces Regulators of Denervation in Exercise Resistant and Exercise Sensitive Old Rats. **L.A. Brown, P.C. MacPherson, L.G. Koch, N.R. Qi, S.L. Britton, S.V. Brooks.** University of Michigan and University of Toledo. **(907.9)**

4:45 Reduced Training Frequency Improves Muscle Adaptation and PI3K-Akt Signaling Following Resistance-Type Training in an Aging Model. **M. Naimo, J. Ensey, E. Rader, B. Baker.** National Institute for Occupational Safety and Health and Centers for Disease Control and Prevention. **(907.8)**

462. CELL SIGNALING: PROTEINS, PATHWAYS, AND MECHANISMS

Featured Topic

(*Sponsored by:* Cell and Molecular Physiology Section)

TUES. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 28A

CHAIRED: K.L. HAMILTON

COCHAIRED: M. HELMS

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

3:30 Functional selectivity of GPCR-directed drug action through location bias. **Roshanak Irannejad.** UC—San Francisco.

4:00 MSP-Dependent Activation of CNS RON Receptor Tyrosine Kinase Signaling Attenuates Neuroinflammation Through the Physiological Regulation of IL1B and NLRP3 Inflammasome Pathway. **A. Dey, S.K. Nettleford, J.W. Fraser, A.J. Hare, D.M. Alnemri, R.F. Paulson, K.S. Prabhu, P.A. Hankey-Giblin.** Pennsylvania State University. **(864.18)**

4:15 Matrix Metalloproteinase Inhibitors Attenuate Doxorubicin-Induced Heart Failure by Preventing Cardiac Titin Proteolysis. **B. Chan, A. Roczkowsky, M. Poirier, N. Moser, R. Ilarraza, H. Granzier, R. Schulz.** University of Alberta, Canada and University of Arizona. **(864.10)**

4:30 SIRT2 Is Required for in Vivo Tissue-Specific and Whole Body Insulin Action in Mice. **L. Lantier, A.S. Williams, C.C. Hughey, D. Bracy, D. Gius, D.H. Wasserman.** Vanderbilt University, Duke University and Northwestern University Feinberg School of Medicine. **(864.6)**

4:45 Mechanisms of CO_2-Dependent Regulation of NFκB Signaling. **C.E. Keogh, C.C. Scholz, J. Rodriguez, A.C. Selfridge, A. von Kreigsheim, E.P. Cummins.** School of Medicine and Medical Science at University College Dublin, Ireland, Institute of Physiology, University of Zürich, Switzerland and Edinburgh Cancer Research Centre, United Kingdom. **(864.4)**

463. AUGUST KROGH DISTINGUISHED LECTURESHIP OF THE APS COMPARATIVE AND EVOLUTIONARY PHYSIOLOGY SECTION (SUPPORTED BY NOVO NORDISK FONDEN)

Lecture

(*Sponsored by:* Comparative & Evolutionary Physiology Section)

TUES. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 26AB

Cardiovascular

3:30 Anuran amphibians as models for understanding extreme dehydration tolerance. **Stanley Hillman.** Portland State Univ.

464. BATTLE OF THE REFLEXES: CHEMO- VERSUS BAROREFLEXES DURING PHYSIOLOGICAL STRESSORS, AGING AND CARDIOVASCULAR DISEASE

Featured Topic

(*Sponsored by:* Neural Control and Autonomic Regulation Section)

TUES. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 28B

CHAIRED: M. KELLAWAN

COCHAIRED: M. NELSON

Cardiovascular

Neuroscience

3:30 Effects of diabetes on the exercise pressor reflex. **Audrey Stone.** University of Texas Austin.

4:00 Neural Responses to Mechanical Stimulation in Thin Muscle Afferents and Dorsal Root Ganglia Are Sensitized by Insulin. **N. Hotta, K. Katanosaka, K. Mizumura, J.H. Mitchell, S.A. Smith, M. Mizuno.** Chubu University, Japan and The University of Texas Southwestern Medical Center. **(884.1)**

4:15 How Do the Carotid Chemoreceptors Modulate Ventilatory Control and Cardiovascular Regulation at Rest and During Exercise in COPD? **D. Phillips, S. Collins, C. Steinback, T. Bryan, E. Wong, M.S. McMurtry, M. Bhutani, M. Stickland.** University of Alberta, Canada. **(884.2)**

4:30 High Intensity Muscle Metaboreflex Activation Blunts Cardiopulmonary Baroreflex Control of Sympathetic Vasomotor Outflow. **K. Katayama, J. Kaur, B.E. Young, T.C. Barbosa, S. Ogoh, P.J. Fadel.** Nagoya University, Japan, The University of Texas at Arlington and Toyo University, Japan. **(884.3)**

4:45 Effect of Acute Intermittent Hypoxia on Baroreflex Sensitivity to Decreasing and Increasing Blood Pressures. **Z.M. Scruggs, S.E. Baker, M.J. Joyner, J.K. Limberg.** Mayo Clinic and University of Missouri. **(884.4)**

465. ADAPTATIONS IN FLUID BALANCE AND BLOOD PRESSURE REGULATION DURING PREGNANCY

Featured Topic

(*Sponsored by:* Water and Electrolyte Homeostasis Section)

TUES. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 25B

CHAIRED: K. DENTON

COCHAIRED: L. VEIRAS

Cardiovascular

Salt

Ion Channels and Transporters

3:30 Womens health: adaptations to pregnancy. **Vesna Garovic.** Mayo Clinic.

4:00 Time Course of Changes in Arterial and Venous Function During Normal and Hypertensive Pregnancies in Humans **J-K. Yoo, M.B. Badrov, O. Syed, R.S. Parker, A.S. Stickford, Y. Okada, S.A. Best, B.D. Levine, Q. Fu.** The University of Texas Southwestern Medical Center, Institute for Exercise and Environmental Medicine and Texas Health Presbyterian Hospital Dallas. **(911.11)**

4:15 T Lymphocytes Contribute to the Development of Maternal Syndrome in Dahl SS Rats Maintained on a Low Salt Diet. **J. H. Dasinger, J.M. Abais-Battad, H. Lund, D.J. Fehrenbach, A. Alsheikh, D.L. Mattson.** Medical College of Wisconsin. **(911.2)**

4:30 A Novel Anti-Inflammatory Agent for the Management of Preeclampsia. **A.C. Eddy, H. Chapman, F. Mahdi, E.M. George, G.L. Bidwell III.** University of Mississippi Medical Center. **(911.3)**

4:45 Cardiovascular Effects of Endothelial-Specific Interference with PPARγ Activity in Offspring Born from AVP-Induced Preeclamptic Pregnancies. **A.R. Nair, M. Mukohda, L.N. Agbor, K-T. Lu, J. Wu, J.A. Sandgren, J.L. Grobe, C.D. Sigmund.** University of Iowa. **(911.5)**

466. HORACE W. DAVENPORT DISTINGUISHED LECTURESHIP OF THE APS GASTROINTESTINAL AND LIVER PHYSIOLOGY SECTION

Lecture

(*Sponsored by:* GI and Liver Physiology Section)

TUES. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 23ABC

Career and Professional Development

Emerging Technologies

Inflammation/Immunity

3:30 Mucosal barriers: pathways and pathologies. **Jerrold Turner.** Brigham and Women's Hosp.

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

Lecture

(*Sponsored by:* Respiration Section)

TUES. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 24AB

3:30 Interdependence of neuromodulators in the control of breathing. **Hubert Forster.** Med. Col. of Wisconsin.

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

Lecture

(*Sponsored by:* Cardiovascular Section)

TUES. 3:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 27AB

Cardiovascular

3:30 Mechanisms of pulmonary vascular disease: Pathogenic role of ion channels. **Jason Yuan.** University of Arizon Health Sciences.

469. APS BUSINESS MEETING

Business Meeting

APS

TUES. 5:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 20A

WEDNESDAY, APRIL 25

Across Societies

470. ONE-ON-ONE RESUME CRITIQUE/CV, CAREER COUNSELING, ESSAY PERSONAL STATEMENT ASSESSMENTS

Workshop

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Career and Professional Development

One-on-one sessions for CV/resume critiques, career counseling, and essay/personal statement assessments will begin on Saturday, April 21. Sign-up by using the following link, http://bit.ly/EB18SignUp1on1Session.

9:00 One-on-One Sessions. **J. Blumenthal, D. Behrens.** Montgomery Col., Rockville, MD and Univ. of Maryland Univ. Col., Adelphi, MD, Univ. of California, Berkeley.

Biochemistry and Molecular Biology

471. WAKE-UP! IT'S THE LAST DAY FOR TRIVIA TIME

Society Events

WED. 7:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 6C

Workshops & Events

You've competed on Sun, Mon and Tues. Way to go! Don't miss out on our final trivia challenge for 2018! Join your colleagues in a new room on Wed morning, **Room 6C!** ASBMB members and biochemistry registrants welcome. Space is limited with first come, first served.

472. BERT AND NATALIE VALLEE AWARD IN BIOMEDICAL SCIENCE

Lecture

WED. 8:00 AM—SAN DIEGO CONVENTION CENTER, ROOM 6C

Award Lectures

8:00 Awardee introduction.
8:05 **472.1** How Telomeres Solve the Chromosome End-Protection Problem. **T. de Lange.** Rockefeller University.

473. WILLIAM C. ROSE AWARD

Lecture

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 6C

Award Lectures

8:30 Awardee introduction.
8:35 **473.1** What Can Protein Methylation Tell Us About Histones, Ribosomes, Translation Factors and the Biology of Cancer and Aging? **S.G. Clarke.** University of California, Los Angeles.

474. BIOCHEMICAL BASIS FOR EPIGENETICS AND CHROMATIN REMODELING

Symposium

WED. 9:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 6D

CHAIRED: B.A. GARCIA

9:30 **474.1** Quantitative Proteomics for Understanding Modified Proteins and Proteomes. **B.A. Garcia.** Perelman School of Medicine and University of Pennsylvania.
10:00 **474.2** Reading Epigenetic Marks. **T.G. Kutateladze.** University of Colorado School of Medicine.
10:30 **474.3** Misregulation of Polycomb Repressive Complexes by Oncohistones. **P.W. Lewis.** University of Wisconsin—Madison.
11:00 **474.4** Painting Chromatin with Synthetic Protein Chemistry. **T.W. Muir.** Princeton University.

475. ENZYME DYNAMICS IN CATALYSIS, SPECTROSCOPY AND THEORY

Symposium

WED. 9:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 1A

CHAIRED: S. HAMMES-SCHIFFER

9:30 **475.1** Proton-Coupled Electron Transfer in Soybean Lipoxygenase: Hydrogen Tunneling, Electrostatics, and Conformational Motions. **S. Hammes-Schiffer.** Yale University.
10:00 **475.2** Seeing the Invisible by NMR Spectroscopy. **L.E. Kay.** University of Toronto, Canada.
10:30 **475.3** Two Dimensional Infrared Spectroscopic Investigations of Protein and Enzyme Dynamics. **M.D. Fayer.** Stanford University.
11:00 **475.4** Picosecond Active-Site Dynamics Correlate with the Temperature Dependence of KIEs in Enzyme-Catalyzed Hydride Transfer. **C.M. Cheatum.** University of Iowa.

476. METABOLOMICS AND LIPIDOMICS

Symposium

WED. 9:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 6C

CHAIRED: D. NOMURA

9:30 **476.1** Chemical-Proteomic Strategies to Investigate Reactive Cysteines. **E. Weerapana.** Boston College.
10:00 **476.2** Understanding the Interplay Between Amino Acid and Lipid Metabolism in Tumor Growth. **C. Metallo.** University of California and San Diego.
10:30 **476.3** Shrinking the Metabolome for Systems Biology Reveals a New Metabolic Function of an Old Protein. **G. Patti.** Washington University in St. Louis.
11:00 **476.4** Redefining Druggability Using Chemoproteomic Platforms. **D. Nomura.** University of California, Berkeley.

477. METALS IN BIOLOGY

Symposium

WED. 9:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 1B

CHAIRED: A.E. PALMER

9:30 **477.1** Heme Sensor Proteins for Nitric Oxide: A Versatile Use of Captive Iron. **M.A. Marletta.** University of California.
10:00 **477.2** Regulation of Iron Metabolism by [2Fe-2S]-Binding Glutaredoxins. **C.E. Outten.** University of South Carolina.
10:30 **477.3** The Struggle for Metal at the Host-Pathogen Interface. **E. Skaar.** Vanderbilt University Medical Center.
11:00 **477.4** Discovery of New Roles for Zinc in Biology from Quantitative Mapping of Zinc in Mammalian Cells. **A. Palmer.** University of Colorado Boulder.

478. ASBMB MEET THE SPEAKERS

Society Events

WED. 12:00 PM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

Workshops & Events

Visit with the morning presenters in our new location, the Sails Pavilion, next to the ASBMB Late-breaking poster session. This is a GREAT networking opportunity for all, a chance to continue the scientific discussion and take in the late-breaking posters as the ASBMB Annual Meeting 2018 program comes to a close.

Pharmacology

479. JOURNALS WORKSHOP: HEAR IT FROM THE EDITORS

Workshop

(*Sponsored by:* ASPET Board of Publications Trustees)

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 14B

CHAIRED: R. DODENHOFF

COCHAIRED: M. VORE

Career and Professional Development

8:30 Introduction: This is About You. **M. Vore.** Chair, ASPET Board of Publications Trustees.

8:40 What's Going On Behind the Curtain? The Decision Process Explained. **K. Tew.** Editor, *The Journal of Pharmacology & Experimental Therapeutics.*

9:25 Being a Manuscript Reviewer: What to Say, How to Say It, and More. **K. Meier.** Editor, *Molecular Pharmacology*. and **J. Stevens.** Editor, *Drug Metabolism and Disposition*.

10:10 Avoiding Publishing Potholes & Pitfalls: Ethics and Copyright. **R. Dodenhoff.** Journals Director, ASPET.

10:55 Go Forth and Publish!—Closing Comments. **M. Vore.** Chair, ASPET Board of Publications Trustees.

480. CARDIOVASCULAR CONSEQUENCES OF METABOLIC TARGETING IN OBESITY

Symposium

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology (CVP))

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 16B

CHAIRED: A.C. ARNOLD

COCHAIRED: D. DIZ

Cardiovascular

Nutrition/Obesity

Metabolism and Metabolic Disease

Translational and Clinical Pharmacology

8:30 Introduction.

8:41 Adiponectin: An Emerging Adipokine Mediator of Cardiovascular and Metabolic Health. **P. Scherer.** The Univ. of Texas Southwestern Medical Ctr.

9:06 Angiotensin-(1-7): A Positive Force for Cardiometabolic Function. **A. Arnold.** Penn State Col. of Med.

9:31 Hypothalamic Inflammation: A Novel Target Linking Energy Imbalance and Hypertension in Obesity. **D. Cai.** Albert Einstein Col. of Med.

9:56 The Endocannabinoid System and Cardiometabolic Risk Factors. **D. Diz.** Wake Forest Sch. of Med.

10:21 Disrupted Adiponectin-Connexin43 Signaling Underlies the Exacerbated Myocardial Dysfunction in Diabetic Female Rats. **K.E. Leffler, A. Abdel-Rahman.** East Carolina University and Brody School of Medicine. **(838.11)**

10:34 Angiotensin-(1-7)-Mediated Increases in Energy Expenditure Appear Independent of the Hypothalamic Melanocortin System. **R. Fleeman, S.S. Bingaman, Y. Silberman, A.C. Arnold.** University of Florida and Pennsylvania State University. **(697.6)**

10:47 Intra-Abdominal Lipectomy Reduces Large Arterial Stiffness and Blood Pressure in Metabolic Syndrome. **A.A. Soler, B. Hutcheson, J. Yang, I. Hunter, K. McEvoy, F.F. Zhang, S. Joshi, C. Bradford, K. Gotlinger, J. Falck, S. Proctor, M.L. Schwartzman, P. Rocic.** New York Medical College, Tuskegee University, The University of Texas Southwestern Medical Center and University of Alberta, Canada. **(569.9)**

481. THE ORGANIZATION OF SIGNAL TRANSDUCTION AND ITS IMPACT ON RECEPTOR FUNCTION

Symposium

(*Sponsored by:* ASPET Division for Molecular Pharmacology (MP))

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 16A

CHAIRED: J. STREICHER

Molecular Pharmacology

Cancer and Therapy

Neuroscience

Cell Signaling, Signal Transduction

8:30 Introduction.

8:35 Dissecting the Dynamics of GPCR Interaction with GRKs and Arrestins. **J. Benovic.** Thomas Jefferson Univ.

9:00 Compartmentalized Survival Signaling via the Chemokine Receptor CXCR4. **A. Marchese.** Medical Col. of Wisconsin.

9:25 The Role of Integrin Proteins in Coordinating Serotonin Synaptic Signaling and Neurotransmitter Reuptake. **A. Carneiro.** Vanderbilt Univ.

9:50 Dynamic Opioid Receptor Regulation in the Periphery. **N. Jeske.** Univ. of Texas Health Science Ctr. at San Antonio.

10:15 Heat Shock Protein 90 Promotes Opioid Anti-Nociception in the Brain and Reduces Opioid Anti-Nociception in the Spinal Cord Through Differential Regulation of ERK MAPK. **J. Streicher.** Univ. of Arizona.

10:40 Live-Cell Super-Resolution Imaging of PKA Activity Reveals Microdomain Organization and Regulation. **G. Mo, J. Zhang.** University of California and San Diego. **(687.9)**

482. TISSUE FREE DRUG CONCENTRATIONS

Symposium

(*Sponsored by:* ASPET Division for Drug Metabolism and Disposition (DMDD))

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 15B

CHAIRED: D. ZHANG

COCHAIRED: J.M. LADE

Drug Metabolism and Disposition

Cancer and Therapy

Metabolism and Metabolic Disease

8:30 Exceptions to Free Drug Assumption. **D. Zhang.** Genentech.
8:51 Pursuing the Holy Grail of Predicting and Verifying Tissue Drug Concentrations: A Proteomics and PET-imaging Approach. **J. Unadkat.** Univ. of Washington.
9:12 Target Tissue Drug Concentrations are Critical for the Efficacy of Antibiotics and Anti-viral Drugs. **L. Jiang.** Enanta Pharmaceuticals.
9:33 Pharmacokinetics, Metabolism, and Biodistribution of a Liver-targeted siRNA Therapeutic. **J. Lade.** Amgen.
9:54 High-Resolution Imaging MALDI Mass Spectrometry to Assess Label-Free Drug Disposition in Tissues. **S. Shahidi-Latham.** Genentech.
10:15 MALDI Mass Spectrometry Imaging Reveals Heterogenous Distribution of Tenofovir and Tenofovir-Diphosphate in Human Colorectal Tissue. **H.K. Seneviratne, C.W. Hendrix, N.N. Bumpus.** Johns Hopkins University School of Medicine. **(833.2)**
10:36 Delivery of Active Drug Concentrations to Brain Tumor Targets. **G. Gampa.** Univ. of Minnesota.
10:57 Conclusion.

483. UNIVERSITY STARTUPS: FROM INVENTION TO COMMERCIALIZATION

Symposium

(*Sponsored by:* ASPET Division for Drug Discovery and Development (DDD))

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 17A

CHAIRED: H. NEELAKANTAN

COCHAIRED: K. TONSFELDT AND S. UMAR

Drug Discovery and Development

Emerging Technologies

Career and Professional Development

8:30 Introduction.
8:35 Is Your Technology Viable for Commercialization?—Principles of Technology Commercialization. **T. Parry.** Skyline Biopharma LLC.
8:50 How to Protect Your Technology?—Patents and Innovation. **L.D. Lieto.** Wilson Sonsini Goodrich & Rosati, P.C.
9:05 Startup Incubators: Key Resources for Success of Early-Stage Companies. **K. Bortone.** Johnson & Johnson Innovation, JLABS.
9:20 From Bench-to-Bedside—The Success Story of an Entrepreneur. **H. Rosen.** The Scripps Research Inst.
9:35 Panel Q&A.
9:45 Case Study Introduction.
9:55 Case Study Group Discussion (led by group leaders)
10:25 Case Study Presentations by Trainees and Q&A.

Physiology

484. EPITHELIAL CROSSTALK AND INNATE IMMUNITY

Symposium

(*Sponsored by:* The Physiological Society-UK (PHYSOC))

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 23ABC

CHAIRED: J.P. GARNETT

Inflammation/Immunity

8:30 Regulation of chronic intestinal pathology by autophagy. **Kevin Maloy.** University of Oxford.

9:00 Mucin-neutrophil interaction and the respiratory epithelium. **Jason Powell.** Newcastle University.

9:30 Antiviral innate immune signaling promotes bacterial biofilm growth during viral-bacterial co-infection. **Jennifer Bomberger.** University of Pittsburgh.

485. EXTRACELLULAR MATRIX REMODELING IN METABOLIC DISEASES

Symposium

(*Sponsored by:* Integrative Physiology Symposium Series)

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 20A

CHAIRED: S.C. BODINE

COCHAIRED: D.H. WASSERMAN

Metabolism and Metabolic Disease

8:30 Adipose extracellular matrix remodeling in development and obesity. **Tae-Hwa Chun.** University of Michigan.

9:00 Increased extracellular matrix abundance characterizes insulin resistant muscle: potential mechanisms. **Lawrence Mandarino.** University of Arizona.

9:30 Liver extracellular matrix remodeling and integrin signaling in regulation of insulin action. **David Wasserman.** Vanderbilt University.

486. CHEMOTHERAPY INDUCED VASCULAR TOXICITY: DO SMALL THINGS MATTER?

Symposium

(*Sponsored by:* Cardiovascular Section)

(*Cosponsored by:* Cosponsored by AJP—Heart and Circulatory Physiology)

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 22

CHAIRED: A. BEYER

COCHAIRED: K. CROCE

Cardiovascular

8:30 Chemotherapy induced cardiotoxicity: A large problem with small origins. **Javid Moslehi.** Vanderbilt University.

9:00 Chemotherapy-induced endothelial cell damage and protection by vascular endothelial growth factors. **Riikk Kivela.** University of Helsinki.

9:20 MicroRNA networks in endothelial DNA damage responses. **Sudarshan Anand.** Oregon Health and Science University.

9:40 Modeling endothelial dysfunction in doxorubicin-induced vasculopathy. **Sayed Nazish.** Stanford University.

487. BILE ACIDS IN THE SMALL INTESTINE AND COLON, PHYSIOLOGY, PATHOPHYSIOLOGY, AND THERAPEUTIC OPPORTUNITIES

Symposium

(*Sponsored by:* GI and Liver Physiology Section)

(*Cosponsored by:* Cosponsored by AJP—Gastrointestinal and Liver Physiology)

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 25A

CHAIRED: S.J. KEELY

COCHAIRED: N.K. LAJCZAK

Nutrition/Obesity

Cancer and Therapy

8:30 The evolution of bile acids as therapeutic agents. **Alan Hofmann.** University of California, San Diego.

9:00 Gut feelings: systemic reach of intestinal FXR. **Ron Evans.** Salk Institute for Biological Studies.

9:30 Protective actions of secondary bile acids in colonic epithelium. **Natalia Lajczak.** Royal College of Surgeons in Ireland.

9:45 Bile acids and colon cancer: Is FXR the solution of the conundrum? **Raffaella Gadaleta.** PMI Science.

488. ROLE AND IMPORTANCE OF MITOPHAGY IN SKELETAL MUSCLE IN HEALTH AND DISEASE

Featured Topic

(*Sponsored by:* Muscle Biology Group)

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 26AB

CHAIRED: M. BEAUDRY

COCHAIRED: L. DELDICQUE

Metabolism and Metabolic Disease

Nutrition/Obesity

8:30 Introduction: Molecular mechanisms of mitophagy in skeletal muscle. **Louise Deldicque.** Université catholique de Louvain.

8:45 Role and Importance of Mitophagy in Skeletal Muscle in Health and Disease. **Marc Francaux Francaux.** Université Catholique de Louvain.

9:20 PGC-1α Overexpression Increases Lysosome Abundance and Autophagy in Dystrophic Skeletal Muscle. **A. Ludwig, H.R. Spaulding, M. Hudson, J. Selsby.** Purdue University, Iowa State University and University of Delaware. **(908.1)**

9:40 Muscle Mitochondrial Dysfunction at Different Stages of Chronic Kidney Disease (CKD). **J. Gamboa, C.A. Keller, A.M. Falck, B. Roshanravan, N.J. Brown, T.A. Ikizler.** Vanderbilt University Medical Center and University of Washington. **(908.2)**

489. COMPARATIVE MODELS OF DISEASE

Featured Topic

(*Sponsored by:* Comparative and Evolutionary Physiology Section)

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 25C

CHAIRED: M. PAMENTER

Metabolism and Metabolic Disease

8:30 Mechanisms of longevity and cancer resistance in long-lived mammals. **Vera Gorbunova.** University of Rochester.

9:00 Intrinsic Anti-Inflammatory Properties of Serum in Deep-Diving Seals. **A.G. Hindle, A. Bagchi, A. Batten, M. Levin, K.N. Allen, L.A. Huckstadt, D.P. Costa, W.M. Zapol, E.S. Buys.** Massachusetts General Hospital, University of Connecticut, University of California and Santa Cruz. **(859.8)**

9:15 Genetically Engineering a Sheep Model of Hypophosphatasia. **D.K. Williams, C.A. Pinzon, S. Huggins, J.H. Pryor, H.M. Georges, F. Hermann, J. Oldeschulte, M.E. Westhusin, C.R. Long, D. Gaddy, L.J. Suva.** Texas A&M University. **(859.9)**

9:30 Hormonal Drive of Cardiomyocyte Proliferative and Regenerative Potential Loss During the Acquisition of Endothermy. **G.N. Huang.** University of California, San Francisco. **(859.10)**

9:45 Seal Endothelial Cells: A Comparative Model to Study Natural Tolerance to Ischemia/Reperfusion. **J.P. Vazquez-Medina, K. Allen, A.G. Hindle.** University of California, Berkeley and Massachusetts General Hospital. **(859.7)**

490. BRAIN-GUT MICROBIOTA INTERACTIONS IN CARDIOVASCULAR AND METABOLIC CONTROL

Featured Topic

(*Sponsored by:* Endocrinology and Metabolism Section)

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 28A

CHAIRED: J. COLLISTER

Neuroscience

Cardiovascular

Microbiome

8:30 Implication of gut microbiota in hypertension, role of the brain, and future therapeutics. **Seungbum Kim.** University of Florida.

9:00 Role of the OVLT-Gut Microbiome Axis on the Development of DOCA-Salt Hypertension. **J. Collister, D. Nahey, R. Hartson, B. Youmans, T. Johnson.** University of Minnesota. **(924.1)**

9:15 Probiotic Kefir Antihypertensive Effects in Spontaneously Hypertensive Rats Involves Central and Peripheral Mechanisms. **M.A. Silva-Cutini, S.C. Peaden, F.E. Mowry, H.A. G. Ducray, L.P. Globa, I.B. Sorokulova, T.U. Andrade, V.C. Biancardi.** Auburn University and Vila Velha University, Brazil. **(924.2)**

9:30 Hypertension-Associated Dysbiosis Leads to Elevated Sympathetic Drive and Alterations in Neurotransmitter Signaling in the Nucleus of the Solitary Tract in Wky. **T. Yang, C.G. B. Silva, W.L. Malphurs, R. Arocha, J. Zubcevic.** University of Florida. **(924.4)**

9:45 Gut Microbiota Effects on Bone Density Are Dependent on T- And B-Lymphocytes. **N.D. Rios-Arce, J. Schepper, L.R. McCabe, N. Parameswaran.** Michigan State University. **(924.3)**

491. THE INFLUENCE OF STATE ON CARDIORESPIRATORY CONTROL MECHANISMS

Featured Topic

(*Sponsored by:* Respiration Section)

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 27AB

Cardiovascular

Neuroscience

8:30 Sleep and wake signals in upper airway motoneurons. **Leszek Kubin.** University of Pennsylvania.

9:00 Muscarinic Blockade Stabilizes the Breathing Pattern of Serotonin-Deficient Rat Pups During Active Sleep. **M.L. Davis, J.L. Magnusson, K.J. Cummings.** University of Missouri. **(914.3)**

9:15 Identifying Pathways for Apolipoprotein A2 Actions on Respiratory Rhythmogenesis. **K.P. Strohl, S. Azzam, D. Saleh.** Case Western Reserve University and Kent State University. **(586.1)**

9:30 ATP in the Lateral Hypothalamus/Perifornical Area (LH/PFA) Increases CO_2 Chemoreflex. **M.B. Dias, E.N. da Silva, L.H. Gargaglioni, J. D. A.D. C. Horta-Junior.** UNESP, Brazil. **(914.2)**

9:45 Drowning a Frog Respiratory Oscillator in a Wash of Network Excitability. **R.J. A. Wilson, M. Baghdadwala.** University of Calgary, Canada. **(914.4)**

492. NOVEL APPROACHES AND TECHNIQUES IN WATER AND ELECTROLYTE RESEARCH

Featured Topic

(*Sponsored by:* Water and Electrolyte Homeostasis Section)

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 28B

CHAIRED: C. SMITH

COCHAIRED: D. CRAIGHEAD

Emerging Technologies

Salt

Neuroscience

8:30 Heat therapy to target hypertension. **Christopher Minson.** University of Oregon.

9:00 Renal Injury Is Worsened When Consuming a Caffeinated Soft-Drink During and After Exercise in the Heat. **C.L. Chapman, B.D. Johnson, J.R. Sackett, M.D. Parker, Z.J. Schlader.** University at Buffalo and State University of New York. **(763.5)**

9:15 Three-Dimensional Analysis of Potassium Deprivation-Induced Tubular Remodeling Using Optical Clearing. **T. Saritas, V. Puelles, J. McCormick, D. Ellison.** Oregon Health & Science University and University Hospital RWTH Aachen, Germany. **(844.2)**

9:30 Reducing Disparities in the Treatment of Hypertension in African Americans Using Computational Modeling. **J.S. Clemmer, W.A. Pruett, R.L. Hester.** University of Mississippi Medical Center. **(844.5)**

9:45 Hypertensive and Pre-Hypertensive African Green Monkeys Display Increased Proteinuria. **M.K. Rhoads, J.L. Osborn.** University of Kentucky. **(844.4)**

493. POST-TRANSLATIONAL MODIFICATIONS IN CARDIOVASCULAR DISEASE

Featured Topic

(*Sponsored by:* Cardiovascular Section)

WED. 8:30 AM—SAN DIEGO CONVENTION CENTER, ROOM 25B

CHAIRED: I. SCOTT

COCHAIRED: M.J. KOHR

Cardiovascular

8:30 Lysine acetylation in cardiac pathophysiology. **Mahesh Gupta.** University of Chicago.

9:00 Increased Global Lysine Acetylation in Diabetic Vasculature Is Associated with Downregulation of SIRT-1 in Vascular Smooth Muscle Cells. **C.M. Johnson, C. Burke, M. A. Carrillo-Sepulveda.** New York Institute of Technology College of Osteopathic Medicine. **(900.6)**

9:15 Endothelial Cullin3 Mutation Causes Vascular Dysfunction, Arterial Stiffening, and Hypertension. **J. Wu, S. Fang, C. Hu, A.J. Otanwa, L.N. Agbor, K-T. Lu, X. Liu, M. Mukohda, A. Nair, C.D. Sigmund.** University of Iowa. **(900.1)**

9:30 Metabolic Interventions to Treat Mitochondrial Cardiomyopathy: Roles of NAD and Protein Acetylation in Leigh Syndrome. **C.F. Lee, R. Tian.** University of Washington. **(900.2)**

9:45 Increased Protein Cysteine Sulfonation with Heme Destruction of Mitochondrial Complex III Mediates Cardiac Reperfusion Injury. **Y-R. Chen, P.T. Kang, C-L. Chen.** Northeast Ohio Medical University. **(900.3)**

494. CARDIAC METABOLISM MOVING CENTER STAGE: NEW INSIGHTS ENABLING METABOLIC MODULATION THERAPY

Symposium

(*Sponsored by:* Endocrinology and Metabolism Section)

WED. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 25C

CHAIRED: A. WENDE

COCHAIRED: J.F. GLATZ

Cardiovascular

Metabolism and Metabolic Disease

1:30 Balance of fatty acids and carbohydrates for optimal cardiac performance. **Miranda Nabben.** Maastricht University.

1:50 Circadian rhythm, timing of fuel utilization is everything. **Martin Young.** University of Alabama at Birmingham.

2:10 Ketone metabolism, a new player takes the stage. **Peter Crawford.** University of Minnesota.

2:30 Ketone interventions for increased performance. **Kieran Clarke.** University of Oxford.

495. PAN-AMERICAN SYMPOSIUM

Symposium

Pan-American Societies (*SFiB)*

WED. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 25A

CHAIRED: M.J. CAMPAGNOLE-SANTOS

1:30 Angiotensin II modulation of stretch-dependent changes in cardiac contractility: Physiological and pathological consequences. **Nestor Pérez.** National University of La Plata.

1:52 Interaction renin-angiotensin system and autonomic nervous system in cardiovascular regulation. **M. Claudia Irigoyen.** University of Sao Paulo.

2:14 Muscle plasticity and muscle-bone crosstalk at the masticatory system: deciphering the words. **Sonia Buvnic.** University of Chile.

2:36 Role of angiotensin-(1-7) in asthma. **Maria Campagnole-Santos.** Federal Univ Minas Gerais.

496. DAMPS AND INFLAMMASOMES: A CLEAR AND PRESENT DANGER

Symposium

(*Sponsored by:* American Physiological Society and The Physiological Society (UK))

WED. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 23ABC

CHAIRED: R. KHAN

COCHAIRED: R. TRIBE

Inflammation/Immunity

Cardiovascular

1:30 Unconventional roles for gasdermin D in pyroptosis-independent IL-1B release from neutrophils during inflammasome signalling. **George Dubyak.** Case Western Reserve Univ.

2:00 Inflammasomes beyond IL-1 and cell death. **Vijay Rathinam.** UConn Hlth. Sch. of Med., Farmington.

2:30 Alpaca nanobodies reveal mechanistic details of DAMP-induced inflammasome signaling. **Florian Schmidt.** Univ. of Bonn.

497. EEP AWARDEE FEATURED TOPIC

Featured Topic

(*Sponsored by:* Environmental and Exercise Physiology Section)

WED. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 25B

CHAIRED: B. MILLER

COCHAIRED: B. GLADDEN

Metabolism and Metabolic Disease

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

1:30 Autophagy Promotes Cancer Chemotherapy-Induced Oxidative Stress and Skeletal Muscle Dysfunction. **A.J. Smuder, O. S. Kwon, B.A. Hain, F.E. Houston, E.E. Talbert.** University of South Carolina, University of Florida and The Ohio State University. **(856.12)**

2:00 Skeletal Muscle Disuse Alters Exosome miRNA Predicted to Target Various Signaling Pathways Related to Muscle Atrophy. **D.W. Van Pelt, E.R. Hunt, T.A. Butterfield, B.F. Miller, K.L. Hamilton, E.E. Dupont-Versteegden.** University of Kentucky and Colorado State University. **(856.10)**

2:15 The Ventilatory Response to Muscle Metaboreflex Activation During Concurrent Hypercapnia Is Attenuated by Local Muscle Training. **J. AlGhaith, M. White.** University of Birmingham, United Kingdom. **(853.1)**

2:30 Effect of Chronic Xenon Supplementation on Hematological Parameters, Cardiorespiratory Fitness, and Athletic Performance. **K.A. Dias, J.S. Lawley, C.M. Hearon; Jr., M. Hieda, S. Sarma, M. Hendrix, B.D. Levine.** Institute for Exercise and Environmental Medicine, Texas Health Presbyterian Hospital Dallas and The University of Texas Southwestern Medical Center. **(723.1)**

2:45 Healthspan-Extending Treatments Enhance Proteostasis Through Reduced Cellular Proliferation. **C.A. Wolff, F.F. Peelor, K. Hamilton, B. Miller.** Colorado State University. **(857.1)**

498. THE GUT-BRAIN AXIS

Featured Topic

(*Sponsored by:* CNS Section)

WED. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 28A

CHAIRED: A. TORRES-REVERON

COCHAIRED: C.B. APPLEYARD

Neuroscience

1:30 Microbiota and immunity. **Michael Bailey.** The Ohio State University.

2:00 NOD-Like Receptors: Novel Regulators of the Microbiota-Gut-Brain Axis in Mice. **M. Pusceddu, K.A. Wong, P. Stokes, J. Sladek, M. Gareau.** University of California, Davis. **(921.5)**

2:15 Environmental Enrichment Reverses Chronic Stress-Induced Brain-Gut Axis Dysfunction. **J. Love, A. Johnson, C. Ligon, B. Greenwood-Van Meerveld.** University of Oklahoma Health Sciences Center and VA Medical Center Oklahoma City. **(921.1)**

2:30 Probiotic Administration in an Endometriosis Animal Model Can Influence the Gut Microbiota and Gut-Brain Axis to Counteract the Effects of Stress. **G. Chompre, M.L. Cruz, G.A. Arroyo, R.M. Rivera, M.C. Colon, C.B. Appleyard.** Pontifical Catholic University of Puerto Rico, Puerto Rico, Ponce Health Sciences University, Puerto Rico and University of Puerto Rico at Ponce, Puerto Rico. **(921.4)**

2:45 Sex Differences and Stress Alter the Vagally-Mediated Gastric Response to Oxytocin in Rats. **J.E. Zimmerman, Y. Jiang, R.A. Travagli.** Swarthmore College and Pennsylvania State University. **(921.10)**

499. PULMONARY ARTERIAL HYPERTENSION

Featured Topic

(*Sponsored by:* Respiration Section)

WED. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 28B

CHAIRED: N. JERNIGAN

COCHAIRED: J. TRITTMANN

1:30 Acid-Sensing Ion Channels (ASICs) 2 and 3 Buffer Pulmonary Vasoreactivity and ASIC2 Protects Against the Development of Chronic Hypoxia -Induced Pulmonary Hypertension. **N.D. Detweiler, K.G. Vigil, S. Yan, L.M. Herbert, M.C. Bennett, T.C. Resta, B.R. Walker, N.L. Jernigan.** University of New Mexico Health Sciences Center. **(892.1)**

1:45 Chronic Hypoxia Attenuates Endothelium-Dependent Hyperpolarization-Induced Vascular Relaxation in Pulmonary Artery and Leads to Pulmonary Hypertension. **Q. Zhang, M. Valuparampil Varghese, R. Si, A. Tsuji-Hosokawa, M. Watanabe, S. Hosokawa, J. Wang, A. Makino.** University of Arizona. **(892.2)**

2:00 Rho Kinase and Na^+/H^+ Exchanger Mediate Endothelin-1 Induced Pulmonary Arterial Smooth Muscle Cell Proliferation and Migration. **J.C. Huetsch, X. Yun, H. Jiang, L. Shimoda.** John Hopkins University School of Medicine. **(892.11)**

2:15 Ddah-1 Regulates NO-Mediated Apoptosis and Cell Proliferation in Human Pulmonary Microvascular Endothelial Cells. **J.K. Trittmann, H. Almazroue, L.D. Nelin.** Nationwide Children's Hospital. **(892.12)**

2:30 Hypoxia-Induced Ubiquitination Regulates 14-3-3η-Gremlin-1 Interactions in a Hypoxia Model of Pulmonary Hypertension. **B.E. Wade, J. Zhao, J. Ma, C.M. Hart, R.L. Sutliff.** Emory University and Atlanta VA Medical Center. **(892.6)**

2:45 BALB/cJBom Treated with Angiotensin II and High Salt Diet Develop Pulmonary Hypertension and Right Sided Heart Failure While C57BL/6J Mice Do Not. **M. Becirovic-Agic, S. Jönsson, M.K. Tveitarås, T. Skogstrand, T.V. Karlsen, Å. Lidén, S. Leh, R.K. Reed, M. Hultström.** Uppsala University, Sweden, University of Bergen, Norway and Haukeland University Hospital, Norway. **(892.10)**

500. IMMUNE MODULATION OF BLOOD PRESSURE AND VICE VERSA

Featured Topic

(*Sponsored by:* Water and Electrolyte Homeostasis Section)

WED. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 24AB

CHAIRED: M.J. RYAN

COCHAIRED: H.A. ITANI

Cell Signaling in Disease

Inflammation/Immunity

Hypertension

1:30 Regulatory T cells and autoimmunity: is there a leptin connection? **Erin Taylor.** Univ. of Mississippi Med. Ctr.

1:50 Role of the Renal Nerves in Renal Damage and Immune Cell Infiltration in Dahl Salt-Sensitive Rats. **A.J. Alsheikh, H. Lund, J. H. Dasinger, J.M. Abais-Battad, D.J. Fehrenbach, D.L. Mattson.** Medical College of Wisconsin. **(870.3)**

2:05 Envigo's Female Salt-Sensitive Rapp Rats Are Now Spontaneously Hypertensive and Have Higher Frequencies of $CD4^+$, $CD4^+$ $CD25^+$ and $CD4^+$ $CD25^+$ $FOXP3^+$ T Cells Compared to Normotensive Salt-Resistant Rapp Rats. **A.V. Pai, C.A. West, A. Souza, P.S. Kadam, E.J. Pollner, D.A. West; Jr., H. Ji, X.S. Wu, C. Baylis, K. Sandberg.** Georgetown University and University of Florida. **(870.5)**

2:20 Oral L-Arginine Treatment Significantly Reduces Blood Pressure Without Altering the Renal T Cell Profile in the DOCA Salt Model of Hypertension. **E.E. Gillis, G.R. Crislip, J.C. Sullivan.** Augusta University. **(870.4)**

2:35 Memories that last: the role of immunological memory in hypertension. **Hana Itani.** Vanderbilt Univ. Med. Ctr.

501. STRESS, SLEEP, CIRCADIAN RHYTHMS AND BLOOD PRESSURE REGULATION

Featured Topic

(*Sponsored by:* Water and Electrolyte Homeostasis Section)

WED. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 22

CHAIRED: M.L. GUMZ

COCHAIRED: J.G. JOHNSTON

Neuroscience

Hypertension

Cardiovascular

1:30 α1-Adrenoreceptor-Mediated Vasoconstriction Is Enhanced in the Aorta but Not Resistance Arteries of Humanized Sickle Cell Mice. **B.M. Fox, J.M. Allan, R.S. Sedaka, M. Kasztan, C. Jin, P.A. Molina, D.M. Pollock, J.S. Pollock.** University of Alabama at Birmingham. **(905.3)**

1:45 Evidence for Circadian Control of Endothelial Function in Mice on a High Fat Diet. **P. Pati, J.M. Allan, J. Colson, M. Young, S. Bailey, D.M. Pollock, K. Gamble, J.S. Pollock.** University of Alabama at Birmingham. **(905.8)**

2:00 Chronic High Fat Diet Disrupts Renal Molecular Clock. **D. Zhang, J.S. Speed, J.C. Colson, S.M. Bailey, M.E. Young, K.L. Gamble, J.S. Pollock, D.M. Pollock.** University of Alabama at Birmingham. **(905.9)**

2:15 Kidney-Specific KO of the Circadian Clock Protein Bmal1 Lowers Blood Pressure in Male C57BL/6J Mice. **L.G. Douma, K-Y. Cheng, I.J. Lynch, M. Holzworth, S. Masten, D. Barral, A. Miller, K.A. Esser, C.S. Wingo, M.L. Gumz.** University of Florida. **(905.6)**

2:30 Influence of Insufficient Sleep on Circulating MicroRNAs in Middle-Aged Adults. **Z.A. Goldthwaite, J.G. Hijmans, K.J. Diehl, T.D. Bammert, G.M. Lincenberg, J.J. Greiner, B.L. Stauffer, C.A. DeSouza.** University of Colorado Boulder and University of Colorado Denver. **(905.5)**

2:45 Impact of Exercise-Induced Dehydration on Perceived Sleep Quality. **W.M. Adams, L.W. Vandermark, L.N. Belval, C.L. Benjamin, G.E. W. Giersch, R.K. Katch, E.C. Lee, L.E. Armstrong, L.J. DiStefano, D.J. Casa.** University of North Carolina at Greensboro, University of Arkansas and University of Connecticut. **(905.4)**

502. MECHANOTRANSDUCTION IN CARDIOVASCULAR FUNCTION

Featured Topic

(*Sponsored by:* Cardiovascular Section)

WED. 1:30 PM—SAN DIEGO CONVENTION CENTER, ROOM 26AB

CHAIRED: C. THODETI

COCHAIRED: S. LINDSEY

Cardiovascular

1:30 Two N-Glycosylated Asparagines Within Endothelial αENaC Are Crucial for Shear Force Sensing and Blood Pressure Regulation *in Vivo*. **F. Knoepp, Z. Ashley, N. Weissmann, M. Fronius.** Justus-Liebig-University of Giessen, Germany and University of Otago, New Zealand. **(899.1)**

1:45 Glypican-1 Mediates Endothelial Hyper-Permeability in a Model of Acute Heart Failure. **A. Chignalia, A. Isbatan, M. Patel, B. Borlaug, R. Dull.** University of Illinois at Chicago and Mayo Clinic. **(899.2)**

2:00 TRPV4 Channel Deletion or Pharmacological Inhibition Protects Heart Against Adverse Remodeling Post-Myocardial Infarction. **R.K. Adapala, A. Kanugula, A. Minasyan, H. Cappelli, S. Paruchuri, J.G. Meszaros, C.K. Thodeti.** Northeast Ohio Medical University and University of Akron. **(899.3)**

2:15 Type 2 Diabetic Coronary Vascular Smooth Muscle Cells Exhibit Decreased Stiffness and Decreased Adhesion. **P. McCallinhart, Z. Sun, G.A. Meininger, A.J. Trask.** Nationwide Children's Hospital and University of Missouri. **(899.4)**

2:30 Laminin-β6 Integrin Interaction Is Crucial for Coronary Collateral Growth. **G. Joseph, C. D'Addario, K. McEvoy, R. Jadhav, B. Hutcheson, P. Rocic.** New York Medical College. **(899.5)**

2:45 Effects of Exercise-Induced Shear Stress on Endothelial Gene Expression. **F. Morales-Acuna, D. Coovert, A.N. Gurovich.** The University of Texas at El Paso and Indiana State University. **(899.6)**

503. APS NOBEL PRIZE AWARD LECTURE

Lecture

President's Symposium Series

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

3:30 A life of learning. **Leland Hartwell** The Biodesign Inst., Arizona State Univ.

Poster Sessions

SUNDAY, APRIL 22

Anatomy

504. ANATOMY EDUCATION: CLINICAL TEACHING AND LEARNING

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E1 **504.1** Pedagogical Model Of Realistic Education, Simulation, Training and Improvement in Clinical Anatomy. **M.D. Barros, A.F.A.L. Almeida, B.M. Liquidato, C.J.L. Mendes.** Santa Casa de São Paulo School of Medical Sciences, Brazil and Faculdade de Medicina Universidade de Lisboa, Portugal.

E2 **504.2** Medical Students' Perception Towards Doctor-Patient Relationship: A Cross-Sectional Study at Alfaisal University Ahmed Fothan. **A.M. Fothan, A.M. Eshaq, A.M. Bakather, A. Abu-Zaid, A. AlAmoudi.** Alfaisal University, Saudi Arabia and University of Tennessee Health Science Center.

E3 **504.3** Enhancing Surgical Confidence Using Point-Of-Care Delivery of Anatomy for Dermatologic Surgeons. **N. Iachman, S. Wyles, W. Pawlina, M.A. Russell.** Mayo Clinic and University of Virginia School of Medicine.

E4 **504.4** Longitudinal Retention of Anatomical Landmark Knowledge for the Performance of Lower Extremity Fasciotomy. **E.M. Garofalo, W. Stooksbury, K. Pugh, G. Granite, N. Longinaker, M.W. Bowyer, S. Henry, S.A. Tisherman, V. Shalin, S. Shakelford, A. Puche, C. Mackenzie.** University of Arizona College of Medicine—Phoenix, University of Maryland School of Medicine, Uniformed Services University of the Health Sciences, Shock Trauma and Anesthesiology Research Center, Shock Trauma Center of the University of Maryland Medical Center, Wright State University and U.S. Army Institute of Surgical Research.

E5 **504.5** Design and Development of a Lumbar Puncture Simulation Model. **L. Kamala, S. Zhang, A. Farias, B. Kalajdzic, A. Khayat, B-A. Schuelke-Leech, J. Urbanic.** Western University, Canada and University of Windsor, Canada.

E6 **504.6** Laparoscopic Pancreatoduodenctomy Surgical Training: An Anatomical and Clinical Realistic Simulation Learning Model. **A. de Moricz, F. Thuler, M.D. Barros, C.J.L. Mendes, R.A. Silva, A.M. Pacheco; Jr.** Santa Casa de São Paulo School of Medical Sciences, Brazil.

E7 **504.7** How Hormonal Contraceptive Use Impacts Laparoscopic Skill Acquisition in Biologically Female Medical Students. **E.J. Olive, J. Klei, V.A. Roach.** Oakland University William Beaumont School of Medicine.

E8 **504.8** Incorporating Virtual Pathology Slides and Instructor Simulation Tools in Pathology Resident Training and Histology Education. **I.F. Stewart, B.E. Moore, L.M.J. Lee.** University of Colorado Anschutz Medical Campus.

E9 **504.9** Gross Anatomy Review for Anesthesiology Residents on the Acute Pain Service: How Basic Science Training Could Improve Knowledge and Confidence. **A.S. Cale, A. Hendrickse, M. Lyman, D. Royer.** University of Colorado Anschutz Medical Campus.

E10 **504.10** Identifying the Cause of Young Women Diagnosed with Locally Advanced Cervical Cancer Despite Routine Screening. **E. Jewlal, D. D'Souza, H. Shaddick, N. Patel, E. Leung, A. Sugimoto, J. McGee, M. Prefontaine.** Western University, Canada, London Regional Cancer Program, Canada, Dalhousie University, Canada and Odette Cancer Centre, Canada.

E11 **504.11** Are Clerks Ready for Clerkship? Third Year Medical Students' Anatomical Science Knowledge Vs. Clerkship Director Expectations. **M.E. Norris, K.A. Rogers, C.M. Martin.** Western University, Canada.

E12 **504.12** Evaluation of Critical Thinking Skills in the Anatomy and Development Components of the First Year Medical School Curriculum. **R.E. Corbitt, A. Hryniuk, C.A. Nichols, A.C. Edmondson.** Medical College of Georgia at Augusta University.

505. ANATOMY EDUCATION: CURRICULUM

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E13 **505.1** The Education Track PhD Program in Anatomy at Indiana University School of Medicine: A Decade Producing Anatomy Educator-Scholars. **J.J. Brokaw, P.R. Husmann, V.D. O'Loughlin.** Indiana University School of Medicine.

E14 **505.2** Professionalism: Moving Towards a 360° Anatomy Education. **T.D. Wilson, S. Linkeš, R.D. Ezekiel.** University of Western Ontario, Canada.

E15 **505.3** Analysis of Anatomy Education Based Job Openings. **C.M. Mueller, A.J. Notebaert.** University of Mississippi Medical Center.

E16 **505.4** Innovation in Functional Anatomy Education: The Anatomy Lesson of Dr. Tulp from the Past to the Present. **O.L. Tulp, M.L. Ortiz-Bustillo, G.P. Einstein, F. Sainvil, C.M. Konyk, R.L. Branly, T.L. Brown.** University of Science, Arts and Technology Montserrat, Montserrat and Einstein Medical Institute.

E17 **505.5** A Clinically Oriented Approach to Anatomy Instruction in Biomedical Engineering Education Utilizing Cadavers—A Collaborative Approach. **D.B. Topping, A.J. Kassab, M. Samsam.** University of Central Florida College of Medicine and University of Central Florida.

E18 **505.6** The Evolution of an Integrated Advanced Regional Anatomy Course in a Doctor of Physical Therapy Curriculum. **K. Stevens, J. Damaschke.** Rosalind Franklin University of Medicine & Science.

E19 **505.7** A Unique and Effective Method of Anatomy Education. **E.N. Lopez, E.P. Cunningham, J. Warshaw, J. Johnson, E.W. Baker.** New York University College of Dentistry.

E20 **505.8** For Students, By Students: The Development of a Histology Question Bank Across Nine Medical School Campuses. **J. Bendinger.** Indiana University School of Medicine.

E21 **505.9** Building a Hybrid Gross Anatomy Curriculum: Integration of Virtual and Cadaveric Models. **S.A. Lewis, J.W. Folmsbee, S. Inglis, S. Doyle.** University at Buffalo and State University of New York.

E22 **505.10** Anatomy Integration: Effective Change or Change of Affect? M**. Rosenberg, R. Hartley.** University of New Mexico School of Medicine.

E23 **505.11** Knowledge Retention Across Curricular Models: An International Collaboration. **R.A. Jurjus, T.A. Banani, E.A. Goldman, A.N.A. Lean, G.A. Butera, K.A. Brown, A.R. Jurjus, J. Hawi, A. Leone, F. Cappello, J.Y. Balta, M. Lone, J.A. Lee.** The George Washington University School of Medicine and Health Sciences, The American University of Beirut, Lebanon, University of Balamand, Lebanon, University of Palermo, Italy and University College Cork, Ireland.

E24 **505.12** A New Curricular Schema for Allopathic Medical Schools in the United States. **M. Taylor.** Indiana University.

E25 **505.13** The Return of the Researcher. **A. Quiroga-Garza, R.E. Elizondo-Omaña, S. Guzman-Lopez.** Universidad Autonoma de Nuevo Leon, Mexico.

E26 **505.14** Development and Implementation of the Inaugural Anatomy Education Research Institute (AERI). **V.D. O'Loughlin, P.R. Husmann, J.J. Brokaw.** Indiana University School of Medicine.

506. ANATOMY EDUCATION: FACTORS AFFECTING STUDENT PERFORMANCE

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00pm
Even board #: 1:00 pm–2:00 pm

E27 **506.1** The Impact of Compulsory Attendance on Anatomy Exam Performance. **C.A. Hill, S. Greer, K. Sellers, C.V. Ward.** University of Missouri

E28 **506.2** The Association of Retrieval Practice and Sleep Consolidation with Student Grades in a Large Undergraduate Human Gross Anatomy Course. **C. Perry, R. Easteal.** Queen's University, Canada.

E29 **506.3** Early Identification of Factors Contributing to Allied Health Students' Academic Difficulties in Gross Anatomy. **D.J. Sherwood, A. Hryniuk, C.A. Nichols, A.C. Edmondson.** Medical College of Georgia at Augusta University.

E30 **506.4** Effects of a Confidence-Based, Individualized Remediation Strategy on Student Learning and Final Grades in an Occupational Therapy Anatomy Course. **E. Snow, Z. Miller, M. Meyer, K. Ruit.** University of North Dakota.

E31 **506.5** Physician Assistant and Dental Student use of Student Support Services versus Academic Performance and Brief Cope Survey. **A. Thiessen, D. O'Donoghue, K. Williams.** University of Oklahoma, University of Oklahoma Health Sciences Center and Oklahoma City University.

E32 **506.6** Declining attention Span in medical Students: Fact or Fiction? **R. Ettarh, H. Al-Hussaini, S. Hassan, N. Kilarkaje.** California University of Science and Medicine and Kuwait University, Kuwait.

E33 **506.7** First-year Indiana University Medical Student Study Strategy Interviews Provide an Overwhelmed and Over-Reliant Attitude. **A. Reynolds, P. Husmann.** Indiana University.

E34 **506.8** Anonymity of Willed Body Donors: Survey Results from First Year Medical Students. **T. Champney, S. Eaton, R. Ishteiwy, S. Ring, J. Sheu.** University of Miami and Miller School of Medicine.

E35 **506.9** Identifying Predictors for Academic Performance in the MCG Pre-Clinical Curriculum. **B.R. Bennett, A.C. Edmondson, B. Russell, C.A. Nichols.** Medical College of Georgia at Augusta University.

E36 **506.10** Sharing Formative Exam Analysis Data with the Students is a Useful Tool for Providing an Immediate Feedback During Learning. **M.A. Eladl, A.V. Ranade, M.M. Guimei.** College of Medicine and University of Sharjah, United Arab Emirates.

E37 **506.11** Study Preferences of Strong and Weak Graduate Students. **K. Bishop.** Mary Baldwin University.

507. ANATOMY EDUCATION: TEACHING METHODS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00pm
Even board #: 1:00 pm–2:00 pm

E38 **507.1** Determining Impact for Anatomical Sciences Education Articles in the Age of Altmetrics. **C.J. Ramnanan, T. Thangarasa.** University of Ottawa, Canada.

E39 **507.2** Research Trends as Seen Through the Ten Year Publication History of the Journal Anatomical Sciences Education. **A.R. Thompson, P.R. Husmann.** University of Cincinnati College of Medicine and Indiana University School of Medicine.

E40 **507.3** Formative Assessments in Anatomy: Two-Year Quality Improvement Study of Self-Assessment Resources for Didactic Material. **V.H. Lee, B. Pomeroy, B.L. Schneider.** Texas Tech University Health Sciences Center.

E41 **507.4** Motivational Pedagogy: A Targeted Needs Assessment in the Neuroscience and Neuroanatomy Block of a 1st Year Medical School Curriculum. **B. Wasicek, D. McHugh.** Quinnipiac University.

E42 **507.5** The Effect of Formal Training on Undergraduate Teaching Assistants' Performance and Views Towards Teaching. **T.C. Smith, M. Taylor, A. Reynolds, C. Taboas, P. Husmann, V. O'Loughlin.** Indiana University School of Medicine-Bloomington and Indiana University Bloomington.

E43 **507.6** An Active Learning Lesson with Three Dimensional Models to Improve Understanding of Pelvic and Perineal Anatomy. **L.J. Solis, O.B. Rahimi.** The University of Texas Health Science Center at San Antonio.

E44 **507.7** Using Technology and Active Learning in a Lecture Based Anatomy Course: Does It Help? **R.S. Lufler.** University of Delaware.

E45 **507.8** Integrating Disciplines for a Dynamic and Engaging Team Based Learning Session. **K.B. Moore, D.A. Morton, K.A. Pippit.** University of Utah.

E46 **507.9** Combining Active Learning and Immediate Quiz Feedback: Engaging Students in *Anatomy!* Medical Jeopardy. **D.E. Chico, L.P. Luna-Arvizu, G.C. Allen, K. Brakora, J.K. Hubbard, R.O. Carpenter, W-J. Chen.** Texas A&M College of Medicine and Baylor Scott & White Health.

E47 **507.10** The Challenge of Brains: A Ludic and Amusing Game Useful to Review Neuroanatomy for Undergraduate Students. **C.R. Rueff-Barroso, L.C. Veiga, K.S. Ronconi, G.S. Cerqueira, V.P.S. Fazan.** Federal University of Espírito Santo, Brazil, Federal University of Ceará, Brazil, School of Medicine of Ribeirão Preto and University of São Paulo, Brazil.

E48 **507.11** Anatomy Board Games Promote Significant Learning About the Cardiovascular System. **F.O. Rafael Freitas, J.E.F. Barreto, E.A.d.S. Ramos, A.P.F. de Freitas, J.D.d. Lucena, A.G. Scafuri, G.S. Cerqueira.** Faculty of Medicine, Post-Graduate Program in Morphofunctional Sciences, Federal University of Ceará, Brazil, Universidade Federal do Piauí, Brazil and FIC, Brazil.

E49 **507.12** Evaluation of Lecture Presentation Style in Anatomical Education. **M. Wood, A. Troy.** Liberty University College of Osteopathic Medicine.

E50 **507.13** The Use of Games for Teaching Anatomy in Basic Education Schools. **J.A. Bonatto-Costa, M.A. Melo, J.D. Scherer, J.M. Cândia, M. Ramos, D. De Campos, L.P. de Oliveira Júnior.** Universidade Federal de Ciências da Saúde de Porto Alegre, Brazil, Universidade do Vale do Rio dos Sinos, Brazil and Universidade de Santa Cruz do Sul, Brazil.

E51 **507.14** Applied Anatomy to Circus: Our Experience. **D.S. Galdeano, L.M. Rossi, C.S.B. Pereira, B.M. Liquidato, T.C. Almeida, M.D. Barros.** Faculdade de Ciências Médicas da Santa Casa de São Paulo, Brazil and Circo Viramundo, Brazil.

E52 **507.15** Integration of Surface Anatomy with Massage Therapy: Impact on Musculoskeletal Anatomy Knowledge and Student Wellness. **D.S. Hoffmann, D. Dancing, M. Rosenbaum.** University of Iowa Carver College of Medicine and Dancing Prairie Massage Therapy College and Pain Relief Center.

E53 **507.16** Applied Anatomy: A New Approach with Yoga. **D.S. Galdeano, L.M. Rossi, C.S.B. Pereira, B.M. Liquidato, M.C. Vieira, M.D. Barros.** Faculdade de Ciências Médicas da Santa Casa de São Paulo, Brazil and Federal University of São Paulo, Brazil.

E54 **507.17** Team Collaboration in Learning Anatomy with Ultrasound in a Clinical Presentation-Driven Curriculum. **F. Nausheen, S.S. Hassan, R. Ettarh, R. Suskind, A. Tenore.** California University of Science and Medicine.

E55 **507.18** Conducting Team-Based Learning Simultaneously Across Multiple Venues: Challenges and Impact on Student Satisfaction. **M.L. Korndorffer, T. Frasch.** Tulane University School of Medicine.

E56 **507.19** Effects of High-Fidelity Patient Simulation Training on Medical Student Self-Efficacy and Competence. **B. Klein.** Indiana University.

E57 **507.20** The Value of Traditional Lecture in Medical Gross Anatomy. **S.M. Klender, A. Notebaert.** University of Mississippi Medical Center.

E58 **507.21** Analysis of Dissection Methods to Facilitate Student Understanding of Knee Ligaments. **L. Sterlin, L. Day.** Northeastern University.

E59 **507.22** The Games Students Play: Student Perceptions of Creative Revision Strategies. **S.L. Croker, D. Bryce, A. Burgess.** University of Sydney, Australia.

E60 **507.23** Creating Instruction to Optimize Learning of the anatomical sciences. **K. Lisk, A. Agur, N.N. Woods.** University of Toronto, Canada.

E61 **507.24** Teaching Palmar Anatomy: A Comparative Case Study of Conventional Scalpel Dissection with an Innovative Hydro-Dissection Method. **M. Kumar, S. Devi.** Government Ayurveda Medical College, India.

E62 **507.25** Function-First Exposure to the Wrist and Forearm Musculature. **D. Gould, M. Drogowski.** Oakland University William Beaumont School of Medicine.

E63 **507.26** Non-Graded Peer Teaching in the Gross Anatomy Lab: Student Participation and its Efficacy in Improving Performance on Written Examinations. **A.H. Ryder, A.L. Gray, D.C.J. Rhodes.** Pacific Northwest University of Health Sciences.

E64 **507.27** Non-Graded Peer Teaching in the Gross Anatomy Lab: Efficacy and Perceived Utility on Improving Performance on Laboratory Assessments. **A.L. Gray, A.H. Ryder, D.C.J. Rhodes.** Pacific Northwest University of Health Sciences.

E65 **507.28** 3D Printing of Digitally Traced Neurons for Neuroanatomy Education. **M.E. Stabio, C.L. Ross, K.B. Sondereker, S.M. Smith, J.M. Renna.** University of Colorado School of Medicine, Heritage College of Osteopathic Medicine and University of Akron.

E66 **507.29** Learning Anatomy: Using the Blooming Anatomy Tool to Determine How Course Delivery and Duration Affect the Performance of Anatomy Students. **K. Sunba, K.A. Rogers.** University of Western Ontario, Canada.

E67 **507.30** Comparison of Traditional and Gamified Student Response Systems: Does More Fun Come at a Cost? **j.F. Shaffer, K. Yabuno, E. Luong.** University of California, Irvine.

E68 **507.31** Mastering Anatomy: Using Cerego as a Teaching Tool. **J. Warshaw, E.N. Lopez, E.W. Baker, E.P. Cunningham.** New York University College of Dentistry.

E69 **507.32** Application of a Diaphanous Animal Model in a Human Osteogenesis Lecture. **M. Serna, G.A. Cuellar Alturo, J.S. Lopez-McCormick, R.J. Rueda-Esteban.** Universidad de los Andes, Colombia.

E70 **507.33** Introduction of the Use of Clinical Cases in the Education of Human Anatomy: New teaching strategies. **H.B. Pimenta, B. Feghali, J.B. Braga Neto, G.B. Saboia, J.R. Godoy, G. Cerqueira.** Universidade do Estado do Amazonas, Brazil, Universidade de Brasilia, Brazil and Universidade Federal do Ceará, Brazil.

E71 **507.34** Paradigm Shift: Methods of Teaching Anatomy for Millennial. **B.L. Benninger, W. Chen.** Western University of Health Sciences COMP-Northwest and Medical Anatomy Center.

508. ANATOMY EDUCATION: LEARNING STRATEGIES

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E72 **508.1** Retention of Anatomic Knowledge in Speech-Language Pathology Undergraduate Students. **M.D. Barros, V.A. Silva, C.J.L. Mendes, B.M. Liquidato.** Santa Casa de São Paulo School of Medical Sciences, Brazil.

E73 **508.2** Student Approach to Learning in a Bachelor Level Cadaver Dissection Course. **S. Fretham.** Luther College.

E74 **508.3** Development of a Novel Anatomy Education Tool for Teaching Dermatomes, Cutaneous Nerve Maps and Surface Anatomy Concepts: The Dry-Erase Anatomy Mannequin (DREAM). **A.K.O. Maini, A. Farias.** Schulich School of Medicine & Dentistry—Windsor Campus, Canada.

E75 **508.4** A Comparison of Learning with Classical Lecture and Demonstration Methods versus Individually and Collaboratively Prepared Concept Maps. **M.K. Anand.** Jaipur National University Institute for Medical Sciences and Research Centre, India.

E76 **508.5** Teaching and Learning for Long Term Retention. **R. Easteal, C. Perry.** Queen's University, Canada.

E77 **508.6** Assessment of Weekly Study Guide Use and Utility in a Condensed Medical Gross Anatomy and Embryology Course. **K.M. Harrell, S.C. Charles.** Brody School of Medicine and East Carolina University.

E78 **508.7** The Effectiveness of a Student-Centered, Experiential Learning Curriculum on Musculoskeletal Anatomy of the Lower Limb using Yoga Asanas. **M-H. He, M. Zec, D. Bentley, W. Hopman, S.C. Pang.** Queen's University, Canada and University of Toronto, Canada.

E79 **508.8** Assessing if a Physical and Interactive Anatomy and Physiology Model Enhances and Enriches Student Learning. **K. Llewelyn, B.V. Seed.** University of Alaska Fairbanks.

E80 **508.9** Effects of Supplementing the Deconstructive Process of Dissection with the Constructive Process of Building Muscles in Clay. **E.R. Malone, J.H. Seo, J. Zahourek, M. Pine.** Texas A&M University and Anatomy in Clay Centers.

E81 **508.10** The Effects of an Anatomy Near-Peer Learning Activity on Interprofessional Stereotypes: A Mixed Methods Study. **N. Merati, A. Murphy-Buske, P. Alfaro, S. Larouche, G. Noel, N. Ventura.** McGill University, Canada and Champlain College, Canada.

E82 **508.11** Breaking with Tradition: A Scoping Meta-Analysis Analyzing the Effects of Student-Centered and Computer Aided Instruction on Student Performance in Anatomy. **K.M. Brown, A.B. Wilson, J. Misch, C.H. Miller, B.A. Klein, M.A. Taylor, M. Goodwin, E.K. Boyle, C. Hoppe, M. Lazarus.** George Washington University School of Medicine and Health Sciences, Rush University, Rush Medical College, Rush University, Feinberg School of Medicine, Northwestern University, Indiana University School of Medicine, George Washington University and Monash University, Australia.

E83 **508.12** Difficulty of Dissection: Which Anatomical Regions are Hardest for Medical Students to Dissect? **S.R. Williams, K. Thompson, A. Notebaert, A. Sinning.** University of Mississippi Medical Center and Millsaps College.

E84 **508.13** Learning Styles Among Medical Students: Kinesthetic Learners Approach to Learning Anatomy. **J. Hernandez, N. Vasan.** Cooper Medical School of Rowan University.

E85 **508.14** Can 3D Printed and Virtual Whole Embryo Models Save Embryology Education? **A.N. Dueñas, J. Stratford, E. Salcedo, B. Blezinski, L.M.J. Lee.** University of Colorado Anschutz Medical Campus and University of Colorado Boulder.

509. ANATOMY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E86 **509.1** Gender Bias in Authorship in the *Anatomical Record* and *Anatomical Sciences Education* journals. **M. Olivares, K. Brown.** George Washington University School of Medicine and Health Sciences.

E87 **509.2** The Effects of Prenatal Exposure of Nicotine/Thiocyanate on the Pancreas of 1–month-old Rat Offspring, a Histological Study. **M.A. Othman.** College of Medicine and Medical Sciences Arabian Gulf University, Bahrain.

E88 **509.3** The Role of Thoracolumbar Fascia in Planar Spread of Quadratus Lumborum Blocks. **S.E. Van Nuland, N.R. Langley, S. Shetty, T. Weidner, P. Hangge, N.P. Patel, T.M. Young-Fadok.** Mayo Clinic College of Medicine and Science, Mayo Clinic and Mayo Clinic Hospital.

E89 **509.4** TGF-β Suppresses Inflammation Through the Repression of Interleukin-33 (IL-33). **M.M. Gerace, J.P. Den Haese, A.V. Bakin, M.E. Gervasi.** D'Youville College and Roswell Park Cancer Institute.

E90 **509.5** Examination of Foramen Magnum Position in Relationship to the Degree of Bipedalism in Mammals. **J.M. Abati, L. Hechtel.** D'Youville College.

510. ANATOMY: ANIMAL MODELS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E91 **510.1** Chemically Prepared Cat Cadavers in Teaching of Surgical Technique—Evaluation by Students of a Veterinary Medicine Course. **F.S. Oliveira, R.C. Zero, T.A.S.D.S. Rocha, B.W. Minto, P.C. Moraes, L.G.G.G. Dias, A.B. De Nardi.** São Paulo State University, Brazil.

E92 **510.2** Simultaneous, Real-Time Assessment of Mitochondrial Function and Archiving of Multiple Organs from a Single Mouse. **C.T. Mar, A. Boddu, S.A. Howell, A.J. Mehta, A.E. Zemljic-Harpf, J.M. Schilling.** University of California and San Diego.

E93 **510.3** Zebrafish as a Model for Benign Paroxysmal Positional Vertigo. **K. Thiessen, E. Supe, K. Kramer.** Creighton University.

511. ANATOMY: GASTROINTESTINAL

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E94 **511.1** Signals from the Gut Influence Mouse Behavior: Examination of Mechanisms. **D.C. Peterson.** High Point University.

E95 **511.2** Glutamine Synthetase Serves as an Accurate Immunohistological Marker for Perivenular Hepatocytes in the Liver. **K.M. Mak.** Icahn School of Medicine at Mount Sinai.

E96 **511.3** Protective Effect of Silybin Against Verapamil-Induced Hepatotoxicity in Rats. **S. Hassan, A. Rizk, A.G. Motawie, S.M. Abdelfattah, P. Ramaraj.** California University of Science and Medicine, School of Medicine, Faculty of Medicine Cairo University, Egypt, Kirksville College of Osteopathic Medicine and A.T. Still University.

E97 **511.4** Novel Strategies and Approaches to Improve the Efficacy of Targeted Therapy in Gastric Cancer. **S. Kitahara, D. Duda, A. Matsui, K. Shigeta, S. Aoki, T. Ezaki.** Tokyo Women's Medical University, Japan and Massachusetts General Hospital and Harvard Medical School.

E98 **511.5** Catalase and Glutathione Reductase Co-Localize with Insulin in Pancreatic Beta Cells of Normal and Diabetic Rats. **E. Adeghate, R. Al Darmaki, M. Baniyas, C. D'Souza, M. Lotfy, S. Tariq.** United Arab Emirates University, United Arab Emirates.

E99 **511.6** Protective Effect of *Beta vulgaris* on Carbon Tetrachloride Induced Hepatotoxicity in Adult Wistar Rat. **S. Egeonu, C. Ihentuge, H. Okechukwu, C. Anibeze, F. Akpuaka.** Abia State University, Nigeria and Howard University.

512. ANATOMY: CARDIOVASCULAR

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E100 **512.1** Expression of NKX2.5 and ISL1 in the Cardiopharyngeal Mesoderm of Developing *Xenopus* Embryos. **N. Siomava, D. Edwards, J.M. Ziermann.** Howard University College of Medicine.

E101 **512.2** Facial Distances and Possible Risk of High Blood Pressure: The Analyses of Young and Middle-Aged Adult Populations of Northern Nigeria. **M.G. Taura, L.H. Adamu.** University of Bisha, Saudi Arabia and Bayero University Kano, Nigeria.

E102 **512.3** Internal Thoracic Arteries Arising Distal to the anterior scalene muscles at the origin of the axillary arteries: implications for coronary artery bypass grafting. **H.L. Lynch, H.W. Lambert, M.J. Zdilla.** West Liberty University and West Virginia School of Medicine.

E103 **512.4** A Comparison of Epinephrine, Esmolol, and the combination of both in reperfusion injury after murine Myocardial Ischemia. **J. Blaskowsky, T. Eckle.** University of Colorado Anschutz Medical Campus.

E104 **512.5** Successful Treatment of a Case of Partial Anomalous Pulmonary Venous Connection (PAPVC) with Interventional Transcatheter Closure. **Y. Liu, L. Wang, F. Zhang.** Hebei Medical University, People's Republic of China, California State University and Long Beach.

E105 **512.6** The Valve of the Inferior Vena Cava: A Report of Three Cadaveric Specimens. **D.S. Raja.** Lake Erie College of Osteopathic Medicine.

E106 **512.7** Protective Effect of Camel Milk on Carbon Tetrachloride (CCl_4) Induced Reno-Toxicity in Rats. **C. Ihentuge, A. Obialor, C. Ugochukwu, H. Okechukwu, S. Egeonu, P. Ihentuge.** Howard University, Imo State University, Nigeria and Abia State University, Nigeria.

E107 **512.8** Protective Effect of *Beta vulgaris* on Carbon Tetrachloride Induce Cardiotoxicity of Adult Wistar Rat. **H. Okechukwu, C. Ihentuge, S. Egeonu, C. Anibeze, G. Ndukwe.** Abia State University, Nigeria and Howard University.

E108 **512.9** Cardioprotective Effect of Camel Milk Against Carbon Tetrachloride Induced Toxicity. **C. Ugochukwu, C. Ihentuge, P. Ihentuge.** Imo State University, Nigeria and Howard University.

E109 **512.10** Variations in the Pattern of the Interosseus Arteries of the Forearm. **M. Hurley, D. Neu, S. Douglas, T. Stevens, M. Olivieri.** D'Youville College.

513. ANATOMY: FORM & VARIATION

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E110 **513.1** Case Report of an Arc of Bühler Pancreatic Variant in a Brazilian Cadaver. **B.B. Fonseca, G.D.S. Tavares, V.N. dos Santos, D.G. Nobrega, R.C.F. Cordeiro, D.A. da Silva.** Universidade Estácio de Sá—João Uchôa, Brazil.

E111 **513.2** First Detailed Anatomical Study of Bonobos Exposes Bonobos as Best Model for Human-Chimp Ancestor and Just-So Stories of Human Evolution, Bipedalism and Tool Use. **R. Diogo.** Howard University.

E112 **513.3** Vertebral Artery Variations in American-Bred Cottontail Rabbits. **J.P. Den Haese, A.M. Kalota, L.J. Hechtel.** D'Youville College.

E113 **513.4** Anatomical Variations of the Axillary Artery of Human Cadavers. **M. Mathis, J. Marshall, L. Hammer, P. Chambers, M.G. Rosario.** Texas Woman's University Dallas.

E114 **513.5** Clinical Application of the Left Coronary Artery Variation: A Cadaveric Study. **P.S. Klinkhachorn, A. Kumar, V.A. Moore, M.L. Ajmani.** West Virginia University and Oman Medical College, Oman.

E115 **513.6** A New Aspect of Triceps Brachii Muscle Insertion. **F.E. Akamatsu, J.R. Negrão, S.O. Saleh, F. Hojaij, M. Andrade, A.L. Jacomo.** University of São Paulo, Brazil.

E116 **513.7** Abductor Hallucis Muscle has One More Muscle Insertion Point. **J. Wada, F.E. Akamatsu, A.M. Itezerote, F. Hojaij, M. Andrade, A.L. Jacomo.** University of São Paulo, Brazil.

E117 **513.8** Morphometry and Frequency of the Pyramidalis Muscle in Adult Humans. **R.O. Kogima, P. Simões, L.M.d.P. Santos, F. Hojaij, M. Andrade, F.E. Akamatsu, A.L. Jacomo.** University of São Paulo, Brazil.

E118 **513.9** Classifying Novel Variations of a Rare Muscle: The Sternalis. **C.R. Prall, L. Azzouz, C. Connolly, M. Gutierrez, N. Moreno, O. Olumolade, B.K. Alsup, G.M. Fox.** University of Michigan and University of Michigan Medical School.

E119 **513.10** Subclavius Posticus Muscle: Accessory Muscle with Clinical Relevance to Thoracic Outlet Syndrome. **D.M. Arrick, K. Stevens, S. Inglis, M. Das.** University of South Dakota, University at Buffalo and State University of New York.

E120 **513.11** Findings of the Anomalous Fibularis Digiti Quinti Muscle and Implications of its Associated Variable Presentations from Cadaver Dissections. **B.S. Brechtel, T.V. Dao, M.E. Chaney, S.J. Belovich, K.J. Siesel, J.R. Fredieu.** Kent State University College of Podiatric Medicine and Kent State University.

E121 **513.12** A Complex Scalenus Muscle Variant: Case Report. **J.M.A. Miller, R.B. Trelease.** David Geffen School of Medicine at University of California, Los Angeles.

E122 **513.13** Understanding Shape Factors that Influence the Tibial Tunnel Length in Anterior Cruciate Ligament Repair. **K. Congdon, K. O'Mary, J. Jergensen.** Touro University Nevada, Republic of Korea and Touro University Nevada.

E123 **513.14** Morphological Variation in the Posterior Margin of the Frontal Process of the Zygomatic Bone. **B.L. Wharton, N.J. Teaff, B.L. McGowan, M.L. Russell, M.J. Zdilla.** West Liberty University.

E124 **513.15** Sexual Dimorphism of the Fetal, Neonatal, and Infantile Supraorbital Rim Between Races. **A.W. Koons, M.J. Zdilla.** West Liberty University.

E125 **513.16** The Effect of Diet on Renal Cortical Thickness in Mammals. **S. Al-Khaledi, L.J. Hechtel.** D'Youville College.

E126 **513.17** Geometric Morphometric Analysis of the Macaque Basicranium with Special Reference to the Ectotympanic Tube. **E.E.I. Fricano.** Johns Hopkins University.

E127 **513.18** Topographical Anatomy of the Ulnar Nerve and its Muscular Branches Related to Surface Landmark. **D.S. Galdeano, V.S. Cricenti.** Faculdade de Ciências Médicas da Santa Casa de São Paulo, Brazil and Federal University of São Paulo, Brazil.

E128 **513.19** Immunofluorescence Study of Ocular Mucin 5Ac Expression 28 Days Post Sulfur Mustard Exposure. **M.K. Gordon, P. Zhou, R.A. Hahn, J. Schaefer, D.R. Gerecke.** Rutgers University and Department of Pharmacology and Toxicology.

514. ANATOMY: FUNCTIONAL ANATOMY & BIOMECHANICS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E129 **514.1** Ultrasound Assessment of the Zygapophyseal Joints Before and After Spinal Manipulation. **G.D. Cramer, R. Settergren, N. Miller, J. Dexheimer.** National University of Health Sciences and Stark State College.

E130 **514.2** Geometric Properties of the Third Metacarpal Bone: A Comparison Between Thoroughbred and Quarter Horse Racehorses. **D.M. Goldstein, J.B. Engiles, G.B. Rezabek, C.B. Ruff.** Johns Hopkins University School of Medicine, University of Pennsylvania School of Veterinary Medicine and Oklahoma State University

E131 **514.3** The Vulnerability of the Temporomandibular Joint in Recent Northern China Populations. **Q. Wang, Q. Zhang, T. Han, Z. Sun, M.J. Kesterke, H. Zhu, P.C. Dechow, Q. Zhang.** Texas A&M College of Dentistry and Jilin University, People's Republic of China.

E132 **514.4** Relative to the Subtalar Joint, the Calcaneocuboid Joint has a Greater Range of Motion than the Talonavicular Joint in the Coronal Plane. **M. Thurber, A. Hollister, M. Olmedo, L. Hammer, K.A. Hamilton.** Louisiana State University Health Sciences Center—Shreveport and Liberty University College of Osteopathic Medicine.

E133 **514.5** Shape Change Throughout the Body of the Tongue During Drinking in the Striped Skunk (*Mephitis mephitis*). **R.A. Olson, S.J. Montuelle, H.E. Curtis, S.H. Williams.** Ohio University.

E134 **514.6** A Biomechanical Analysis of Cervical Spine Posture using Geometric Morphometrics. **C.L. Moore, C.B. Yoakum, A.N. Romero, E. Douglas, K. Gallagher, C. Terhune.** University of Arkansas.

E135 **514.7** Associations Between External Forearm Dimensions and Internal Ulnar Nerve Spaces at the Elbow. **K. Kanwar, M.T.A. Khan, T.A. Khan, M.I. Khan, R.S. Lovely.** Texas Woman's University , University of North Texas Health Science Center and The University of Texas at Arlington.

E136 **514.8** New Insights Into Form-Function Relationships of Feeding Systems from XROMM and Fluoromicrometry. **E.L. Brainerd.** Brown university.

E137 **514.9** 3D Modeling and Animation of the Temporomandibular Joint (TMJ) of a Human Male with Implications for the Study of TMJ Dysfunction. **B.N. Sonnier, D.G. Homberger.** Louisiana State University.

E138 **514.10** Deep External Rotator Muscles of the Hip: An Anatomical and Architectural Study. **I.A. Scagnetti, L.C. Jadeski, S.H.M. Brown.** University of Guelph, Canada.

E139 **514.11** Diversity in Myosin Heavy Chain Composition of the Papionin Masseter Muscle Indicates the Importance of Hybrid Phenotypes for Feeding. **M.A. Holmes, C.E. Wall, A.B. Taylor.** Duke University School of Medicine, Duke University and Touro University.

515. ANATOMY: RESPIRATORY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E140 **515.1** Anatomical Variations of the Ethmoidal Roof: Differences Between Men and Women. **R.E. Elizondo-Omaña, M.A. Muñoz-Leija, A. Quiroga-Garza, S. Guzman-Lopez.** Universidad Autonoma de Nuevo Leon, Mexico.

E141 **515.2** Maturational Change in Quiet Respiration versus Respiration While Feeding in Infant Mammals. **R.Z. German, F.D.H. Gould.** Northeast Ohio Medical University.

516. ANATOMY: UROGENITAL

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E142 **516.1** Possible Protective Effect of Statins Against Renal Ischemic-Reperfusion Injury in diabetic Rats: A Biochemical and Histochemical Study. **S.S. Hassan, A. Rizk, R. Ettarh.** California University of Science and Medicine, School of Medicine and Faculty of Medicine Cairo University, Egypt.

E143 **516.2** Immediate and Late Effects of Anabolic Androgenic Steroids on Testicular Morphology of Rats. **B. Felix-Patrício, T.L. Guarçoni, R.G. Marchon, J.L. Medeiros; Jr., B.M. Gregório, D.B. de Souza.** Fluminense Federal University, Brazil, Rio de Janeiro State University, Brazil and Valença Medical School, Brazil.

E144 **516.3** Prostatic Neurovascular Anatomical Variation May Explain Radical Prostatectomy Outcomes. **J. Hung, A. Patel, M. Castro, M.I. Hall, J.H. Plochocki.** Midwestern University.

E145 **516.4** Midline episiotomy May Pose Less Risk of Nerve Damage Than Mediolateral Episiotomy: A Cadaveric Anatomical Study. **A. Patel, J. Hung, M. Castro, J.H. Plochocki, M.I. Hall.** Midwestern University.

E146 **516.5** A Novel Approach to Dissection of the Pelvis and Perineum for Professional Students. **L.D. Hunter, C.F. Mosley, K.M. McHugh.** The Ohio State University.

E147 **516.6** Effect of Sildenafil in the Prostate Morphology in an Animal Model of Benign Prostatic Hyperplasia. **J.L. Medeiros; Jr., B.L. Felix-Patrício, M. Simões, D.B. de Souza.** Valença Medical School, Brazil, Fluminense Federal University, Brazil and Rio de Janeiro State University, Brazil.

517. CARDIOVASCULAR BIOLOGY: DYSFUNCTION; DISEASE; GENETIC DISORDERS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E148 **517.1** Orthostatic Hypotension in People with Human Immunodeficiency Virus. **M.G. Rosario, M. Gonzalez.** Texas Woman's University Dallas and Texas Woman's University.

E149 **517.2** Long-term Survival of Adult Cardiac Myocytes in Large Transmural Post-Myocardial Infarction Scars is Supported by a Functional, Local Microvascular Network. **C. Nofi, E.I. Dedkov.** New York Institute of Technology College of Osteopathic Medicine and Cooper Medical School of Rowan University.

E150 **517.3** Mice Expressing Human Apolipoprotein E4E Exhibit Altered Thoracic Ascending Aortic Elastic Properties. **N. Talley, T.B. Jones, T. Alexander, J. Vallejo-Elias, M. Esfandiarei.** Midwestern University.

E151 **517.4** Long-Term Dietary Nitrite Supplementation is Effective in reducing Cardiovascular Disease Risk Factors in Older, Obese Rats. **J.L. Kadel, G.V. Schaeffer, M.L. Bates, A.L. Sindler.** University of Iowa.

E152 **517.5** Inflammation and Innate Immune Activation During Ex-Vivo Heart Perfusion. **X. Qi, S. Hatami, C. White, S. Himmat, N. Aboelnazer, M. Ondrus, A. Kinnear, Y. Wu, J. Nagendran, D.H. Freed.** University of Alberta, Canada and University of Alberta Hospital, Canada.

E153 **517.6** Therapeutic Activity of Organotin Compounds Against *Trypanosoma cruzi*. A.**D. Mata, I. Tejeda, F. Rodriguez, K. Pannell, R.A. Maldonado.** The University of Texas at El Paso.

E154 **517.7** Impact of Menopausal Hormone Treatments on Intravascular Cellular Activation and Development of White Matter Hyperintensities in Healthy Postmenopausal Women. **M. Jayachandran, B.D. Lahr, V.M. Miller, K. Kantarci.** Mayo Clinic.

E155 **517.8** AMPK and Estrogen-Dependent Mechanisms Underlying Hypersensitivity to Cardiovascular Disease During Menopause. **M.L. Pier, D.P. Cannon, J.P. Konhilas.** University of Arizona.

518. CARDIOVASCULAR BIOLOGY: DEVELOPMENT & GROWTH

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E156 **518.1** Chamber Specific Expression of Myosin Heavy Chain 7B in the Heart of Vertebrates. **M.A. López-Unzu, A.C. Durán, M.T. Soto-Navarrete, B. Fernández.** University of Málaga, Spain.

E157 **518.2** Role of Retinoic Acid Signaling in Epicardial-Related Events During Late Heart Development. **A.R. Moise, S.R. Wang, J.R. Yu, M.R. Kane, J. Xavier-Neto.** Northern Ontario School of Medicine, Canada, University of Kansas, University of Maryland and LNBio—Laboratório Nacional de Biociências, Brazil.

E158 **518.3** Endocardial-Mesenchymal Transition Underlies Fusion of the Conotruncal Ridges During Embryonic Cardiac Outflow Tract Septation. **M.T. Soto-Navarrete, C. Peterse, M.C. Fernández, A.C. Durán, B. Fernández.** University of Málaga, Spain.

E159 **518.4** Contributions of an Extracellular Matrix Glycoprotein to Coronary Vessel Formation. **T.J. Dougherty, D. Lapoint, K. Oller, J. Vanderkooi, E. Saenger, E. Scott, C.J. Hatcher.** Philadelphia College of Osteopathic Medicine.

E160 **518.5** AJAP1 and Epithelial Cell Adhesion for Epicardial and Coronary Vessel Formation. **C. Bunting, J. Vanderkooi, K. Oller, D. Lapoint, E. Saenger, G. Gorski, E. Scott, C.J. Hatcher.** Philadelphia College of Osteopathic Medicine.

E161 **518.6** Characterization of the Roles of Connexin 32 in Zebrafish Vascular Development. **Y-T. Chen.** National Sun Yat-Sen University, Taiwan.

E162 **518.7** CRISPR-Cas9 Knock Out of Gravin Variant 1 Impairs in Vitro Angiogenic Sprouting. **A. Ali, A. Spagnolia, M. Hull, M. Geffre, P. Bialk, E. Kmiec, B.D. Grove.** University of North Dakota School of Medicine and Health Sciences and Helen F. Graham Cancer Center and Research Institute.

E163 **518.8** The Function of *NSDHL* During Vascular Development in Zebrafish. **S-R. Liang.** National Sun Yat-sen University, Taiwan.

E164 **518.9** Myocardial Trabeculation in Embryos of *Scyliorhinus canicula* (Elasmobranchii, Chondrichthyans). **M.A. López-Unzu, C. Rodríguez, M. Lorenzale, B. Fernández, A.C. Durán.** University of Málaga, Spain.

519. CELL BIOLOGY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E165 **519.1** Malaria Derived Extracellular Vesicles Inhibit Neutrophils ROS Production and NETs Formation. **K.A. Babatunde, M. Walch, I. Fellay, S. Kharoubi-Hess, L. Filgueira, I. Ghiran, P-Y. Mantel.** University of Fribourg, Switzerland and Harvard Medical School.

E166 **519.2** Palladin functionally Replaces the Arp2/3 Complex and Organizes Actin-Rich Structures Generated During *Listeria monocytogenes* Infections. **A.S. Dhanda, A.W. Vogl, C.A. Otey, M.R. Beck, J.A. Guttman.** Simon Fraser University, Canada, University of British Columbia, Canada, University of North Carolina and Wichita State University.

E167 **519.3** Synemin is Important for the Health of Skeletal Muscle, Heart and Bone. **K. Pelagio, A. Buo, L. Chen, H. Joca, M. Moorer, J. Lederer, J. Stain, C. Ward, R. Bloch.** Universidad Nacional de Mexico, Mexico and University of Maryland.

E168 **519.4** Immunolocalization of HSC70 at Bacterially-Generated Actin-Rich Structures. **B.D. Walker, M.D. Chua, J.A. Guttman.** Simon Fraser University, Canada.

E169 **519.5** Metformin Inhibits Autophagy and Mitophagy in Cardiomyocytes. **M. Chang, P. Pinkhasova, T. Kobayashi, R. Patel, M. Cohen, P. Mehta, Y. Zhang, S. Kobayashi, Q. Liang.** New York Institute of Technology College of Osteopathic Medicine.

E170 **519.6** Effect of Troglitazone (TZ) and N-Acetyl Cysteine (NAC) Treatment on Beta Cells' Survival, and Insulin Production Under Hyperglycaemic Conditions. **M.A. Eladl, M.A.D.A.H. Alhuarrat, M.A.A. Sabri, S.A. Sadeq, H.S. Aljaibeji.** College of Medicine, University of Sharjah, United Arab Emirates and University of Sharjah, United Arab Emirates.

E171 **519.7** The Effect of (-)-Epigallocatechin-3-Gallate (EGCG) on Cell Viability and Protein Expression in Human Pancreatic Cancer Cells (Panc-1) and Rat Osteosarcoma Cell Cultures (Umr 106-01 Bsp). **S. Bolivar, K. Fong, E. Joseph.** La Sierra University.

E172 **519.8** Effects of Aspirin on Melanogenesis in B16F10 Cells Grown as 3D Hanging Drop Tumor Organoids. **M. Martin, T. Lyden.** University of Wisconsin—River Falls.

E173 **519.9** Using Electric Cell-Substrate Impedance Sensing (ECIS) Technology as a Tool for Mathematical Analysis of the Effects of Glucose on Bone-Like Osteosarcoma Cells (Umr 106-01 Bsp). **J. Choi, B. Hernandez, E. Joseph.** La Sierra University.

520. CELL BIOLOGY: MEMBRANES & CYTOSKELETON

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12 pm–1pm
Even board #: 1 pm–2 pm

E174 **520.1** Tau Does Not Protect Microtubules During *Klebsiella Pneumoniae* Infections. **A.C. Bogdan, M.D. Chua, J.A. Guttman.** Simon Fraser University, Canada.

E175 **520.2** Sm22 Is Needed for Actin-Rich Structures Formed by Enteropathogenic *Escherichia coli* and *Listeria monocytogenes*. **M.D. Chua, K.J. Hipolito, J. Solway, J.A. Guttman.** Simon Fraser University, Canada and University of Chicago.

E176 **520.3** Characterization of Novel Actin-Associated Proteins at Enteropathogenic *Escherichia coli* and *Listeria monocytogenes* Actin-Rich Structures. **M.D. Chua, B.D. Walker, S. Li, J.A. Guttman.** Simon Fraser University, Canada.

E177 **520.4** *Klebsiella Pneumoniae* Disassembles Microtubules and Kills Vinca Alkaloid Resistant Lung Cancer Cells. **M.D. Chua, A.C. Bogdan, B.D. Walker, J.A. Guttman.** Simon Fraser University, Canada.

E178 **520.5** Calcium and Lipid Exchange Machinery in Sertoli Cells. **A. Adams, D. Yoo, A.W. Vogl.** The University of British Columbia, Canada.

521. CELL BIOLOGY: SIGNALING & MOLECULAR BIOLOGY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E179 **521.1** Upregulation of Eicosanoid Signalling in Lung Following Fipronil and Endotoxin Interaction. **R.S. Sethi, A.A. Pandit, R.K. Gandham, R. Verma, B. Singh.** Guru Angad Dev Vety and Animal Sciences University, India, Indian Veterinary Research Institute, India and University of Calgary , Canada.

E180 **521.2** Resveratrol Restores Type 2 Diabetes-Induced Alterations in Transcriptional Regulation of DNA Damage Repair Pathway Genes in Goto-Kakizaki Rats. **N. Kilarkaje, M. Alqaryyan, H. Al-Hussaini, M. Al-Bader.** Kuwait University, Kuwait.

E181 **521.3** Distinct Localization of Aurora a Kinase in Mouse Spermatozoa Suggests a Novel Role in Sperm Motility. **M. Johnson, R. Wang, A. Sperry.** East Carolina University and East Carolina University, United States Minor Outlying Islands.

Biochemistry and Molecular Biology

522. GENOME DYNAMICS: DNA REPLICATION, REPAIR AND RECOMBINATION

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B1 **522.1** RecQ4 Helicases Stimulate Nuclease Activity During DNA Inter-Strand Crosslink Repair. **M.L. Bochman, C.M. Rogers.** Indiana University.

B2 **522.2** The Highly Conserved Proteins Nucleolin and SUB1 Play Critical Roles In Regulating G4 DNA-Induced Genome Instability. **N. Kim.** The University of Texas Health Science Center at Houston.

B3 **522.3** Identification of Genes Involved in Low Temperature Growth of *Cronobacter sakazakii* ATCC 29544 **J. Liu, S.T. Hong.** Department of Biomedical Sciences and Institute for Medical Science, Republic of Korea.

B4 **522.4** NELF-E and CDYL1: Two Novel Players for Switching Off Transcription at DNA Damage Sites. **N. Ayoub, S.W. Awwad, E.R. Abu-Zhayia, B.M. Ben-Oz, N-R. Guttmann-Raviv.** Technion, Israel.

B5 **522.5** Expanding the Role of FDO1 in Yeast Chromosomal Biology. **M. Seman, T. Hoggard, C. Fox.** University of Wisconsin—Madison.

B6 **522.6** Role of Homology and DNA Double-Strand Breaks in Initiation of intrachromosomal Recombination in Mammalian Cells. **A.S. Waldman, K.M. Chapman, M.M. Wilkey, K.E. Potter, B.C. Waldman.** University of South Carolina.

B7 **522.7** Molecular Insights into Replication-Associated Genome Instabilities Caused by CST Deficiency. **W. Chai.** Washington State University.

B8 **522.8** TYR1 Phosphorylation of RNA Polymerase II CTD Directs and Expands the CTD Code. **J.E. Mayfield, M.R. Mehaffey, S. Irani, L. Walker, M. Robinson, N.T. Burkholder, N. Prescott, K. Kathuria, J.S. Brodbelt, Y.J. Zhang.** University of California, San Diego and The University of Texas at Austin.

B9 **522.9** A Novel Role of the Human CST Complex in Regulating the DNA Damage Response. **J.A. Stewart, S.M. Ackerson.** University of South Carolina.

B10 **522.10** Non-canonical DNA in the C-Myc Hotspot Region. **K. Long, S.M. Kerwin, W. David.** Texas State University.

B11 **522.11** Cell Cycle Re-Entry from Quiescence Promotes Genome Instability. **J.P. Matson, J. Limas, J. Perez, K. Kedziora, J.G. Cook.** University of North Carolina at Chapel Hill.

B12 **522.12** Plant PCR Inhibitor Release as a Function of Sample Dissociation Method. **B. Easparro, Z. Morehouse, C. Proctor, J. Atwood.** Omni International.

B13 **522.13** CDT1 Variants Offer Novel Insights into CDT1-MCM Interactions and an Unexpected Mechanism for Cyclin A to Block DNA Re-Replication. **P.N. Pozo, Y. Cole, J. Matson, Y. Zhuo, B. Temple, J.G. Cook.** University of North Carolina at Chapel Hill.

B14 **522.14** Assembly of Fragment Ends After PCR: An Efficient and Accurate Multi-Part DNA Assembly Method for Large DNA Sequence. **Y. Lin.** The University of Texas Health Science Center at Houston.

B15 **522.15** Scraping the Tip of ZIP1's Role in Meiotic Chromosome Dynamics: Using *LacO*/LacI Corecruitment to Identify Crossover Promoting Factors that Interface with the N-Terminus of a Synaptonemal Complex Protein. **A. Feil, A. DeMuyt, V. Borde, K. Voelkel-Meiman, A. MacQueen.** Wesleyan University and Institut Curie, France.

B16 **522.16** Investigation into the Binding Interactions of *Saccharomyces cerevisiae* Histone H1 with Holliday Junction. **C. Little, S. Lahiri, C. Hebner, S. Holmes, I. Mukerji.** Wesleyan University

B17 **522.17** The Long and Short of Synaptonemal Complex Assembly: Investigating the Genesis and Functional Relevance of a Smaller ZIP1 Isoform. **A. Shames, A.J. MacQueen.** Wesleyan University.

523. CHROMATIN STRUCTURE, REMODELING AND GENE EXPRESSION

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B18 **523.1** Regulation of Monoallelic Tert Expression in Cancer Cells with Wildtype Promoters. **T.J. Rowland, T.R. Cech.** Department of Chemistry and Biochemistry, University of Colorado BioFrontiers Institute and and Howard

B19 **523.2** Determining the Enhancer Proteomes in Primary Cells and Native Tissue. **D. Steger, D. Cohen, J. Remsberg, S. Sidoli, B. Garcia.** University of Pennsylvania.

B20 **523.3** Histone Chaperone Nap1 Facilitates Histone Dynamics in the Nucleosome. **T-H. Lee, J. Lee.** Pennsylvania State University.

B21 **523.4** Revealing Chromatin State Organization on the Single-Molecule Scale. **B. Fierz.** École Polytechnique Fédérale de Lausanne, Switzerland.

B22 **523.5** Diet Restriction Induces Heat Shock Gene Expression while Tempering Heat Stress Response in *Drosophila melanogaster*. **J.W. Tresser, M. Bliss, H. Mayweather, E. Rustand, A. Sears, B. Varamini.** Biola University.

B23 **523.6** DNA Binding Kinetics of CTCF *in Vitro*. **A.L. Sanborn, R.D. Kornberg.** Stanford University.

B24 **523.7** Fat nucleosome: Role of lipids on chromatin. **G.M. Santos, K. Teles, C. Ribeiro, V. Fernandes.** Universidade de Brasilia, Brazil.

B25 **523.8** Genome-Wide Analysis of Bromodomain Histone Di-Acetyllysine Ligands. **S. Signorelli, D. Gerrard, K. Glass, S. Frietze.** University of Vermont and Albany College of Pharmacy and Health Sciences.

B26 **523.9** Structure-Based Design of Nucleosome Binding Peptides for Controlling Cell Function. **K.A. Teles, G.M. Santos.** University of Brasília, Brazil.

B27 **523.10** Chemically Altered Epigenetic Landscape: Transcriptional Reprogramming at Precise Space and Time. **K. islam.** University of Pittsburgh.

B28 **523.11** Rad53p Activation Alters Chromatin Structure, Induces Respiration and Elevates Cellular ATP Level. **P. Bu, A. Shah, J. Zeng, M.S. Bhagwat, S. Nagar, A. Vancura.** St. John's University.

B29 **523.12** The Role of Epigenetic Factors in Age-Dependent Changes in *Drosophila melanogaster* Visual Behavior and Photoreceptor Neuron Gene Expression. **S. Escobedo.** Purdue University.

B30 **523.13** Histone Deacetylase Inhibition Leads to Dose-Dependent Suppression of Oncogene-Associated Super-Enhancers. **G. Wheeler, G. Sanchez, X. Liu.** University of Colorado Boulder.

B31 **523.14** Jarid2 regulates Skeletal Muscle Differentiation Through Regulation of Canonical Wnt Signaling Pathway. **A. Adhikari, J. Davie.** Southern Illinois University School of Medicine.

B32 **523.15** Set4 Promotes Survival During Oxidative Stress Through Regulation of Stress Response Genes. **K. Tran, Y. Jethmalani, D. Jaiswal, E.M. Green.** University of Maryland and Baltimore County.

524. HISTONE MODIFICATIONS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B33 **524.1** FIH is an Oxygen Sensor for G9a/GLP-driven Epigenetic Regulation of Metastasis-Related Genes in Ovarian Cancer. **J. Kang, J-W. Park.** College of Medicine and Seoul National University, Republic of Korea.

B34 **524.2** 1000 Ways to Die: Synthetic Lethality with an HDAC. **K. Alexandre, E. Hodges, K. Ciccaglione, M. Law.** Rowan University School of Osteopathic Medicine and Rowan University Graduate School of Biomedical Science.

B35 **524.3** Determining the Role of the Epigenetic Factor *Set4* in Antifungal Drug Resistance in Budding Yeast. **A. Gress, N. Serratorre, S.D. Briggs.** Purdue University.

B36 **524.4** Construction of Chimeric Histone Methyltransferase Complexes in *Saccharomyces cerevisiae* Generate Unique Phenotypes and Clarify the Roles of MLL1 and SET1 Complex Accessory Proteins. **R.J. Chosed, D. Klein, E. Longan, M. Baker, S. Gogoli, J. Wang, S. Alkoutami.** University of South Carolina School of Medicine-Greenville and Furman University.

B37 **524.5** Enhancer Epigenomic Regulation in Differentiation, Development and Cancer. **K. Ge.** National Institute of Diabetes and Digestive and Kidney Diseases and National Institutes of Health.

B38 **524.6** Inhibition of HDAC1 and 2 Modulates the Expression and Signaling of Natriuretic Peptide Receptor a in Male and Female Gene-Targeted Mutant Mice. **P. Kumar, C. Nguyen, R. Samivel, M. Bloodworth, K.N. Pandey.** Tulane University Health Sciences Center and School of Medicine.

B39 **524.7** Analysis of CoREST Complex-Chromatin Interactions with Chemical Tools. **M. Wu, D. Hayward, J.H. Kalin, Y. Song, J. Schwabe, P.A. Cole.** Brigham and Women's Hospital and Harvard Medical School, Johns Hopkins University School of Medicine and University of Leicester, United Kingdom.

B40 **524.8** Biochemical Characterization of the SET1 H3K4 Methyltransferase Complexes. **J. Kim.** Korea Advanced Institute of Science and Technology, Republic of Korea.

B41 **524.9** Structural Basis for H2B Monoubiquitylation by Bre1 and Rad6. **K. Hyun, X. Su, H. Li, J. Kim.** Korea Advanced Institute of Science and Technology, Republic of Korea and Tsing Hua University, People's Republic of China.

B42 **524.10** The H3K36 Histone Methyltransferase SETD2 as a Target of Leukemogenic Chemicals: Molecular and Cellular Studies. **J. Berthelet, R. Duval, L-C. Bui, C. Mathieu, E. Petit, J-M. Dupret, F. Guidez, C. Chomienne, F. Rodrigues-Lima.** BFA RMCX, Université Paris Diderot, National Center for Scientific Research UMR 8251, France, Université Paris Diderot, Institut Universitaire d'Hématologie and INSERM UMR_S1131, France.

B43 **524.11** Salt Bridge Formation within the RKS Motif of Histone H3 Detected by NMR Spectroscopy. **Z.M. Estrada-Tobar, D. Fuentes, C.I. Zurita-Lopez.** California State University and Los Angeles.

B44 **524.12** Cell Death by Gold Nanoparticles in MDA-MB-231 Cells Involves Different Epigenetic Alterations: Role of Surface Charge. **S.K. Surapaneni, S. Bashir, K. Tikoo.** National Institute of Pharmaceutical Education and Research, India.

B45 **524.13** Stoichiometry of Multi-Protein Complexes Containing rtt109, vps75, and Histone H3-H4. **S. D'Arcy, N. Akhavantabib, D. Krzizike.** The University of Texas at Dallas and Fox Chase Cancer Center.

B46 **524.14** Elucidating Epigenetic Readers of H3T45ph in *S. cerevisiae* **P. Grant, C. Lee, M. Pray-Grant, S. Bekiranov.** University of Virginia School of Medicine.

B47 **524.15** Discovering and Exploiting Selectivity in Bet Tandem Bromodomain Recognition of Epigenetic Lysine Acylation. **B.C. Smith, M.D. Olp, D.J. Sprague.** Medical College of Wisconsin.

525. NON-CODING RNAS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B48 **525.1** Quantitative Analysis of lncRNA from Human FF and FFPE Brain Speimens. **Y. Lv, Y. Rao, W. Dong.** Shanghai University of Medicine and Health Sciences, People's Republic of China.

B49 **525.2** Mapping RNA-chromatin Interactions. **S. Zhong, B. Sridhar, M. Rivas-Astroza, T.C. Nguyen, W. Chen, Z. Yan, X. Cao, L. Hebert.** University of California and San Diego.

B50 **525.3** Critical RNA structures Involved in Translation Initiation Mechanism Between 3' CITE and 5' UTR of RNA2 of *Blackcurrant Reversion Nepovirus (BRV)*. **S-W.M. Bean, L.D. Baquero Galvis, E.J. Morrison, M.E. Filbin-Wong.** Metropolitan State University of Denver.

B51 **525.4** Importance of Unique Secondary Structures in Genomic RNA1 3' CITE in *Blackcurrant Reversion Nepovirus* Translation. **L.D. Baquero Galvis, E. Shields, M.E. Filbin-Wong.** Metropolitan State University of Denver.

B52 **525.5** LncRNA *GAS8-AS1* Directs Epigenetic Modulation and Activation of the Tumor Suppressor *GAS8* via MLL1/WDR5 to Suppress Hepatocarcinogenesis. **M. Yang.** Shandong Cancer Hospital affiliated to Shandong University, People's Republic of China.

B53 **525.6** A Novel Angiotensin II Induced Long Non-Coding RNA *Giver* Regulates Oxidative Stress, Inflammation, and Proliferation in Vascular Smooth Muscle Cells. **E. Zhang, S. Das, V. Amaram, M.A. Reddy, A. Leung, Z. Chen, P. Senapati, K. Stapleton, H. Oh, M. Kato, M. Wang, L. Lanting, Q. Guo, X. Zhang, B. Zhang, H. Zhang, Q. Zhao, W. Wang, Y. Wu, R. Natarajan.** Beckman Research Institute at City of Hope, State Key Laboratory of Cardiovascular Disease, Fuwai Hospital and National Center for Cardiovascular D, People's Republic of China.

B54 **525.7** Rift Valley Fever Virus Nucleocapsid Protein Binds to C/D Box Motifs of Snorna. **M. Hayashi, K.E. Hornak, J-M. Lachy, J.S. Lodmell.** University of Montana.

B55 **525.8** Identifying Regulatory Targets of the Small RNA MTLs in *Vibrio cholerae*. **S.I. Mendez-Contreras, M. Tsao-Wu, J. Liu.** Pomona College.

B56 **525.9** Exploring a Transcriptional Regulation Model Governing a *Cis*-Antisense Small RNA in *Vibrio cholerae* M.**G. Zhang, J.J. Wang, T. Lang, J.M. Liu.** Pomona College.

B57 **525.10** The Function of Noncoding RNA BC200 in a Human Disease. **H. Shin, J. Lee, Y. Kim, Y. Lee.** KAIST, Republic of Korea.

B58 **525.11** Role of an Enhancer Transcribed Long Non-Coding RNA *Alive* in the Transdifferentiation of Vascular Smooth Muscle Cells to Chondrocytes in Response to Angiotensin II. **V. Amaram, S. Das, A. Leung, M.A. Reddy, A. Bansal, L. Lanting, R. Natarajan.** City of Hope.

B59 **525.12** A Novel Approach to Identify Regulated Long Non-Coding RNAs in Selected Pathways. **S.T. Okino, M. Kong, J.M. Flynn, Y. Wang.** Bio-Rad Laboratories and Inc.

B60 **525.13** Microarray Profiling and Bioinformatic Analysis of Circular RNAs in RAW264.7 Macrophages Under Simulated Microgravity. **M. Yuan, J. Wang, M. Yuan.** China Astronaut Research and Training Center, People's Republic of China.

B61 **525.14** Micro-RNA-205 Regulates Heart Size Through Direct Modulation of the Hippo Pathway. **J.J. Weldrick, L. Kouri, R. Yi, P.G. Burgon.** University of Ottawa, Canada, University of Colorado Boulder and University of Ottawa Heart Institute, Canada.

B62 **525.15** Investigation of SOCS5 as a Gene Target of miR-9 in Inflammatory Monocytes. **M. Stander, B. Rabquer.** Albion College.

B63 **525.16** The Effect of 1,4-Dimethylnaphthalene on miR-166 MicroRNA. **A. Alharbi, M. Campbell.** Penn State Behrend.

B64 **525.17** Cisplatin Induces Differential Expression of Snornas and Affects Ribosome Methylation. **E. Reister, V.J. DeRose.** University of Oregon.

B65 **525.18** Preventing Autoimmunity in Transcription-Dependent CRISPR-Cas Systems. **K. Johnson, B. Learn, S. Bailey.** Johns Hopkins University School of Medicine

B66 **525.19** The Evf2 Enhancer Long Noncoding RNA Regulates Enhancer Interactions Across Megabase Distances. **J. Kohtz, I. Cajigas, A. Chakraborty, M. Bastidas, K.S. Swyter, S.J. Kohtz, F. Ay.** Northwestern University and La Jolla Institute for Allergy and Immunology.

B67 **525.20** Detection and Comparison of Circular RNAs in Mouse Striatum and Retina. **J-H. Chen.** Wuxi School of Medicine and Jiangnan University, People's Republic of China.

526. PROTEIN SYNTHESIS, STRUCTURE, MODIFICATIONS AND INTERACTIONS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B68 **526.1** Structural and Biochemical Investigation of Plant-Nematode Interactions. **A. De Santiago Perez, C. Holland, J. Jez.** University of California, Riverside and Washington University in St. Louis.

B69 **526.2** Overlap extension Polymerase Chain to Create a New Expression Vector and the Protein Binding Affinity Analysis Using MST of EPH Receptors. **D. Bowman, J. Muller-Greven, A. Smith, M. Buck.** The University of Akron and Case Western Reserve University.

B70 **526.3** Repeat problems: Combinatorial Effect of *C9orf72*-Derived Dipeptide Repeat Proteins. **A. Darling, L. Braydo, L. Blair, J. Koren, V. Uversky.** University of South Florida.

B71 **526.4** Detecting Released Peptidoglycan Associated Lipoprotein (PAL) from *Escherichia coli*. **E. Snyder, M. Zavorin, K. Farquaharson, N. Panullo, M. Pichichero, J. Hellman, L.V. Michel.** Rochester Institute of Technology, Rochester General Hospital Research Institute, University of California and San Francisco.

B72 **526.5** A Structural Role for the C-Terminal Conserved LSA Motifs in *Arabidopsis* LARP6 Proteins. **C. Toner, L. Chovanec, C. Foster, J. Foster, C. Otte-Petrill, F. Betancourt, E. Billey, C. Bousquet-Antonelli, K. Lewis.** Texas State University, Institut de Biosciences et Biotechnologies de Grenoble, France and University of Perpignan, France.

B73 **526.6** Expression and Purification of the Antigen Binding Fragment of the Germline-Encoded Precursor to the Murine Anti-S1p Metalloantibody in the Baculovirus-Insect Cell System. **E. Farokhi.** San Diego State University.

B74 **526.7** Structural and Functional Large Substrate Binding in Iterative Non-Ribosomal Peptide Synthesis Independent Synthesis (NIS) Enzymes. **K.M. Hoffmann.** California Lutheran University.

B75 **526.8** Effect of Inhibiting Protein Conformational Changes by Introducing Disulfide Bonds in the Transmembrane Domains of the Hendra Virus Fusion Protein. **K.B. Slaughter, R. Dutch.** University of Kentucky.

B76 **526.9** Defining the Role of the L/I Zipper in the Stability of Paramyxo- and Pneumovirus F Proteins. **J.M. Branttie, S.R. Webb, R.E. Dutch.** University of Kentucky Molecular and Cellular Biochemistry.

B77 **526.10** Calcineurin Gene Subfunctionalization and Swimming Behavior in *Paramecium tetraurelia*. **M.M. Strange, A. Day, D. Fraga, J. Welker, R. Gaines, W. Barrin.** The College of Wooster.

B78 **526.11** Viperin: A Radical SAM-Dependent Approach in the Regulation of Farnesylpyrophosphate Synthase. **S. Ghosh, C. Makins, G.D. Román-Meléndez, P. Malec, R. Kennedy, E.N.G. Marsh.** University of Michigan

B79 **526.12** An Investigation on Collagen Production by Cells on Ligament Scaffolds. **J.L. Johnson, A. Guardia, K. Alismail, Y. Li, J. Zwiesler-Vollick.** Lawrence Technological University.

B80 **526.13** Determining the Effects of N-Terminal Acetylation on the Microtubule-Associated Protein Tau. **A. Lally, W. Holmes.** Rhode Island College.

B81 **526.14** Dynamic Equilibrium of eEF-2K and CaM as a Regulatory Logic Circuit: Investigations in MCF10A Cells. **K.N. Dalby, D.H. Giles, C.M. Crittenden, T.S. Kaoud, R. Ghose, J. Brodbelt.** The University of Texas at Austin and City College of New York.

B82 **526.15** Expression and Purification of Human Neuronal Pas Domain Protein 2 (hNPAS2). **K. Moriel, D. Xi, A. Sarabia, N. Chauhan, S. Ray, C. Xiao.** The University of Texas at El Paso and Mayo Clinic.

B84 **526.17** The Subcellular Distribution of the Human FIC Protein, HYPE/FICD, Using a High Resolution, Tomography Compatible Electron Microscopic Method. **S. Mattoo, R. Sengupta.** Purdue University.

B85 **526.18** Genome-Scale Reconstructions of the Mammalian Secretory Pathway Predict Metabolic Costs and Limitations of Protein Synthesis and Secretion. **N. Lewis.** University of California and San Diego.

B86 **526.19** The Iapp Toxicity on Rats, Raccoons and Degus in HeLa Cells. **C. Munoz.** Mount St. Mary's University.

B87 **526.20** Investigating Palmitoylation Sites on the Dopamine Transporter. **D.J. Stanislowski, R.A. Vaughan, J.D. Foster.** University of North Dakota.

B88 **526.21** NAD+ Bound N-Terminal Domain of CARDS Toxin Increases IL-1β Secretion. **A.T. Woods, J. Segovia, A. Galaleldeen.** St. Mary's University and The University of Texas Health Science Center.

B89 **526.22** Investigation of the Presence and Implications of S-Palmitoylation on Norepinephrine and Serotonin Transporters. **C.R. Brown, D.J. Stanislowski, J.D. Foster.** University of North Dakota.

B90 **526.23** Intrinsically Disordered Regions/Proteins Compensate for Genomic Economization in *Mycobacterium tuberculosis*. N.**Z. Ehtesham, J. Ahmad, A. Farhan, M. Khubaib, S. Kaur, R. Pancsa, A. Srinivasan, S. Kumar, M. Babu, S.E. Hasnain.** National Institute of Pathology, India, Centre for DNA Fingerprinting and Diagnostics, India, Medical Research Council Laboratory of Molecular Biology, United Kingdom, All India Institute of Medical Sciences, India and Jamia Hamdard Institute of Molecular Medicine, India.

B91 **526.24** Evidence for Direct Interaction Between RNA Polymerase and the Small Ribosomal Subunit. **G. Blaha, S. Diggs, A.B. Conn, P. Williams, Y. Wang.** University of California and Riverside.

B92 **526.25** High Throughput Discovery of Novel Regulators of Human Ribosome Biogenesis. **S.J. Baserga, K.I. Farley-Barnes, K. McCann, L. Ogawa, J. Merkel, Y. Surovtseva.** Yale University School of Medicine, Yale School of Medicine and National Institute of Environmental Health Sciences, National Institutes and Yale West Campus.

B93 **526.26** Translation Termination on mRNAs Lacking a Stop Codon. **F. Zeng, H. Jing.** University of Illinois at Urbana-Champaign.

B94 **526.27** The Polypeptide Exit Tunnel of the Ribosomal Large Subunit Requires Assembly Factors for Proper Construction and Function. **D. Wilson, A. LaPeruta, J. Woolford.** Carnegie Mellon University.

B95 **526.28** RPS10 Protein Contribution to Ribosomal mRNA Selectivity. **J.A. Bush, M. Ferretti, K. Karbstein.** Albion College and Scripps Research Institute.

B96 **526.29** USP21 and OTUD3 Antagonize Regulatory Ribosomal Ubiquitylation and Ribosome-Associated Quality Control Pathways. **D.M. Garshott, M. Leonard, E. Sundaramoorthy, E.J. Bennett.** University of California and San Diego.

B97 **526.30** Protection of the Queuosine Biosynthesis Enzyme QueF from Irreversible Oxidation by a Conserved Intramolecular Disulfide. **A. Mohammad, A.B. Ramos, B.W.K. Lee, S.W. Cohen, M.K. Kiani, D. Iwata-Reuyl, B. Stec, M.A. Swairjo.** Western University of Health Sciences, Portland State University and San Diego State University.

B98 **526.31** A Catalytic Null Splice Variant of Human Leucyl-tRNA Synthetase with Enhanced Non-Canonical Function. **C.M. Forsyth, M. Baymiller, S.A. Martinis.** University of Illinois at Urbana-Champaign.

B99 **526.32** Characterization of Pathogenic Mutations in Human Mitochondrial Alanyl-tRNA Synthetase. **J. Chihade, H. Kennicott, M. Jessica, S. Diaz de Leon, I. Donnell, J. Heath.** Carleton College.

B100 **526.33** Direct Route for Asparaginyl-tRNA Formation in *B. subtilis*. **R. Wales, K. Sheppard.** Skidmore College.

B101 **526.34** Anticodon-Binding Domain Mutations of the *Bacillus subtilis* Non-Discriminating Aspartyl-tRNA Synthetase to Increase tRNA Specificity. **K.C. Shi, K.C. Rasmussen, K. Sheppard.** Skidmore College.

B102 **526.35** Characterization of the Dual Pathways for *B. halodurans* Asparaginyl-tRNA Formation. **C.M. Schroeder, K. Sheppard.** Skidmore College.

B103 **526.36** The Effects of Peroxide Exposure on the Transfer RNA of Radiotrophic *C. neoformans*. **M. Kelley, R. Myers, M. Jora, B. Addepalli, P. Limbach.** University of Cincinnati.

B104 **526.37** Mutation W209R in Human D-Amino Acid Oxidase Protein. **G.L. Birdsong, A.L. Jonsson.** University of Wisconsin—Stevens Point.

B105 **526.38** Plasma Metalloproteinase-9 (MMP9) Changes in Acute Mild Traumatic Brain Injury (MTBI) and Correlates with Quantitative EEG. **E. Hubbard, J. Dawlaty, X. Arakaki, S. Cole, R. Goldweber, M. Harrington.** Huntington Medical Research Institutes and Huntington Memorial Hospital.

B106 **526.39** Investigating Carrier Domain Positioning During Catalytic Turnover in Pyruvate Carboxylase. **J. Hakala, M. St. Maurice.** Marquette University.

B107 **526.40** The Effect of Organophosphate (OP)-Induced Structural Changes in Acetylcholinesterase on Kinetics of OP Inhibition and Oxime Reactivation. **W. Yu, A. Kovalevsky, D.K. Blumenthal, X. Cheng, O. Gerlits, M. Fajer, K-Y. Ho, P. Taylor, Z. Radic.** University of California, San Diego, Oak Ridge National Laboratory, University of Utah, The Ohio State University and University of Tennessee.

B108 **526.41** A Nucleotide-Dependent Switch in Proteasome Assembly Mediated by the Nas6 Chaperone. **S. Park, F. Li, V. Sokolova.** University of Colorado Boulder.

B109 **526.42** Proteasomal ATPases Hard at Work: The Inner Workings of a Protein Destruction Machine. **A.M. Snoberger, D.M. Smith.** West Virginia University.

B110 **526.43** Relevance of the Non-Canonical Complex Formed by Proteasome Subunit α4. **D. Panfair, L. Hammack, B. Hopf, A.R. Kusmierczyk.** Indiana University—Purdue University Indianapolis.

B111 **526.44** Metacaspases of the Fungus *S. commune* Are Activated by Calcium and Specific for Arginine. **L. Leang, K.M. Fox.** Union College.

B112 **526.45** Functional Characterization of Glutamate Carboxypeptidase II: A Multifunctional Zn-Metalloprotease. K**.F. Holderby, H.E. Gamage, J.M. Derham, B.R. Greiner, J. Mendoza.** Eastern Illinois University.

B113 **526.46** Identification and Characterization of Serpin Genes in *Manduca sexta*. **M. Li, J. Christen, N. Dittmer, X. Cao, X. Zhang, H. Jiang, M. Kanost.** Kansas State University and Oklahoma State University.

B114 **526.47** Elucidation of a 2.3 Å Resolution Norovirus GII.4 Protease Structure by X-Ray Crystallography. **K.M. Muzzarelli, B. Kuiper, N. Spellmon, J. Brunzelle, J. Hackett, I. Kovari, Z. Yang, L. Kovari.** Wayne State University School of Medicine, Synchrotron Research Center and Northwestern University.

B115 **526.48** Kinetic Reaction Profile Analysis Using Clover-Ruby2 Fluorescent Fusion Protein Substrates as a Tool for Protease Characterization. **T.L. Selby, R. Fussell, F. Sultan, V. Mack.** Mercer University.

527. STRUCTURAL DYNAMICS OF ENZYMES

Poster

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 PM–1:00 PM
Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B116 **527.1** Conformational Fluctuations Related to Catalysis in Human Ribonuclease Superfamily. **K. Bafna, C. Narayanan, D. Bernard, N. Doucet, P. Agarwal.** University of Tennessee, Knoxville, INRS-Université du Québec, Canada and Oak Ridge National Laboratory.

B117 **527.2** Subunit Interactions in the FAD-Exchange Mechanism of Styrene Monooxygenase. **P. Chen, G. Gassner.** San Francisco State University.

B118 **527.3** Phe36 Plays a Key Role in the Fluorine Recognition of Fluoroacetyl-CoA Thioesterase FLK. **N. Wang, J.G. Pelton, M.C. Chang.** San Jose State University, University of California and Berkeley.

B119 **527.4** Evaluating the Catalytic Role of a Conserved Non-Active Site Residue in Triosphosphate Isomerase. **J.H. Park, T. Chang, J. Schwans.** California State University and Long Beach

B120 **527.5** Structural and Mechanistic Insights into the Doughnut-Shaped Lytic Transglycosylase from *Campylobacter jejuni*. F**. van den Akker, J. Vijayaraghavan, V. Kumar, N.P. Krishnan, R.T. Kaufhold, X. Xeng, J. Lin.** Case Western Reserve University and University of Tennessee.

B121 **527.6** The Evolution of Dynamic Amino Acid Interaction Networks Around the Catalytic Cycle of α Tryptophan Synthase. **D.D. Boehr, K.F. O'Rourke, R.N. D'Amico, D. Sahu.** Pennsylvania State University.

B122 **527.7** Dynamics of Organophosphate-Induced Structural Changes in Acetylcholinesterase Revealed by Time-Resolved Small-Angle X-Ray Scattering and Inelastic Neutron Scattering. **D.K. Blumenthal, A. Kovalevsky, O. Gerlits, M. Fajer, X. Cheng, P. Taylor, Z. Radić.** University of Utah, Oak Ridge National Laboratory, University of Tennessee, Schrödinger, LLC, The Ohio State University, University of California and San Diego.

B123 **527.8** Impact of Organophosphate (OP) Conjugation on Structure and Dynamics of Human Acetylcholinesterase. **M. Fajer, X. Cheng, A. Kovalevsky, O. Gerlits, D. Blumenthal, P. Taylor, Z. Radić.** Schrodinger LLP, The Ohio State University, Oak Ridge National Laboratory, University of Tennessee, University of Utah, University of California and San Diego.

B124 **527.9** Arachidonic Acid and Oxidation in the Myosin II Motor Domain. **K. Wong, D. Thomas, R. Moen.** Minnesota State University, Mankato and University of Minnesota.

B125 **527.10** Crystallographic Studies of Human Acetylcholinesterase Inhibition by Organophosphates and Reactivation by Oximes. **O. Gerlits, M. Fajer, X. Cheng, D. Blumenthal, P. Taylor, Z. Radic, A. Kovalevsky.** University of Tennessee, Knoxville, The Ohio State University, University of Utah, University of California, San Diego and Oak Ridge National Laboratory.

B126 **527.11** Allosteric Inhibitor of Erap1 Acts by Stabilizing a Closed Conformation. **Z. Maben, R. Arya, L. Stern.** University of Massachusetts Medical School.

B127 **527.12** The Java Based Computational Tool for Pairwise Comparison of Protein Backbone Folds in Liganded and Apo 3D Structures of the Alpha/Beta Hydrolase Fold Proteins. **Z. Zheng, J. Rohrer, Z. Radic.** University of California and San Diego.

B128 **527.13** Dynamics of L-Kynureninase Orthologs During Catalysis. **S. D'Arcy, C.S. Karamitros, E. Stone, G. Georgiou, K. Murray.** The University of Texas at Dallas and The University of Texas at Austin.

B129 **527.14** Evidence for Control of Metabolite Flux Through a Bacterial Heme Biosynthetic Pathway. **A.I. Celis, J. Choby, E. Skaar, J. DuBois.** Montana State University and Vanderbilt University Medical Center.

B130 **527.15** The Glucosome: A Metabolic Compartment for Glucose Metabolism in Living Cells. **M. Jeon, C. Kohnhorst, M. Kyoung, S. An.** University of Maryland and Baltimore County.

B131 **527.16** Modified HeLa Cells and *C.elegans* Multicellular Model as Unique Systems for the Study of Purinosome Formation. **V. Skopova, V. Baresova, O. Souckova, M. Krijt, M. Zikanova.** Department of Pediatrics and Adolescent Medicine, First Faculty of Medicine, Charles University, Czech Republic.

B132 **527.17** The Life and Times of a Carboxysome: Tracking a Single Protein Complex Over Multiple Generations. **N. Hill.** University of Colorado Boulder.

528. ENZYME REGULATION AND ALLOSTERISM

Poster

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 PM–1:00 PM
Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B133 **528.1** Dissecting the Molecular Basis of a Phenylketonuria-Causing Mutation in Phenylalanine Hydroxylase. **C.A. Khan, S.P. Meisburger, N. Ando, P.F. Fitzpatrick.** The University of Texas Health Science Center and Princeton University.

B134 **528.2** Evidence for Distinct Coa Binding Sites in Nudt19 and Nudt7, Two Mammalian Nudix Hydrolases That Degrade Coenzyme A. **S. Shumar, W. Geldenhuys, R. Leonardi.** West Virginia University

B135 **528.3** A Tetrameric β-amylase2 (BAM2) from *Arabidopsis thaliana*: Using Mutagenesis to Interrogate Its Structure, Sigmoidal Kinetics, and Requirement for KCl. **J. Breault, L. Pope, C. Berndsen, A. Storm, J. Monroe.** James Madison University and Western Carolina University.

B136 **528.4** Detecting Protein-Protein Interactions and Allosteric Regulation in the Corticosteroid Synthesis Pathway in Vertebrates. **S.N. Kreutzmann, C.N. Olson-Manning.** Augustana University.

B137 **528.5** Rationally Designed Mutations of *E. coli* Alkaline Phosphatase Confer Selective Purine Derivative Binding. **M.R. Malecha, T.M. Weaver, D.P. Grilley.** University of Wisconsin—La Crosse.

B138 **528.6** Membrane Allostery and Hydrophobic Binding Sites Control Substrate Specificity of Lipolytic Enzymes. **V.D. Mouchlis, J.A. McCammon, E.A. Dennis.** University of California and San Diego.

B139 **528.7** Exploring Subunit Communication of Malate Dehydrogenase Through Interface Point-Mutations. **M. Schwabe, S. Shania, N.M. Garcia, S. Graham, E. Bell.** University of San Diego.

B140 **528.8** Probing the Role of the Interface on Activity and Regulation of Gmdh. **N.M. Garcia, M. Schwabe, S. Graham, E. Bell.** University of San Diego.

B141 **528.9** A High-Throughput Assay to Measure Phosphoenolpyruvate Carboxykinase. **S. Li, K. Cheung, G. Tchaga, G. Yuan, J. Xu.** BioVision Inc.

B142 **528.10** Evolution of Caspase Allostery and Enzyme Specificity. **C. Clark, R. Grinshpon, M.E. Thomas III, L. Yao, S. Shrestha.** The University of Texas at Arlington and North Carolina State University.

B143 **528.11** Protease-Protease Interactions as a Microenvironment-Dependent Regulatory Mechanism. **C.A. Kieslich, W.A. Shockey, M.O. Platt.** Georgia Institute of Technology.

B144 **528.12** Regulation of Tetrahydrobiopterin (Bh4) Synthesis in the Nematode *C. elegans*. **T. Moreno, C. Loer.** University of San Diego.

B145 **528.13** Introducing Allosteric Regulation into Homing Endonucleases via Tryptophan Modification. **S. Danon, B.K. Kaiser.** Seattle University.

B146 **528.14** The Mechanism Underlying a Unique Response to Acetyl CoA Activation in Eukaryotic Pyruvate Carboxylase from *Aspergillus nidulans*. **Y. Liu, A. Lietzan, J. Galatowitsch, M. St. Maurice.** Marquette University.

B147 **528.15** Dissecting the Function of IAP (Inhibitor of Apoptosis) Protein Domains in Inhibiting an Apoptotic Caspase. **M.B. Storm, M. Junker.** Kutztown University.

529. CYTOCHROME P450

Poster

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
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Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B148 **529.1** Genotype and Phenotype of Caffeine Metabolism in Identical Twins. **T. Passang, J. Ye, G.M. Kline, J.T. Millard.** Colby College.

B149 **529.2** The Cytochrome P450 24A1 Interaction with Adrenodoxin Modulates Substrate Binding and Relies on Species-Variable Recognition Sites. **D.F. Estrada.** University at Buffalo and State University of New York.

B150 **529.3** Demonstration of the Contributions of Pulmonary CYPs to Naphthalene-Induced Airway Toxicity Using Lung-*Cpr*-Null Mice. **N. Kovalchuk, Q-Y. Zhang, L. Van Winkle, X. Ding.** University at Albany, State University of New York, The University of Arizona, University of California and Davis.

B151 **529.4** Comparative Analysis of Bacterial Cytochromes P450 Involved in the Biosynthesis of 16-Membered Ring Macrolide Antibiotics. **M.D. DeMars, S. Yang, F. Sheng, N.L. Samora, S.R. Park, A.N. Lowell, K.N. Houk, L.M. Podust, D.H. Sherman.** University of Michigan, University of California, Los Angeles, University of California and San Diego.

B152 **529.5** Omega-Hydroxylase Gene Family Contribution to Acetate Levels in Fasting and Starvation. **P.J. Rote, N. Edwards, P. Kang, Y-K. Lee, J.P. Hardwick.** National Cancer Institute, National Institutes of Health and Northeast Ohio Medical University.

B153 **529.6** Mechanistic Role of Cytochrome P450 1B1 in Hyperoxic Lung Injury. **A. Veith, W. Jiang, G. Gastelum, L. Wang, B. Moorthy.** Baylor College of Medicine.

B154 **529.7** Effect of Genotype on the Ergogenic Effects of Caffeine in Collegiate Nordic Skiers. **Y. Zhang, J.T. Millard.** Colby College.

B155 **529.8** Utilization of Artificial Intelligence to Develop a QSAR Model for Predicting P450 Mediated Metabolic Stability. **E. Gonzalez, P. Shah, A. Zakharov, D-T. Nguyen, N. Torimoto-Katori, S. Sakamuru, M. Xia, T. Zhao, R.S. Obach, C. Hop, A. Simeonov, X. Xu.** National Center for Advancing Translational Sciences, National Institutes of Health, Pfizer Inc. and Genentech Inc.

B156 **529.9** Modeling Metabolism of the Synthetic Cannabinoids BAY 59-3074 and JWH-015 by Human Liver Microsomes and Cytochrome. P450 **O.A. Vanderpuye, A. Lampkin, C. Dunn, A. Bailey.** Albany State University.

530. CHEMICAL BIOLOGY, DRUG DISCOVERY AND BIOANALYTICAL METHODS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B157 **530.1** Highly Sensitive and Selective Determination of Redox States of Coenzymes Q_9 and Q_{10} in Mice Tissues: Application of HR/AM Orbitrap Mass Spectrometry. **S. Tiziani.** Dell Pediatric Research Institute and The University of Texas at Austin.

B158 **530.2** Identification and Characterization of Bioactive Cyclotides in *Viola odorata* Using PepSAVI-MS. **N.C. Parsley, C.L. Kirkpatrick, L.M. Hicks.** University of North Carolina at Chapel Hill.

B159 **530.3** Engineering Yeast Endosymbionts as a First Step Towards Laboratory Evolution of Mitochondria. **A. Mehta, L. Supekova, F. Supek, P. Schultz.** Scripps Research Institute and The Genomics Institute of the Novartis Research Foundation.

B160 **530.4** Utility of AMP Detection System for Monitoring the Activities of Diverse Enzyme Reactions. **S. Goueli, K. Hsiao, S. Mondal.** Promega Corporation.

B161 **530.5** Synthesis of Tetradentate Metal Schiff Base Complexes Towards the Synthesis of Novel Antimicrobials. **G.J. Guimaraes, M.J. Wolyniak, N.P. Deifel.** Hampden-Sydney College.

B162 **530.6** Directed Evolution of an Adenylation Domain Specificity Code. **V. Vinnik, K. Throckmorton, T.B. Cook, B.F. Pfleger, M.G. Thomas.** University of Wisconsin—Madison.

B163 **530.7** Fluorogenic Structure Activity Library Pinpoints Molecular Variations in the Substrate Specificity of Structurally Homologous Esterases. **R.J. Johnson, A. White, A. Koelper, A. Russell, E. Larsen, G. Hoops.** Butler University.

B164 **530.8** Validation of CDC42 Inhibition as the Mechanism of Action of the Anti-Metastatic Drug MBQ-167, Using Budding Yeast as a Model System. **M.J. Rivera-Robles, J. Medina-Velázquez, G. Asencio-Torres, S. González-Crespo, B.C. Rymond, J.R. Rodríguez-Medina, S. Dharmawardhane.** University of Puerto Rico, School of Medicine, University of Puerto Rico, College of Natural Sciences and University of Kentucky.

B165 **530.9** Identification of Microprotein-Protein Interactions via Apex Tagging. **Q. Chu, A. Rathore, J.K. Diedrich, C.J. Donaldson, J.R. Yates, A. Saghatelian.** The Salk Institute for Biological Studies and Scripps Research Institute.

B166 **530.10** Mitochondria-Targeting Peptide from *Hibiscus sabdariffa*. **S. Loo, A. Kam, J.P. Tam.** Nanyang Technological University, Singapore.

B167 **530.11** Endosomal Escape of ASOs Internalized by Stabilin Receptors Is Regulated by Rab5C and EEA1. **C. Miller, E.N. Harris, P.P. Seth.** University of Nebraska-Lincoln and Ionis Pharmaceuticals Inc.

B168 **530.12** High-Throughput Carbonic Anhydrase Activity and Inhibitor Screening Assays. **S. Hazra, G. Tchaga, G.J. Yan.** BioVision Inc.

B169 **530.13** Identification of Host-Microbiota Signaling Molecules with High-Resolution Metabolomics. **K. Liu, B. Saeedi, T. Darby, T. Ganesh, R. Jones, A. Neish, D.P. Jones.** Emory University.

B170 **530.14** Peroxisome Proliferator Activated Receptor Gamma (PPARγ) Activation by Enterolactone Enhances Endoplasmic Reticulum Stress to Sensitize Anti-Cancer Agents. **S.F. De Silva, X. Yang, J. Alcorn.** University of Saskatchewan, Canada.

B171 **530.15** Chemical Tools for Engineering Glycan Interactions at the Stem Cell-Matrix Interface to Promote Germ Layer Specification. **K. Godula.** University of California and San Diego.

B172 **530.16** Determination of Transcriptional Changes Induced by an Ovarian Cancer Targeting Peptide. **L. Weintraub, J. Rudy, S. Hum-Musser, R. Musser, M. Soendergaard.** Western Illinois University.

B173 **530.17** Development of a Molecular Probe Targeting Mitochondrial Fission Protein FIS1. **J.M. Egner, D.R. Jensen, M.D. Olp, B.F. Volkman, F.C. Peterson, B.C. Smith, M.E. Widlansky, R.B. Hill.** Medical College of Wisconsin.

B174 **530.18** Discovery of Vascular Endothelial Growth Factor Receptor-2 (VEGFR-2) Inhibitors by Ligand-Based Virtual High Throughput Screening. **S. Chelliah, C.D. Mock, O.P. Mathew, K. Ranganna.** Texas Southern University.

B175 **530.19** Expanding the Druggable Proteome: Ligand and Target Discovery by Fragment-Based Screening in Cells. **C.G. Parker.** Scripps Research Institute.

B176 **530.20** Development of a Microscopic Method to Diagnose Hemoglobin C Conditions for Use in Developing Countries. **K.L. Schmidt, T.R. Ranolph.** Saint Louis University.

B177 **530.21** The Synthesis and Biochemical Use of N-Hydroxyl-N-(5-Aminopentyl)Succinamic Acid (HSC) by the Enzyme FSLA. **J. Nguyen, K. Hoffmann.** California Lutheran University.

B178 **530.22** What Is the Origin of Partial Agonist Activity of CBt-PMN for hRXRα? **K. Shimizu, Y. Miyashita, N. Matsuo, Y. Yamamoto, S. Nakano, S. Ito, N. Numoto, T. Ikura, N. Ito, H. Kakuta, H. Tokiwa.** Rikkyo University, Japan, University of Shizuoka, Japan, Tokyo Medical and Dental University, Japan and Okayama University Graduate School of Medicine, Japan.

B179 **530.23** Ligand Gated Split Lysine Acetyl Transferases (KATs) and Kinases. **C.S. de Silva, J. Castillo-Montoya, E. Restituyo, I. Ghosh.** University of Arizona.

B180 **530.24** NMR Analysis of Divalent Magnesium Ions with ATP, ADP, AMP, and PP_i in Various Buffer Systems. **J. Donels, B. Greenwood, C. Zea.** Grand View University.

B181 **530.25** Characterization of the Secondary Structure and Protein Binding Affinity of an Intramolecular DNA Four-Way Junction. **A. Smith, Y. Kebede, G. Moorhead, R. Huang, A.J. Bell; Jr.** University of San Diego.

B182 **530.26** Evaluation of the Nuclease Resistance of DNA Four-Way Junctions. **G. Moorhead, R. Huang, Y. Kebede, A. Smith, L. Estevez, M. Troisi, A.J. Bell; Jr.** University of San Diego.

B183 **530.27** Extraction and Separation of Collagen on SDS PAGE to Determine Effect of Whitening Strips on Teeth. **D. Mariche-Banos, P. Rotsides, K. Keenan.** Stockton University.

B184 **530.28** Measurement of Protein and Collagen in Teeth Before and After Whitening Strips. **J. Tadros, N. Giunta, K. Keenan.** Stockton University.

B185 **530.29** Cleaving Glutathione S-Transferase from a B-Cell Receptor Protein to Improve Interactions as Seen in EMSAs. **A. Egbuchulam, M. Lares.** Sonoma State University.

B186 **530.30** DNA-Binding Peptide Dendrimer for Efficient and Selective Intracellular Delivery. **A. Kam, C.T.T. Wong, S. Loo, J.P. Tam.** Nanyang Technological University, Singapore and The Chinese University of Hong Kong, Hong Kong.

B187 **530.31** Searching Protease Inhibitors by a Phage Display Kunitz-Type Library. **G.F. da Silva, M.D.L.B. Magalhães, J.C. de Moraes, L.M.S. Echeverri.** Universidade do Estado de Santa Catarina, Brazil.

B188 **530.32** Optimization of Extraction and Isolation of Proteins from Eggshells. **R. Richter, E.J. Lee, J.E. Grant.** University of Wisconsin—Stout.

B189 **530.33** Light Triggered Isoelectric Point and Solubility Shifts Applied to Photoactivated Insulin Depots. **K. Nadendla, S.H. Friedman.** University of Missouri—Kansas City.

B190 **530.34** Developing an Efficient Method for the Incorporation of a Series of Fluorotyrosines in Peptides via Solid Phase Peptide Synthesis. **N. Chau, A. Colla, J. Schwans.** California State University and Long Beach.

531. DRUG SCREENING AND DEVELOPMENT

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B191 **531.1** A Kinetic Assay for Non-Automated Drug Screening. **G.C. Zem, A. Chimayan, V. Aleksanyan, J. Gordon, F. Gomez, A. Seyedroudbari, J. Chang, T. Botello, N. Tan, D. Arefin, D. Tobar, A. Khachekian, L. Gama, E. Durodola, J. Batty, C. Plascencia, L. Barillas, A. Roverud, S. Kreuz, L. Sarkisyan, F. Lee, J. Munoz, L. Reque, V. Abed, L. Kinog, S.B. Oppenheimer.** California State University and Northridge.

B192 **531.2** Blocking Protein Myristoylation Inhibits Prostate Cancer Progression. **H. Cai, S. Kim, O.A. Alsaidan.** University of Georgia.

B193 **531.3** Towards the Identification of the Minimal Pharmacophore of KDT-11. **J. McCartney, P. Dickson, T. Kodadek.** North Central College and Scripps Research Institute.

B194 **531.4** Monitoring Immune Cells-Mediated Cytolysis Through Impedance Technology Allows Kinetic Analysis of Reagent Efficacy. **F. Cerignoli, B. Xi, G. Guenther, L. Muir, B. Lamarche, Y. Abassi.** ACEA Biosciences Inc.

B195 **531.5** Nickel Catalyzed Cross Couplings of Amino Acids and Peptide Derivatives via C-N Bond Activation. **E.M.O. Bampo, M. Watson, M. Hoerrner, K. Baker, C. Basch.** University of Delaware.

B196 **531.6** In-Vitro Compositional Investigations of Antioxidant, Phytochemicals, Nutritional and Minerals in the Fruit of *Kigelia africana* (Lam.) Benth. **O.A. Oseni.** Ekiti State University, Nigeria.

B197 **531.7** Discovery of Novel Glucose-6-Phosphate Dehydrogenase Activators to Correct G6PD Deficiency. **S. Hwang.** Stanford University.

B198 **531.8** Synthesis of Aspirin Analogs for Anticancer and Antibacterial Testing. **M.A. Sleda, H.K. Albasrawi, S.C. Timmons.** Lawrence Technological University.

B199 **531.9** *In Silico* Identified Inhibitors of ABC Transporters Increase Chemotherapy Efficacy in Multidrug Resistant Cancer Cell Culture Models. **A.K. Nanayakkara, M. Aljowni, G. Chen, N.S. Williams, A.R. Lippert, P.D. Vogel, J.G. Wise.** Southern Methodist University and The University of Texas Southwestern Medical Center.

B200 **531.10** Novel Inhibitors of P-Glycoprotein from *in Silico* Optimizations of Inhibitor SMU-29 Using the *Chemgen* Program. **L.E. Ammerman, A.K. Nanayakkara, M. Aljowni, A.R. Lippert, P.D. Vogel, J.G. Wise.** Southern Methodist University.

B201 **531.11** Mechanistic Studies of Drug-Like Inhibitors of P-Glycoprotein Using ATPase Assays, Electron Spin Resonance Spectroscopy and Cancer Cell Models. **G. Chen, J. Ballou-Crawford, M. Aljowni, A. Lippert, J.G. Wise, P.D. Vogel.** Southern Methodist University.

B202 **531.12** Reconstitution of P-Glycoprotein in Nanodiscs Using the MSP1D1 Scaffold Protein for Biochemical Inhibitor Screens. **J.J. Ballou-Crawford, G. Chen, M.C. Oliveira, J.G. Wise, P.D. Vogel.** Southern Methodist University.

B203 **531.13** Pentachloropseudilin Inhibits TGF-β Signaling by Promoting TGF-β Type II Receptor Degradation via Non-Raft Internalisation. **C-L. Chung.** Department of Biological Sciences and National Sun Yat-sen University, Taiwan.

B204 **531.14** Sorafenib Supresses TGF-β Responsiveness by Promoting TGF-β Type II Receptor Degradation. **S-W. Wang.** Department of Biological Sciences and National Sun Yat-sen University, Taiwan.

B205 **531.15** Optimization of Breast Cancer Resistance Protein (BCRP) Expression in the Yeast *Pichia pastoris*. M.**C. Oliveira, C.A. Lavigne, B.M. Tran, M.E. Fowler, D.D.D. Okwuone, R. Farokhnia, J.G. Wise, P.D. Vogel.** Southern Methodist University.

B206 **531.16** Strategies for Cloning and Expression of a Codon-Optimized Human P-Glycoprotein (MDR1) in the Yeast *Pichia pastoris*. **B.M. Tran, M.C. Oliveira, D.D.D. Okwuone, R. Farokhnia, M.E. Fowler, J.G. Wise, P.D. Vogel.** Southern Methodist University.

B207 **531.17** Screening of *in Silico* Identified Inhibitors of Breast Cancer Resistance Protein (BCRP) Transporter in BCRP-Overexpressing MCF-7 M100 Cancer Cells. **B.A. Bequeaith, A.K. Nanayakkara, P.D. Vogel, J.G. Wise.** Southern Methodist University.

B208 **531.18** Discovery of a New Class of RIP1/RIP3 Dual Inhibitors with Anti-Cell Death and Anti-Inflammatory Properties. **T. Zhou, Q. Wang, N. Phan, J. Ren, B. Liu.** University of Wisconsin—Madison and Harvard Medical School.

B209 **531.19** Expression of ABC Transporters in Multidrug Resistant Cancer Cell Lines. **K.L. Holcomb-Webb, A.K. Nanayakkara, M. Aljowni, A.R. Lippert, P.D. Vogel, J.G. Wise.** Southern Methodist University.

B210 **531.20** Hepatocyte Growth Factor Receptor (HGFR) as a Potential Lung Cancer Target. **H. Ahmed, R. Skouta.** The University of Texas at El Paso.

B211 **531.21** Setting All-Carbon Quaternary Stereocenters with Stereospecific, Nickel-Catalyzed Cross Couplings. **A.D. Duke, S.M. Pound, J. Xu, C.H. Basch, M.E. Hoerrner, E.M. Bampo, M.P. Watson.** The University of Delaware.

B212 **531.22** Retinoblastoma-Derived Peptides Directly Inhibit the CMG Helicase and Impair Proliferation of Cancer Cells. **A.J. Larratta, S. Borysov.** Saint Leo University.

B213 **531.23** Effects of Purified Plant Extracts and Homologous Commercial Derivatives on *Entamoeba histolytica* Growth. **S. Hunt, Y. Santos, N. Seeram, D. Rowley, H. Ma, A. Espinsosa.** Roger Williams University and University of Rhode Island.

B214 **531.24** Structure-Based Drug Design Targeting the Malty Sweet *Mycobacterium tuberculosis* GlgE. **C. Petit, S. Kapil, S.K. Veleti, J. Lindenberger, S.J. Sucheck, D.R. Ronning.** The University of Toledo and The Ohio State University.

B215 **531.25** Cytotoxic and Genotoxic Assessment of Some Anti-Tumour Plants from Southwest Nigeria in Cervical Cancer (HeLa) Cell Line. **O. Adebesin, B. James, O. Magbagbeola, S. Omilabu.** University of Lagos, Nigeria, College of Medicine and University of Lagos, Nigeria.

532. GENOMICS

Poster

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

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Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B216 **532.1** Exon Sequencing for the Presence of Late Onset Tay-Sachs. **J.N. Slostad, J. Goldberg.** Hamline University.

B217 **532.2** Development of a Single Reaction PCR Genotyping Assay for Two Separate Gene Loci in Mice. **E.M. Matson, N. Dillman, S.J. DeBus, C.L. Cadieux.** U.S. Army Medical Research Institute of Chemical Defense.

B218 **532.3** Improved RNA-Modification Mapping Through Employment of Novel Ribonucleases and Lc-Ms. **P. Thakur, P.A. Limbach, B. Addepalli.** University of Cincinnati.

B219 **532.4** Population Genetics of *Scaevola* on Culebra, Puerto Rico. **L. Hodkinson, S. Witherup.** Ithaca College.

B220 **532.5** Genomics of Physiological Adaptations of Two Milkweed Species (*Asclepias*) in Their Hybrid Zone. **A.G.A. Selberg, C. Olson-Manning.** Augustana University.

B221 **532.6** Assessing a Loss of Function Mutation in the *Nod2* Gene in Puerto Rico. **Y. Acevedo-Sanchez, J.C. Martínez-Cruzado.** University of Puerto Rico at Mayaguez.

B222 **532.7** Localized Single Transcript Detection of EML4-ALK in NSCLC Using Co-Localization Quantum Dot Fluorescent in Situ Hybridization (Coqfish). **N. Huang, Y. Jiang, S. Zhong.** University of California and San Diego.

B223 **532.8** Investigating Copy Number Variations in Amyotrophic Lateral Sclerosis-Causing Genes as a Rare Cause of Disease. **A.N. Vélez, J. Lowry, C. Dalton, Z. Charmchi, T. Siddique.** Universidad de Puerto Rico, Rio Piedras Campus, United States Minor Outlying Islands, Feinberg School of Medicine, Northwestern University and Northwestern University.

B224 **532.9** The Frequency of *Chek2* Variant P.Ile157Thr in Men with Prostate Cancer: Towards Expanded Genetic Testing. **N.G. Agubokwu, V.N. Giri.** The Lincoln University of Pennsylvania and Thomas Jefferson University.

B225 **532.10** Grapes: A Versatile Tool for Analyzing Structural Variation from Whole-Genome and Targeted DNA Sequencing Data. **B. del Olmo, J. Matés, I. Mademont-Soler, A. Pérez-Serra, M. Coll, C. Allegue, M. Puigmulé, I.d.O. Garcia-Bassets, V. Pascali, A. Oliva, R. Brugada.** University of San Diego, Cardiovascular Genetics Center, University of Girona-IDIBGI, Spain and Università Cattolica del Sacro Cuore, Italy.

B226 **532.11** Systems Genetics Analysis of Arrhythmogenic Cardiomyopathy Induced by P.s368l Mutation in Transmembrane Protein 43. **U. Munkhsaikhsan, R. Hiltenbrand, Z. Khuchua, L. Lu, J.A. Towbin, E. Purevjav.** University of Tennessee Health Science Center, Cincinnati Children's Hospital Medical Center, Department of Genetics, Genomics and Informatics, University of Tennessee Health Science Center, Pediatrics Cardiology and St. Jude Children's Research Hospital.

B227 **532.12** Comparative Genomics and Gene Annotation of a Region of *Drosophila eugracilis* Chromosome 4. **A. Gayle, M. Van Stry.** Lane College.

B228 **532.13** Annotation of Genes on Contig 31 of the *Drosophila eugracilis* Chromosome 4. **J. Hobson, M. Van Stry.** Lane College.

B229 **532.14** Genetic and Bioinformatic Analysis of *Streptomyces* Bacteriophage Cluster BF. **T. McClendon-Mosss, L. Hughes.** University of North Texas.

B230 **532.15** Using a High Resolution Melt Curve Assay to Examine the Single Nucleotide Polymorphisms of the *HFE* gene. **M.K. Ehrke, J. Zwiesler-Vollick.** Lawrence Technological University.

B231 **532.16** Improving the Theranostics of Mendelian Diseases: From Ad Hoc to Evidence-Based Tailored Thresholds. **D. Simcikova, P. Heneberg.** Third Faculty of Medicine and Charles University, Czech Republic.

533. SIGNAL TRANSDUCTION AND CELLULAR REGULATION

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
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B232 **533.1** C-Reactive Protein Binds to Integrin α2 and Fcγ Receptor I, Leading to Breast Cell Adhesion and Breast Cancer Progression. **A. Moon, E-S. Kim, S.Y. Kim, M. Koh, H-M. Lee, K. Kim, J. Jung, H.S. Kim, W.K. Moon, S. Hwang.** Duksung Women's University, Republic of Korea, Seoul National University Hospital, Republic of Korea and Hanyang University, Republic of Korea.

B233 **533.2** FXR Inhibits NLRP3 Inflammasome Activation by ER Stress. **A. Kim, C.Y. Han, H.S. Rho, T.H. Kim, S.G. Kim.** Seoul National University, Republic of Korea and Wonkwang University, Republic of Korea.

B234 **533.3** Ligand-Mediated Mitochondrial Translocation of the Transforming Growth Factor-β Type I Receptor and Hexokinase 2. **J-H. Kang, M-Y. Jung, X. Yin, M. Andrianifahanana, M. Choudhury, E.B. Leof.** Mayo Clinic and Mayo Clinic College of Medicine.

B235 **533.4** PGC-1α, a Novel Substrate for Protein Arginine Methyltransferase 7? **J. Cuala, I. Osuji, C. Zurita-Lopez.** California State University and Los Angeles.

B236 **533.5** IQGAP Proteins Do Not Regulate Mitogen-Activated Protein Kinase (MAPK) Signaling Through Direct Interaction with Ras. **C.J. Morgan, Z. Li, A.C. Hedman, D.B. Sacks.** National Institutes of Health.

B237 **533.6** Bystander Effects in the Cellular Radiation Response. **S. Diegeler, C. Baumstark-Khan, J. Jordan, C.E. Hellweg.** German Aerospace Center (DLR) and Institute of Aerospace Medicine, Germany.

B238 **533.7** Expression Is Required for Time Phase-Specific LPS-Stimulated TNFα and IL-10 Expression in RAW 264.7 Macrophages. **M. Reynoso, R.W. Matheny, A.Y. Mitrophanov, S. Hobbs.** U.S. Army Research Institute of Environmental Medicine, U.S. Department of Defense Biotechnology High Performance Computing Software Applications Institute and

B239 **533.8** Tumor Endothelial Marker 1 (TEM1/endosialin/CD248) Enhances Wound Healing Process by Cooperation with Platelet-Derived Growth Factor (PDGF) Receptor. **Y-K. Hong.** National Cheng Kung University, Taiwan.

B240 **533.9** Role of *crbn* in Molecular and Cellular Mechanism of AMPK Inhibition. **K.M. Lee, S-J. Yang, C-S. Park.** Korea Food Research Institute, Republic of Korea and Gwangju Institute of Science and Technology, Republic of Korea.

B241 **533.10** Purinergic Signaling Controls Fibroblast Growth Factor-21 Expression in Skeletal Muscle Through Akt/mTOR Pathway. **M. Arias-Calderón, C. Morales, W. Vasquez, N. Hernández, E. Jaimovich, S. Buvinic.** Universidad de Chile, Chile.

B242 **533.11** Caveolin-1 Phosphorylation Is Essential for iPSC-Derived Human Neuronal Axonal Growth During Early Stage of Differentiation. **S. Wang, Z. Zhang, J. Leem, H. Patel, B. Head.** University of California and San Diego.

B243 **533.12** Protein-Protein Interaction Prediction Yields WNK-SPAK/OSR1 Pathway as Regulator of Kir2.1 and Kir2.3 K^+ Channels. **C.A. Taylor IV, S-W. An, S.G. Kankanamalage, C-L. Huang, M.H. Cobb.** The University of Texas Southwestern Medical Center and University of Iowa Carver College of Medicine.

B244 **533.13** PY489-β-Catenin Phosphorylation Involved in the Intestinal Regeneration of the Sea Cucumber *h. Glaberrima*. **V. Torres-Gutierrez, S.A. Bello, J.E. García-Arrarás.** Universidad de Puerto Rico and Rio Piedras Campus, Puerto Rico.

B245 **533.14** Functional Role of MYC Transcript as Active Player in the Canonical Wnt Pathway During Intestinal Regeneration. **M. Alicea-Delgado, J.E. Garcia Arraras.** University of Puerto Rico, Rio Piedras Campus, Puerto Rico, Universidad de Puerto Rico and Rio Piedras Campus , Puerto Rico.

B246 **533.15** HDAC7 in MLCP-Mediated Endothelial Barrier Preservation. **A. Kovacs-Kasa, R. Batori, L. Kovacs, Y. Su, A.D. Verin.** Augusta University.

B247 **533.16** C-Jun N-Terminal Kinase ($JNK_{\beta 1}$) Binds eNOS and Phosphorylates at S116, Differentiating It from p38 and ERK Phosphorylation. **X.K. Solone, A.L. Caldara, J.L. McMurry, C. Chrestensen.** Kennesaw State University and Emory University.

B248 **533.17** Induction of Gap Junctional Coupling by Secreted Factor(s) from Mesothelial Cells Is Required for the Invasiveness of Endometriosis. **B.J. Nicholson, J.B. Chavez, E.K. Dorsey, T. Olivas, C-M. Wang, N. Lucio, L. Gillette, R.O. Burney, N. Kirma.** The University of Texas Health Science Center at San Antonio and Madigan Army Medical Center.

B249 **533.18** Temporal Control of Growth Factor-Mediated Signaling Pathways During Cell Differentiation and *Xenopus* Embryonic Development. **P. Mondal, V.V. Krishnamurthy, J. Khamo, S. Sharum, K. Zhang.** University of Illinois at Urbana-Champaign.

B250 **533.19** ANXA5 Suppresses COX-2 Expression by Downregulating the PKC-ζ–NF-κB Signaling Pathway in Prostate Cancer Cells. **H.S. Baek, Y-J. Kwon, D-J. Ye, Y-J. Chun.** Chung-Ang University, Republic of Korea.

B251 **533.20** Wnt16 Regulates Chondrocyte Differentiation Through Wnt/Planar Cell Polarity (PCP) Pathway. **Y. Zeng, W. Yueng, K.L. Mak, H. Zhao.** The Chinese University of Hong Kong, Hong Kong.

B252 **533.21** Tannic Acid Downregulates Angiotensin Type 1 Receptor in Aortic Smooth Muscle Cells Through eGFR Dependent Phosphoinositide 3-Kinase Pathway. **L. Iyer, Y. Zhang, T. Thekkumkara.** Texas Tech University Health Sciences Center School of Pharmacy.

B253 **533.22** DDX3 Induces Neural Crest Through Activation of an Akt-Wnt Signaling Axis. **M. Perfetto, J. Li, S. Wei.** University of Delaware and Kunming University of Science and Technology, People's Republic of China.

B254 **533.23** Vitamin D and Cam Kinase Phosphatase Mediate Breast Cancer Proliferation. **Q.B. Morrow, J.M. Schmitt.** George Fox University.

B255 **533.24** Calcium Control of MDM2 in Breast Cancer Cells. **G.H.N. Nguyen, J.M. Schmitt.** George Fox University.

B256 **533.25** Transient Receptor Potential Vanilloid 4 Channel Regulates TGFβ1-Mediated Fibroblast Differentiation and Airway Remodeling Through Rac/NADPH Oxidase 4 Axis. **S. Ghebreigziabher, N. Al-Azzam, M. Snyderman, C. Thodeti, S. Paruchuri.** University of Akron and Northeast Ohio Medical University.

B257 **533.26** New Assays Reveal Opposing Effects of 17B-Estradiol in the Presence and Absence of Ovaries on the Cardiac Network of Calmodulin-Binding Proteins. **J.H. Patton, K.N. Kaster, B. Gebert-Oberle, S. Clayton, J. Giles, Q-K. Tran.** Des Moines University.

B258 **533.27** Plasma Membrane PI(4,5)P2 Threshold Regulates Chemotactic Signaling Pathways and Cell Morphology. **N. Bawazir, M. Beshay, A. Ring, C. Janetopoulos.** University of the Sciences.

B259 **533.28** Evolution of TLR Signaling: A Sea Anemone Model Has a Single Toll-Like Receptor with Roles in Pathogen Detection, NF-κB Signal Transduction, and Development. **J.L. Messerschmidt, J.J. Brennan, T.D. Gilmore.** Boston University.

B260 **533.29** Disruption of a Short Open Reading Frame (SORF) in the mRNA 5' Leader Sequence (5'LS) of the Type 1 Angiotensin Receptor (AT_1R) Increases Angiotensin II (Ang II)-Induced AT_1R Internalization and Signaling Through the Extracellular Signal-Regulated Kinases (ERK1/2) Pathway. **P. Kadam, H. Ji, A.V. Pai, R. Speth, S. Mueller, K. Sandberg.** Georgetown University and Nova Southeastern University.

B261 **533.30** Cell Cycle Regulation and Hypoxic Adaptation in the Pathogenic Yeast *Cryptococcus neoformans*. **S. Kawamoto, Z. Moranova, E. Virtudazo, M. Ohusu, V. Raclavsky.** Chiba University Medical Mycology Research Center, Japan and Palacky University, Czech Republic.

B262 **533.31** Pseudophosphatase MK-STYX Regulates Neurite Outgrowth and Alters the Morphology of Primary Neurons. **S.D. Hinton, D. Banks, A. Dahal, A. McFarland, B. Flowers, C. Stephens, B. Swack, A. Gugssa, W. Anderson.** College of William and Mary and Howard University

B263 **533.32** Intact Cell Assay to Measure Agonist- and GRK2-Dependent Phosphorylation of the α_{2a}-Adrenergic Receptor. **Z. Farina, A-M. Hebert, E. Weldin, M. Varney, R. Sterne-Marr.** Siena College.

B264 **533.33** CYP1B1 Induces Tumorigenic Metastasis Through Promotion of Upar and Subsequently Activation of Upar Signaling via Regulation of MDM2-uPAR System. **Y-J. Kwon, D-J. Ye, H-S. Baek, Y-J. Chun.** Chung-Ang University, Republic of Korea.

B265 **533.34** Steroid Sulfatase Activates the Integrin Signaling Pathway in Human Cervical Cancer Cells. **D-J. Ye, Y-J. Kwon, H-S. Baek, Y-J. Chun.** Chung-Ang University, Republic of Korea.

B266 **533.35** GPR56/ADGRG1 Activation Induces IL-6 Production in Melanoma Cell via the $G\alpha_{12/13}$-RhoA-ROCK Pathway. **K-Y. Huang, N-Y. Chiang, H-H. Lin.** Chang Gung Christian University, Taiwan.

B267 **533.36** Blue Light-Excited Retinal Delocalizes Plasma Membrane Bound PIP2 and Triggers Stress Responses Challenging the Cellular Integrity. **K. Ratnayake, J.L. Payton, A. Karunarathne.** University of Toledo.

B268 **533.37** Convergence of Wnt, Growth Factor and Trimeric G-Protein Signals on the Signaling Scaffold Daple. **J. Ear, N. Aznar, Y. Dunkel, N. Sun, K. Satterfield, F. He, I. Lopez-Sanchez, M. Ghassemian, D. Sahoo, I. Kufareva, P. Ghosh.** University of California and San Diego.

B269 **533.38** TLR4 and AT1 Receptor Contribute to Tuberculous Pleural Fibrosis Through NOX4-ERK-ROS Signal Pathway. **S. Park, J.Y. Hong.** Hallym University, Republic of Korea.

B270 **533.39** Beta-Adrenergic Receptor Signaling in Distal Convoluted Tubules. **L. Cheng, Q. Wu, R.A. Fenton.** Aarhus University, Denmark.

B271 **533.40** High-Fat Diet Augments Muscle Atrophy by Changes of Muscle Atrophy-Related Genes in Mice. **A. Goto, T. Tsuzuki, T. Yoshihara, S. Furuichi, K. Tsukioka, R. Kakigi, H. Naito.** Juntendo University, Japan.

B272 **533.41** Inhibition of Autophagy by Mevalonate Pathway Inhibitors, a New Therapeutic Approach to Sensitize Glioblastoma Cells to Temozolomide Induced Apoptosis. **S. Shojaei, J. Alizadeh, J. Thliveris, N. Koleini, E. Kardami, G. Hatch, F.Y. Xu, S. Hombach-Klonisch, T. Klonisch, S. Ghavami.** University of Manitoba, Canada and University of Vermont

B273 **533.42** IGF-1 Optimizes Mitochondrial Function Through AMP-Activated Protein Kinase in Adult Sensory Neurons. **M-R. Aghanoori, M.G. Sabbir, D.R. Smith, P. Fernyhough.** University of Manitoba, Canada.

B274 **533.43** Chronic Beta2-Adrenergic Receptor Stimulation Improves Whole-Body Glucose Homeostasis Through Skeletal Muscle Metabolic Reprogramming. **J. Meister, D. Bone, J.R. Knudsen, R. Lee, A. Cohen, M. Kleinert, R. Berdeaux, E. Richter, J. Wess.** National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, University of Copenhagen, Denmark and Houston Medical School.

B275 **533.44** Characterization of a Phospholipase C-Like Protein (TbPI-PLC2) from *Trypanosoma brucei*. **N.W. Negrao, S. King-Keller, G. Huang, R. Docampo.** University of Georgia.

B276 **533.45** Muscarinic Antagonist Mediated Activation of ERK Signaling Depends on β-Arrestin Recruitment to Augment Axonal Outgrowth in Neurons. **M.G. Sabbir, P. Fernyhough.** University of Manitoba, Canada.

B277 **533.46** Regulation and Functional Studies of Tribbles Homolog 2 (TRIB2) in Ovarian Granulosa Cells. **A. Warma, C.A. Price, D.W. Silversides, J.G. Lussier, K. Ndiaye.** University of Montreal, Canada.

B278 **533.47** Optimization and Initiation of a Genome-Wide Forward Genetic Death Screen for the Lacritin Receptor Complex Using the Brunello CRISPR/Cas 9 SgRNA Library. **K.L. Dias Teixeira, L. Mao, J. Doench, G.W. Laurie.** University of Virginia and Broad Institute.

B279 **533.48** MK-STYX Alters Localization Dynamics of Autophagosomes and Phenotypic Dynamics of Lysosomes. **A.M. Mattei, P. Christian, S.D. Hinton.** College of William and Mary.

B280 **533.49** The Function of WNK1/OSR1 in Cell Migration and Angiogenesis. **A. Jaykumar, S. Earnest, K. McGlynn, S. Gallolu Kankanamalage, S. Stippec, G. Pearson, M. Cobb.** The University of Texas Southwestern Medical Center and Georgetown University.

B281 **533.50** Characterization of the Putative GTPase Activity of the Ellis Van Creveld Protein 1 **G.T. Nguyen, O.O. Odunuga.** Stephen F. Austin State University.

B282 **533.51** Mitochondrial Adenylate Kinase 4 Regulates Dual AMPK and mTORC1 Activation. **C. Gonzales, A. Phuong Nguyen, A. Abdullah, R. Meraz, E. Castellanos, B. Nittayo, N. Lanning.** California State University and Los Angeles.

B283 **533.52** Seven-in-Absentia (SINA) Family E3 Ligases in Development and Growth. **R.E. Van Sciver, Y. Cao, A.U. Ahmed, A.H. Tang.** Eastern Virginia Medical School and Mayo Clinic.

B284 **533.53** Regulatory Mechanisms Controlling the Subcellular Localization and Activity of the RhoA GEF Net1 in Breast Cancer. **J.A. Frost, Y. Zuo, A. Ulu.** The University of Texas Health Science Center at Houston.

B285 **533.54** MK-STYX-Induced PC-12 Neurites Are Dopaminergeric. **B.D. Swack, D. Banks, A. Dahal.** College of William and Mary.

B286 **533.55** Spatial Compartmentalization of Akt/mTOR Signaling: What Happens in the Nucleus. **X. Zhou, Y. Zhong, J. Zhang, J.Y-J. Shyy, J. Zhang.** University of California and San Diego.

B287 **533.56** Passing on Signals to Compass: A Novel Intramolecular Interactions in Pas Kinase Controls the Stem Cell Fate via Regulating Compass Protein Complexes. **C.K. Kikani, X. Wu, J. Rutter.** University of Utah and Fred Hutchinson Cancer Institutute.

B288 **533.57** The TRPV4-TAZ Signaling Axis in Matrix Stiffness- and TGFβ1-Induced Epithelial-Mesenchymal Transition. **S.O. Rahaman, S. Sharma, R. Goswami.** University of Maryland.

B289 **533.58** Glucocorticoid-Driven Transcriptomes in Human Airway Epithelial Cells: Insight from Primary Cells and Cell Lines. **M.M. Mostafa, C.F. Rider, R. Newton.** University of Calgary, Canada and University of British Columbia, Canada.

B290 **533.59** Developing an ELISA for Avian Corticosterone Binding Globulin. **E. Johnson, I. Antunes, J.L. Malisch, P.S. Mertz.** St. Mary's College of Maryland.

B291 **533.60** Role of Sex Hormones in Regulation of Sodium-Proton Exchanger NHE1: Implications for Migraine. **E.A. Galloway, K.E. Cottier, J. Kim, T. Vallecillo, T.P. Davis, T.W. Vanderah, T.M. Largent-Milnes.** University of Arizona.

B292 **533.61** Structural Basis of Glucocorticoid Receptor Recognition of Both Unmodified and Methylated Ancient Binding Sites, Precursors for a Modern Recognition Element. **X. Liu, E. Weikum, E. Ortlund.** Emory University.

B293 **533.62** A Novel Interaction Between Glucocorticoid Receptor and Beta-Arrestin Proteins. **M.G. Petrillo, J. Cidlowski.** National Institute of Environmental Health Sciences and National Institutes of Health.

B294 **533.63** Using Embryonic Zebrafish to Evaluate the Effects of Exposure to Novel Bisphenol Analogues. **L.N. Bruton, X. Zhou, S.C. Timmons, J.M. Morrissette.** Lawrence Technological University.

B295 **533.64** Follicle Stimulating Hormone Stimulation of a Murine Monocyte Cell Line. **A.B. Leamon, B.D. Cohen.** Union College.

B296 **533.65** Impact of Single Nucleotide Polymorphisms on HPA Axis Functionality in Depression. **C.E. Kelly, B.D. Cohen.** Union College.

B297 **533.66** Jaz Proteins Promote Growth and Reproduction by Restraining Transcriptional Programs That Link Primary and Specialized Metabolism. **Q. Guo, I. Major, Y. Yoshida, G. Howe.** Michigan State University and The University of Tokyo, Japan.

B298 **533.67** Investigating Gibberellin Phytohormone Biosynthesis by Plant-Associated Bacteria. **R.J. Peters.** Iowa State University.

B299 **533.68** Structural Basis of the Strigolactone Signaling Through Plant SCF E3 Complex. **T.R. Hinds, N. Shabek, H. Mao, N. Zheng.** University of Washington and Howard Hughes Medical Institute.

B300 **533.69** Defining the Expression Domains of the *Arabidopsis* Glutaredoxin Genes *AtGRXS5*, *AtGRXS6*, and *AtGRXS8*. **O. Davalos, A. Ehrary, M. Rosas, F. Fernandez, M.A. Escobar.** California State University and San Marcos.

B301 **533.70** Characterization and Expression of *Rhizophora mangle Rmmt2*, a Type 2 Metallothionein Gene, in Response to Heavy Metal Exposure. **I.D. Snyder, S. Acacio, R.M. Trabing, A.C. Shor.** Saint Leo University.

B302 **533.71** Glycine Betaine Accumulation in *Avicennia germinans* Propagules and Seedlings as a Function of Abiotic Stress. **J.N. Warren, Z. Day, A.C. Shor.** Saint Leo University.

B303 **533.72** Protein Tyrosine Phosphatase, Receptor Type B (PTPRB) Inhibits Brown Adipocyte Differentiation Through Regulation of VEGFR2 Phosphorylation. **W-K. Kim, B-S. Han.** Korea Research Institute of Bioscience and Biotechnology, Republic of Korea.

B304 **533.73** PRL Phosphatases Promote Tumor Progression by Regulating the Level of Intracellular Magnesium. **S. Hardy, E. Kostantin, S.J. Wang, N. Uetani, M.L. Tremblay.** McGill University, Canada.

B305 **533.74** Acid Phosphatase in Soil. **K.E. Ayers, E.J. Fogle.** California Polytechnic State University.

B306 **533.75** Characterization of Acid Phosphatase Adsorption to Montmorillonite. **W.S. McTaggart.** California Polytechnic State University.

B307 **533.76** Identification and Characterization of Glycosomal and Cytosolic Nudix Hydrolases with Polyphosphate Hydrolyzing Activity in *Trypanosoma brucei*. **C.D. Cordeiro, R. Negreiros, K. Ahmed, R. Docampo.** University of Georgia.

B308 **533.77** Relaxation of Bladder Smooth Muscle by Flavonoids from *Sophora flavescens* via Direct Activation of the Large-Conductance Calcium-Activated Potassium Channel. **J. Han, S. Lee, N. Lee, H-J. Jo, C-S. Park.** Gwangju Institute of Science and Technology, Republic of Korea.

B309 **533.78** Modulation of Nicotinic Receptors by Cannabinoids. **C.S. Rodriguez-Tirado, J.O. Colon-Saez, J. Lasalde-Dominicci.** University of Puerto Rico.

B310 **533.79** Modeling *SLC26A4* Associated Hearing Loss Using Zebrafish as a Model System. **A.J. Scott, A. Koleilat, L. Schimmenti.** Mayo Clinic.

B311 **533.80** Characterization of the Effects of Novel Positive Allosteric Modulators on the Functionality of the α7 Nicotinic Acetylcholine Receptor (nAChR). **F. Reilly-Andujar, J.A. Lasalde, J.O. Colón.** University of Puerto Rico and Rio Piedras Campus.

B312 **533.81** Cardiac Nav1.5 Channel Is Regulated by LITAF. **N.N. Turan, K.S. Moshal, K. Roder, A. Xie, Y. Lu, A. Werdich, C. MacRae, G. Koren.** The Warren Albert Medical School of Brown University, University of Minnesota and Brigham and Women's Hospital and Harvard Medical School.

B313 **533.82** Allosteric Modulation of the Pentameric Ligand-Gated Ion Channel ELIC by Functionally Active Nanobodies. **C. Ulens, M. Brams, H. De Peuter, R. Spurny, E. Pardon, D. Bertrand, J. Steyaert, C. Govaerts.** Katholieke Universiteit Leuven, Belgium, FEI Thermo Fisher, Czech Republic, Vrije Universiteit Brussel, Belgium, HiQScreen, Switzerland and Université libre de Bruxelles, Belgium.

B314 **533.83** Measuring the cAMP/PKA Signaling Pathway in Stress-Induced Sleep Using *C. elegans* as a Model Organism. **R. Schuck, A. Cianciulli, T. Buerkert, E. Li, M. Nelson.** Saint Joseph's University.

B317 **533.86** Role of 5-IP_7 in the Regulation of Gene Expression. **S. Sahu, C. Gu, S.B. Shears.** National Institute of Environmental Health Sciences and National Institutes of Health.

B318 **533.87** Inositol Hexakisphosphate Kinase-2 in Cerebellar Granule Cells Acts Through Protein 4.1n to Regulate Purkinje Cell Morphology and Motor Coordination. **L. Nagpal, C. Fu, S.H. Snyder.** Johns Hopkins University School of Medicine.

B319 **533.88** An Astrocyte Model Looking Toward Understanding Neurodeneration. **E. Corcoran, S. Hemkin.** Kenyon College.

B320 **533.89** Adaptation to Supraphysiologic Room Air Oxygen Changes the Effects of Nitric Oxide on A549 Lung Cells in Vitro. **A. Henn, S. Darou, R. Yerden.** BioSpherix.

B321 **533.90** TDAG51 Is a Key Modulator of Vascular Calcification and Osteogenic Transdifferentiation of Arterial Smooth Muscle Cells. **K. Platko, G. Gyulay, P. Lebeau, Š. Lhotá, J. Hyun Byun, F. Boivin, D. Bridgewater, J. Krepinsky, R.C. Austin.** McMaster University, Canada.

B322 **533.91** Heme-Free H-NOX from *Vibrio cholerae* Is Activated by Oxidation via a Zinc Ligand Switch Mechanism. **E. Yukl, K. Chacon, J. Jarvis.** New Mexico State University and Reed College.

B323 **533.92** Early Growth Response Protein-1 (EGR-1) Expression by Hydrogen Peroxide (H_2O_2) Is Mediated via C-SRC and PKB-Dependent Creb Signaling Events in Vascular Smooth Muscle Cells (VSMC). **V. Truong, V. Rondeau, A. Jain, A.K. Srivastava.** Centre de recherche du Centre hospitalier de l'Université de Montréal, Canada.

B324 **533.93** Redox Modulation of NQO1. **D. Siegel, D. Dehn, K. Quinn, D. Backos, A. Di Francesco, M. Bernier, N. Reisdorph, R. de Cabo, D. Ross.** Skaggs School of Pharmacy, University of Colorado Anschutz Medical Campus, Experimental Gerontology Section, Translational Gerontology Branch and National Institutes on Aging.

B325 **533.94** Oxidative Stress and Obesity: Detection of Free Radicals in Leptin Resistant and Catalase Transgenic Mice. **G.L. McCormick.** Marshall University.

B326 **533.95** Peri/epicellular Protein Disulfide Isomerase PDI Acts as an Organizer of Cytoskeletal Mechanoadaptation in Vascular Smooth Muscle Cells. **L.Y. Tanaka, T.L. Araujo, A.I. Rodriguez, M.S.A. Ferraz, V.B. Pelegati, A.M. Santos, C.L. Cesar, A.M. Alencar, F.R.M. Laurindo.** University of São Paulo, Brazil and University of Campinas, Brazil.

B327 **533.96** Biochemical Characterization of the *Drosophila* Methionine Sulfoxide Reductase A. **S. Tarafdar, G. Kim, N. Rusan, R. Levine.** National Heart, Lung, and Blood Institute and National Institutes of Health.

B328 **533.97** Revealing Subcellular Redox Dynamics with Multiplex Imaging of Compartment-Specific Redox Probes. **M. Tantama, J. Norley, S. Radhakrishnan, M. Rajendran.** Purdue University.

B329 **533.98** Converting Nature's Switches into Scientists' Tools: How Biophysical Insights Lay the Foundation for Artificial Control of Protein Activity. **K.H. Gardner, I. Dikiy, U. Edupuganti, E. Orth, R. Abzalimov.** Advanced Science Research Center and City University of New York.

B330 **533.99** Globally Monitoring Allosteric Coupling in the A_{2a} Adenosine Receptor by NMR in Solution. **M. Eddy, K. Jacobson, R. Stevens, K. Wuthrich.** Scripps Research Institute, National Institutes of Health and University of Southern California.

B331 **533.100** Conserved Salt-Bridge Competition Triggered by Phosphorylation Regulates the Protein Interactome. **J.J. Skinner, S. Wang, J. Lee, C. Ong, R. Sommese, S. Sivaramakrishnan, W. Koelmel, M. Hirschbeck, H. Schindelin, C. Kisker, K. Lorenz, T. Sosnick, M.R. Rosner.** ShanghaiTech University, People's Republic of China, Toyota Technological Institute at Chicago, University of Chicago, University of Minnesota and University of Würzburg, Germany.

B332 **533.101** Allosteric Regulation of Protein Kinases Using Optogenetics. **M. Shaaya, V. Huyot, A. Zhurikhina, D. Tsygankov, V. Natarajan, A. Karginov.** University of Illinois at Chicago and Georgia Institute of Technology.

B333 **533.102** Thermo-Responsive Estrogen Receptor-Fusions for Spatiotemporal Control of Signaling and Gene Regulation. **A.T. Truong, Z. Li, C.T. Okamoto, J.A. MacKay.** University of Southern California.

B334 **533.103** Utilizing an Optogenetic System for Manipulating Protein Localization in Fission Yeast. **M. Mehdi, J.W. Goss.** Wellesley College.

B335 **533.104** Temporal Regulation and Functional Impact of ERK Activity Near the Plasma Membrane. **J. Keyes, A. Ganesan, J. Zhang.** University of California, San Diego and John Hopkins University School of Medicine.

B336 **533.105** Role of the Spc105 Complex in Organization and Microtubule-Binding Activity of the Budding Yeast Kinetochore. **J.O. Kim, A. Zelter, R. Johnson, M.J. MacCoss, C.L. Asbury, T.N. Davis.** University of Washington.

B337 **533.106** C-Terminal Domain of Mad1 Interacts with Mad2 to Catalyze O-C Mad2 Conversion in Coordination with Mitotic Checkpoints. **N.D.M. Nguyen, E. Ahmad, S-T. Liu.** Wabash College and The University of Toledo.

B338 **533.107** Localization of the Mutant SEPG1 Protein to Sites of Cell Division in the Filamentous Fungus *Aspergillus nidulans*. **U. Ugwu, L. Jackson-Hayes, T.W. Hill.** Lemoyne-Owen College and Rhodes College.

B339 **533.108** Roles of INN1, CYK3, and PAXB Proteins in Cytokinesis in the Filamentous Fungus *Aspergillus nidulans* M**. Williamson, L. Rowland, S. Beckman, L. Jackson-Hayes, T.W. Hill.** Rhodes College.

B340 **533.109** Depletion of CRBN Leads to Proliferative Cellular Senescence by Altering the Level of Cell Cycle Proteins. **S-J. Jeon, Y-S. Yoon, S-J. Yang, C-S. Park.** Gwangju Institute of Science and Technology, Republic of Korea and Korea Research Institute of Chemical Technology, Republic of Korea.

B341 **533.110** Disease-Causing Mutations of Lamin A Lead to Loss of Calcium Homeostasis in the Endo/Sarcoplasmic Reticulum. **Y-H. Chi, W-H. Lin, W-P. Wang, C-H. Kao, J-Y. Wang, Y-C. Teng, T-F. Tsai.** National Health Research Institutes, Taiwan, Chang Gung Christian University, Taiwan and National Yang-Ming University, Taiwan.

B342 **533.111** The RXFP3-GIT2 Signaling System Represents a Potential Multidimensional Therapeutic Target in Age-Related Disorders. **J. van Gastel, J. Hendrickx, H. Leysen, L.M. Luttrell, M-H.M. Lee, A. Azmi, J. Janssens, S. Maudsley.** University of Antwerp VIB, Belgium and Medical University of South Carolina.

B343 **533.112** Dietary Glycine Supplementation Extends Lifespan of Genetically Heterogeneous Mice. **J. Brind, R.A. Miller, R. Strong, D.E. Harrison, F. Macchiarini.** Baruch College, City University of New York, University of Michigan, The University of Texas Health Science Center at San Antonio, The Jackson Laboratory, National Institute on Aging and National Institutes of Health.

B344 **533.113** Role of Necroptosis in Aging and Age-Associated Inflammation. **D. Sathyaseelan, A. Richardson.** University of Oklahoma Health Sciences Center.

534. BACTERIA AND PARASITES: FROM MICROBIOME TO ANTIBIOTICS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B345 **534.1** Virulence and Drug Resistance of *Burkholderia* and *Ralstonia* Species Isolated from International Space Station Potable Water Systems. **K. Khieu, S. Cohen, V. Thai, S. Anderson, H. Lee, A. O'Rourke.** University of California, San Diego and J. Craig Venter Institute.

B346 **534.2** Elucidating the Role of *Rhipicephalus sanguineus* (The Brown Dog Tick) as a Vector for Rocky Mountain Spotted Fever (RMSF) Transmission in Arizona. **J.W. Allen, T. Yao, S. Lisowski, N. Goetz, J. Hernandez, R. Kreisler, J.K. Lee, J. VandenBrooks, M. Quinlan.** Midwestern University.

B347 **534.3** Bacteriological Evaluation of Essential-Oil Based Products from a Local Small Business. **A.A. Santos; Jr., R. Butler, C. Gillen, A.B. Santos, F.B.O. Santos.** Adventist University of Health Sciences and Florida Hospital.

B348 **534.4** Effect of Fiber Concentration on the Growth of *Lactobacillus rhamnosus*. **A.B. Santos, C. Gillen, F.B.O. Santos, A.A. Santos; Jr.** Adventist University of Health Sciences and Florida Hospital.

B349 **534.5** Bacterial Colonization and Partial Degradation of Plastic Debris in California Coastal Waters. **A.M. Barral, A. Leask, E. DeForce, W. Ochoa, R.E. Simmons.** National University, Scripps Institution of Oceanography, University of California and San Diego.

B350 **534.6** *Sinorhizobium meliloti* Bacteriophage HmSP-1-Susan: Genome Sequence, Molecular Characterization and Implications for Symbiosis. **B. Fleagle, A. Imamovic, B. Martinez-Vaz.** Hamline University.

B351 **534.7** Effects of Cell Wall Perturbation Reagents and Plant Phenolic Compounds on Growth, Colony Morphology, and Germination of the Corn Rot Fungus *Fusarium verticillioides*. **P.N. Pierson, H. Hardtke, D.W. Brown, K.L. McQuade.** Bradley University, United States Department of Agriculture, Agricultural Research Service and National Center for Agricult.

B352 **534.8** Changes in Membrane Lipids in Soybean Leaves in Response to Soybean Aphid Infestation. **G.C. MacIntosh, K. Nguyen, J. Hohenstein.** Iowa State University.

B353 **534.9** Investigating the Contribution of *Sinorhizobium meliloti* Flagella on Biofilm Formation and Symbiosis During Host Colonization. **Z.A. Amir, J.C. Chen.** San Francisco State University.

B354 **534.10** Identification of Batrachochytrium Dendrobatidis Inhibiting Isolates via Challenge Against Salamander Skin Microbiota. **F.M. Erdman, A. Hill, G. Russell, J. Griffith, M. Wharton, D. Walker.** Tennessee Technological University.

B355 **534.11** Identification of Probiotic Bacteria from the Cutaneous Microbiome of Endangered Tennessee Bats. **M. Wharton, O. Bowers, B. Jones, A. Moore, M. Grisnik, J. Munafo, D. Walker.** Tennessee Technological University , University of Tennessee and Knoxville.

B356 **534.12** Evaluation of Homogenization Methods for Extraction of Live Bacteria and Recombinant DNA in Soil. **C. Proctor, J. Atwood, B. Easparro, Z. Morehouse.** Omni international.

B357 **534.13** The Growth of *Fusarium oxysporum* Spore Isolates from Potato Is Inhibited by 1,4-Dimethylnaphthalene. **R. Adams, M. Campbell.** Penn State Behrend.

B358 **534.14** Effects of a Six Week Aerobic Exercise Intervention on the Composition of Oral and Skin Microbiota: A Pilot Study. **L. Mailing, J. Allen, G. Niemiro, J. Cohrs, H. Holscher, M. De Lisio, J. Woods.** University of Illinois at Urbana-Champaign, The Ohio State University and University of Ottowa, Canada.

B359 **534.15** Characterizing the Interaction Between Bacterial Derived Carbohydrates and Cyr1 and Its Role in Hyphal Growth in *Candida albicans*. **S. Mashayekh, J. Burch, D. Wykoff, C. Grimes.** University of Delaware and Villanova University.

B360 **534.16** Anaerobic 4-Hydroxyproline Metabolism by a Widespread Microbial Glycyl Radical Enzyme. **Y.Y. Huang, L. Backman, B. Gold, R.T. Raines, C.L. Drennan, E.P. Balskus.** Harvard University and Massachusetts Institute of Technology.

B361 **534.17** Composition and Viability of the Microbial Flora of the Sigmoid Colon Obtained from Embalmed Human Cadavers. **R.E. Fracassi, J. Holz, M. Pace Olivieri, J. Davie.** D'Youville College and D'Youville College.

B362 **534.18** Dietary Fat Quality and Sex Influence Diversity and Relative Abundance of the Colonic Bacterial Community Structure in Aged CD-1 Mice. **A. Unger, T. Jetton, J. Kraft.** The University of Vermont.

B363 **534.19** Functional Changes in the Gut Microbiota Across the Hibernation Cycle Examined by Stable Isotope-Assisted Labeling. **S.R. Gugel, E. Chiang, M.D. Regan, F.M. Assadi-Porter, H.V. Carey.** University of Wisconsin—Madison.

B364 **534.20** Microbiome Alteration: Potential Signature to Discriminate Features Associated with Tbi vs. Psychological Stress. **R. Kumar, J.C. DeMar, N. Chakraborty, A. Gautam, A. Hoke, G. Dimitrov, J.G. Rosenberger, A.B. Batuure2, D.J. Bloodgood, D.M. Wilder, V. Sajja, R. Hammamieh, M. Jett, J.B. Long.** U.S. Army Center for Environmental Health Research and Walter Reed Army Institute of Research.

B365 **534.21** Effects of Moderate Voluntary Ethanol Consumption on the Rat and Human Gut Microbiome. **N.J. Pinkowski, K.L. Kosnicki, J.C. Penprase, P. Cintora, P.J. Torres, G.L. Harris, S.M. Brasser, S.T. Kelley.** San Diego State University.

B366 **534.22** The Metabolism of Fluoropyrimidine Anticancer Drugs by the Human Gut Microbiome. **P. Spanogiannopoulos, A.D. Patteron, P.J. Turnbaugh.** University of California, San Francisco and Pennsylvania State University.

535. BMB EDUCATION AND PROFESSIONAL DEVELOPMENT

Poster

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

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B367 **535.1** Use of Gradient Gel Filtration as a Refolding, Buffer Exchange and Fine-Tuning Step in Denaturing Protein Purification. **C.N. Tovar, S.K. Nguyen, O.O. Odunuga.** Stephen F. Austin State University.

B368 **535.2** Atrazine Inhibition of Murine Electron Transport Chain: A Cure Biochemistry Laboratory. **D.J. Martin.** Saint Mary's University of Minnesota.

B369 **535.3** Leadership Skill Development in an Undergraduate Biochemistry Lab. **D.E. Rhoads.** Monmouth University.

B370 **535.4** CRISPR/Cas9 in Yeast as a Tool for Teaching and Reinforcing Molecular Biology Concepts to Undergraduates. **R.J. Ulbricht.** Missouri State University.

B371 **535.5** Pilot Implementation of a Cell Culture-Based Educational Module in a Gateway Cellular and Molecular Biology Course at a Liberal Arts PUI. **B. Tran, A. Aguanno.** Marymount Manhattan College.

B372 **535.6** Laboratory Experiences in Sophomore Level Cell and Molecular Biology Laboratories: What Works? **M. Huff, R. Booth, M. Van Stry, Q. Vega.** Bellarmine University, University of the Incarnate Word, Lane College and Montclair State University.

B373 **535.7** Johns Hopkins Science Policy Group: Training Scientists to Be Effective Advocates and Communicators. **C. Matney, R. Sima, J. Carlson, L. Cairns, K. Wood, D. Pham.** John Hopkins University School of Medicine, Johns Hopkins University School of Medicine and American Society for Biochemistry and Molecular Biology.

B374 **535.8** Fresh—Freshman Research Engagement in Science: Early Results. **M.K. Watters, P. Bouyer, R. Clark.** Valparaiso University.

B375 **535.9** Establishing Practices Integrating Commuter Students—Year 1. **M.K. Watters, M. Capaldi, K. Bugajski, K. Schmitt, J. Schoer, B. Dahlke-Goebbert.** Valparaiso University.

B376 **535.10** Meeting the Challenges of Minorities in Higher Education: A Review of the Underrepresentation of Hispanics in Medical School. **A.J. Miller, R.A. Ynalvez.** Texas A&M International University.

B377 **535.11** A Network Approach to Vertical Transfer and Articulation for Student Success in Biology: A Fourth Workshop Hosted by the Northwest Biosciences Consortium RCN-UBE. **A. Kruchten, E. Baumgartner, A. Beadles-Bohling, J. Brown, J. Duncan, L. Kayes, S. Kiser, S. Seidel, W. Shriner, S. Stavrianeas, C. Tillberg.** The College of St. Scholastica, Western Oregon University, University of Portland, Linfield College, Willamette University, Oregon State University, Lane Community College, Pacific Lutheran University and Mount Hood Community College.

B378 **535.12** Lee University's Integrated Math and Science Scholars Program; Cohort 1 Results. **S. Daft, J. Mitchum, S. Schlosser, S. Kasper.** Lee University.

B379 **535.13** Research Experiences Yield Positive Psychosocial Outcomes for Transfer Students. **J.T. Beckham, P. Metola, L. Strong, S. Engelman, S. Rodenbusch.** The University of Texas at Austin.

B380 **535.14** An Intensive Preparatory Program for Incoming Freshmen Biology Students Improves Performance and Retention. **A.C. Shor, C. Clauson-Kozina, L. Altfeld, C.J. Miller.** Saint Leo University.

B381 **535.15** MAMS: A Biochemistry and Molecular Biology Rich Collaborative Bridge Program to Doctoral Graduate and Health Professional School. **M. Taylor.** Pacific Northwest University of Health Sciences.

B382 **535.16** Diet and Fitness Genetic Screening an Approach to Understand Genetic Diversity and Optimize Wellness in Saudi Arabia. **F. Dhawi.** King Faisal University, Saudi Arabia.

B383 **535.17** Analysis of Assessment on Biochemistry Threshold and Core Concepts in Students with Varying Chemistry Backgrounds. **K. Keenan.** Stockton University.

B384 **535.18** "Community Problem Based Learning to Prepare Students for Real-World Stem Opportunities". **A.J. Tabor, R. Woodruff, K.M. Kesler, M. Bell, D.K. Ross, B. Neilson, R. Gray.** Northern Arizona University, STEM City and CAVIAT.

B385 **535.19** The First-Year Research Advancement Program (FRAP): Fostering Persistence of Underrepresented Students in Biology and Chemistry. **K.V. Mills, J. Paxson.** College of the Holy Cross.

B386 **535.20** Interdisciplinary Undergraduate Research Program with a Travel Component at Mount Saint Mary's University Los Angeles to Promote Success of Women in Stem. **L.A. Nogaj.** Mount Saint Mary's University and Los Angeles.

B387 **535.21** Mentorship for Developing Course-based Undergraduate Research Experiences (CURES): The Council on Undergraduate Research (CUR) Mentorship for Integrating Research into the Classroom (MIRIC) Program. **M.J. Wolyniak, K.K. Resendes.** Hampden-Sydney College and Westminster College.

B388 **535.22** Advancing Professional Development Strategies for Undergraduates in Chemistry and Biochemistry. **C. Brown, A. Fallucca, T. Makris.** University of South Carolina.

B389 **535.23** Use of Videos in Traditional and Online Classes as Instruction and Assessment Accessibility Tools. **S. Connelly.** Rochester Institute of Technology.

B390 **535.24** Creativity in Biomedical Science Education. **J.O. Macaulay, A.M. Kim, C.J. Speed.** Monash University, Australia.

B391 **535.25** A Competency-Based Approach to Developing Biomolecular Visual Literacy. **D.R. Dries, D.M. Dean, M.A. Franzen, H.V. Jakubowski, W.R.P. Novak, K. Procko, A.I. Roca, C.R. Terrell.** Juniata College, University of Saint Joseph, Milwaukee School of Engineering, College of St. Benedict/St. John's University, Wabash College, MinorityPostdoc.org and University of Minnesota Rochester.

B392 **535.26** Twin Talk Series: A Novel Method to Foster Peer-to-Peer Pedagogical Training. **A.K. Brown, G. Martínez-Gálvez, K.E. Coffman, W.E. Matchett, B.F. Horazdovsky.** Mayo Clinic.

B393 **535.27** Stress and Burnout in Graduate Students: The Role of Work-Life Balance and Mentoring Relationships. **T.M. Evans, L. Bira, J.B. Gastelum, L.T. Weiss, N.L. Vanderford.** The University of Texas Health Science Center at San Antonio, St. Mary's University and University of Kentucky.

B394 **535.28** Graduate Student Professional Development and a Cure-Style Course and Peer-Reviewed Student Publications. **J. Baumgartner, J. Lee, M.L. Kuhn.** San Francisco State University.

B395 **535.29** Biosteps: Biochemistry Problem Solving and Its Role in Undergraduate Success and Persistence. **P.P. Lemons, C.A. Sensibaugh, S.M. Halmo, S. Jeong, R. Idsardi, K.S. Bhatia.** University of Georgia.

B396 **535.30** Encouraging Student Interest in Summer Research Experiences Using a Peer-Teaching "Speed Dating" Model. **A. Kruchten, K. Glesener, L. Qson, M. Talaga, T. Trygstad.** The College of St. Scholastica.

B397 **535.31** Use of Biometrics to Determine Differences in How Biochemistry Experts and Novices Read Metabolic Pathways. **K. Linenberger Cortes, K. Kammerdiener, A. Randolph.** Kennesaw State University.

B398 **535.32** Integrating Undergraduate Molecular Biology and Biochemistry: The Development of a Program Capstone Laboratory Based on Authentic Research. **G. Crawford.** Mercer University.

B399 **535.33** How to Make Red Yeast: An Undergraduate Laboratory Using CRISPR/Cas9 Technology to Target *ADE2* in Budding Yeast. **K.P. Callahan.** St. John Fisher College.

B400 **535.34** The Genomics Education Partnership: Course-Based Research Experiences for Undergraduates. **M. Van Stry, K. Saville, W. Leung, D. Lopatto, S.C.R. Elgin.** Lane College, Albion College, Washington University in St. Louis and Grinnell College.

B401 **535.35** Gamification of Learning in an Introductory Cell Biology Class. **E. Beaulieu, C. Petit-Turcotte.** University of Ottawa, Canada.

B402 **535.36** Undergraduate Biology Students View Scientific Models as Easy-to-Learn Simple Explanations. **C. Trujillo, S. Bennett, T. Long.** Michigan State University and Bethel University.

B403 **535.37** Using *Frankenstein* to Teach Ethics and Code of Conduct in an Undergraduate Science Course. **J.T. Tansey.** Otterbein University.

B404 **535.38** Math-Up Skills Test (MUST): As a Predictor of Success in General Chemistry. **A. Chen, B. Mamiya, D. Mason.** Texas State University and University of North Texas.

B405 **535.39** Molecular Oncology Research Laboratory Course for Undergraduate Students. **L.M. Carastro.** University of Tampa.

536. METABOLISM AND BIOENERGETICS

Poster

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

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Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B406 **536.1** Sub-Chronic Exposure to Organic Arsenic Disrupts Hepatic Energy Metabolism and Antioxidant System. **D.O. Babayemi, O.E. Adeyi, A. Dosumu, H.T. Adubiagbe, M.T. Abdulsalaam, A. Tijani, F.M. Olaleye, T.F. Akinhanmi, R.N. Ugbaja, O. Ademuyiwa.** Federal University of Agriculture and Abeokuta, Nigeria.

B407 **536.2** Mechanism of Obesity Suppression by Adipose Tissue Creatine Energetics. **L. Kazak, G.Z. Lu, B.M. Spiegelman.** McGill University, Canada and Dana-Farber Cancer Institute.

B408 **536.3** Quantification of Propionate. M**. Doan, S. Trefely, J. Xu, J. Polanco, N. Snyder.** Drexel University.

B409 **536.4** Elucidating the Role of a Putative Monooxygenase in the Catabolism of Nicotinic Acid and Nicotine by *Bacillus niacini*. **S. Fine, M.J. Snider.** College of Wooster.

B410 **536.5** *S*-succinylcysteine Breakdown—How *Bacillus subtilis* Utilizes an Inevitable Product of Metabolite Damage. T**.D. Niehaus, J. Folz, D.R. McCarty, V. de Crécy-Lagard, D. Moraga, O. Fiehn, A.D. Hanson.** University of Florida, University of California and Davis.

B411 **536.6** The Catabolism of Nicotinic Acid and Nicotine and the Role of a Putative Monooxygenase in *Bacillus niacini*. **S.R. Fine, K.M. Zoretich, M.J. Snider.** College of Wooster.

B412 **536.7** Toxic Effect of Resveratrol Induced by Energy Restriction on Mitochondrial Dysfunction in Mouse Hepatocytes. **L. Camacho, M. Ramos Gomez, L.A. Madrigal Perez, J.L. Rosado Loría.** Universidad Autonoma De Queretaro, Mexico. and Instituto Tecnológico Superior de Ciudad Hidalgo, Mexico.

B413 **536.8** mTOR Signaling in Adipose Tissue Influences Systemic Lipid Metabolism. **L.M. Paolella, C. Tran, K. Chellappa, S. Mukherjee, J.G. Davis, A. Wilson, E. Edouard, S. Shewale, D.J. Rader, J.A. Baur.** University of Pennsylvania.

B414 **536.9** Cytoplasmic PFK-2 Activity Affects Mitochondrial PDK4 Levels in the Heart. **M.F. Newhardt, M. Kinter, K.M. Humphries.** Oklahoma Medical Research Foundation.

B415 **536.10** Fine-Tuning of Hepatocyte Calcium Signaling and Liver Regeneration by the Mitochondrial Calcium Uniporter. **A. Noronha Antony, M. Katona, E. Juskeviciute, J.W. Elrod, G. Hajnóczky, J.B. Hoek.** Thomas Jefferson University, Lewis Katz School of Medicine and Temple University.

B416 **536.11** Deletion of Muscle *ACSL1* Caused Myopathy and Fiber Switch. **L. Zhao, L. Bacudio, A.L. Suchanek, P.A. Young, F. Pascual, R.A. Coleman.** University of North Carolina at Chapel Hill.

B417 **536.12** Analysis of Degradation of Metabolic Proteins During Starvation. **C. Peterson, N. Maragos, A. Papaj, P. Ngo, A. Mendes, T. Von Rosen.** Suffolk University.

B418 **536.13** Chemical Composition of the Pepper Fruit (*Dennettia tripetala*) Seed Flour. **F.L. Oyetayo, O.L. Ogundare.** Ekiti State University, Nigeria.

B419 **536.14** The Dose-Related Effects of Doxorubicin Chemotherapy on Interstitial Amino Acid Concentrations in Skeletal Muscle. **D. MacLean, S. Fabris.** Northern Ontario School of Medicine, Canada and Laurentian University, Canada.

B420 **536.15** Monomethyl Branched Chain Fatty Acids Link Mitochondrial Amino Acid Metabolism and Adipose Tissue Lipogenesis to Fatty Acid Diversity. **M. Wallace, C. Green, L. Roberts, M. Lee, P. Cabrales, J. Ayres, D. Nomura, R. Loomba, C. Metallo.** University of California, San Diego, University of California, Berkeley and Salk Institute.

B421 **536.16** Requirement of Fatty Acid Oxidation to Attenuate Cardiac Hypertrophy. **K.L. Harris, A.S. Pereyra, J.M. Ellis.** Purdue University.

B422 **536.17** Effect of a Deletion of Mitochondrial DNA on Cell Growth, Mitochondrial DNA Content, and Metabolic Activity. **C. Keck, M.K. Gulfo, W. Pogozelski.** State University of New York College at Geneseo.

B423 **536.18** Consequences of Cytochrome *C* Oxidase Assembly Defects for the Yeast Stationary Phase. **A.F. Dubinski, D.M. Glerum.** University of Waterloo, Canada.

B424 **536.19** Oxidative Phosphorylation Complex Interactions in Intact Mitochondria. **B.M. Rabbitts, F. Liu, P. Lossl, R.S. Balaban, A.J.R. Heck.** National Heart, Lung, and Blood Institute, National Institutes of Health, FMP Berlin, Germany and University of Utrecht, Netherlands.

B425 **536.20** Exploration of a *Pho13* Knockout Growth Phenotype in Non-Engineered Strains of *Saccharomyces cerevisiae*. **F. Ulerio-Nunez, M. Gjestvang, S.F. O'Handley, A.U. Gehret.** Rochester Institute of Technology, National Technical Institute for the Deaf and Rochester Institute of Technology.

B426 **536.21** Leigh Syndrome Cell Model Development. **J. Alverado, N. DeCuzzi, J. Hsueh, S. Madira, N. Lanning.** California State University and Los Angeles.

B427 **536.22** A Novel Approach to Characterize Size Variance in Third Instar Larvae Following Multigenerational Dietary Modification. **G. Arnal, R.P. Rogers.** Wentworth Institute of Technology.

B428 **536.23** Ally Sulfide Epigenetically Targets Cellular Senescence and Prevents Age-Related Bone Loss in Mice. **J. Behera, N.K. Mandal, K.E. Kelly, N. Tyagi.** University of Louisville.

B429 **536.24** Organ Reserve, Excess Metabolic Capacity, and Aging. **H. Atamna, J. Dhahbi.** Centre Universitaire de Santé McGill.

537. PLANT METABOLISM AND BIOSYNTHETIC PATHWAYS

Poster

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

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B430 **537.1** Identifying Exchangeable Protons in the Q_a-Site of Photosystem II. **A. Garmany, A.L. Smythers, E. Napier, C. Sun, S.A. Dikanov, D.R.J. Kolling.** Marshall University and University of Illinois at Urbana-Champaign.

B431 **537.2** The Rising of Acylsugar Diversity: Metabolic Innovation in Tomato Trichomes Through BAHD Enzyme Promiscuity and Pathway Evolution. **P. Fan, A.M. Miller, A.D. Jones, X. Liu, R.L. Last.** Michigan State University.

B432 **537.3** Type III Polyketide Synthase Involved in Tropane and Granatane Alkaloid Biosynthesis. **N. Kim, J.C. D'Auria.** Texas Tech University.

B433 **537.4** The Effect of Increased Glycerol Availability on Triacylglycerol Production in *Chlorella vulgaris*. **E.L. Higginbotham.** Marshall University.

B434 **537.5** Cross-Talk Among Biochemical Defense Pathways in *Arabidopsis thaliana*. **A. Peterson, E. Bien, C. Olson-Manning, S. Matzner.** Augustana University.

B435 **537.6** A Systems Approach Toward Elucidating the Molecular Basis of Tropane Alkaloid Metabolism. **J.C. D'Auria.** Texas Tech University.

B436 **537.7** Identification and Characterization of Daurichromenic Acid Synthase from *Rhododendron dauricum*. **F. Taura, M. Iijima, F. Kurosaki.** University of Toyama, Japan.

B437 **537.8** Effects of a Sethoxydim-Based Herbicide on the Photosynthetic Capacity of *Chlorella vulgaris,* a Non-Target Organism. **A.L. Smythers, A. Garmany, N. Perry, P.E. Adkins, E. Higginbotham, D.R.J. Kolling.** Marshall University.

B438 **537.9** Characterization of the Pyrimidine Catabolic Pathway of *Oryza sativa.* **M.A. Rincón, H.Y. Narvaez-Ortiz, A.J. López, B.H. Zimmermann.** Universidad de los Andes, Colombia.

B439 **537.10** Pleiotropy and Flux Control in the Indolic Biochemical Pathways in *Arabidopsis thaliana*. **J.J. Kack, T.K. Leean.** Augustana University.

538. OXIDATIVE STRESS AND REACTIVE OXYGEN

Poster

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B440 **538.1** Copper and ROS Mediation in Glycoxidation of a Human Serum Albumin (HSA) Model Peptide: Advanced Glycation End-Products (AGEs) Generation and Damage in Motor Neuron Cells. **G. Cerchiaro, C.M. Marques, E.A. Nunes.** Universidade Federal do ABC, Brazil.

B441 **538.2** Antioxidants Protect Diaphragm Function Subjected to Ionizing Irradiation. **L. Zuo, L. Lu, S. Wu, T. Zhou.** The Ohio State University College of Medicine, The Ohio State University James Cancer Hospital and Ohio University.

B442 **538.3** Ubiquinone Is a Key Antioxidant During Long Chain Fatty Acid Metabolism in *Escherichia coli*. **S. Agrawal, K. Jaswal, A. Shiver, H. Balecha, T. Patra, R. Chaba.** Indian Institute of Science Education and Research, India and Stanford University.

B443 **538.4** Hyperhomocysteinemia-Mediated Endoplasmic Reticulum Stress in Skeletal Muscle Dysfunction via JNK/Pro-Inflammatory Pathway. **A. Majumder, J. Behra, M. Singh, N. Tyagi, S.C. Tyagi.** University of Louisville.

B444 **538.5** The Expression of Glutathione S-Transferase Isotopes, Alpha, Mu and Pi, in Mice (*Mus musculus)* Chronically Exposed to Atrazine. **A. Schadler, D. Martin.** Saint Mary's University of Minnesota.

B445 **538.6** Role of GSTT1 and GSTM1 Gene Polymorphism for Development of Preeclampsia in Bangladeshi Women. **L. Akther, M.M. Rahman, M.E.S. Bhuiyan, M.B. Hosen, A. Nesa, Y. Kabir.** Reproductive Health Services Training and Education Program, Bangladesh, Dhaka University, Bangladesh and Ibrahim Medical College Hospital, Bangladesh.

B446 **538.7** Effect of a Sulforaphane and Maitake Mushroom Extract Combination on the Expression of Glutamate Cysteine Ligase. **S.A. Erwin, S.L. Ownby, G.A. Cornblatt.** Nutramax Laboratories.

B447 **538.8** Exploring the Role of Trehalose-6-Phosphate Synthase in Oxidative Stress Tolerance of *Fusarium verticillioides*. **S.D. McMillan, N.R. Oberlie, D.W. Brown, K.L. McQuade.** Bradley University, United States Department of Agriculture, Agricultural Research Service and National Center for Agricult.

B448 **538.9** Phosphoproteomics Analyses Reveal That Phosphorylation of Heat Shock Protein 70 (Hsp70) by Protein Kinase B (Akt1) on Ser^{631} Controls Activity of Mitochondrial Superoxide-2 (SOD2) A**.J. Afolayan, S.M. Zemanovic, G.G. Konduri.** Medical College of Wisconsin.

B449 **538.10** Characterization of Transferrin-1 from *Drosophila melanogaster*. **M.J. Gorman, L.M. Brummett, L.A. LeSuer, J.J. Weber, M.R. Kanost.** Kansas State University.

B450 **538.11** Vespa Amino Acid Mixture (VAAM) Enhances Electron and Proton Transport in Mitochondria and Leads to Excessive Reactive Oxygen Production. **A. Mohamed, S. Stowers, K. Clark, M. Dameron, A. Weikel, E. Colon, S.B. Redmond.** Radford University.

B451 **538.12** The L Type Calcium Channel $Ca_v1.2$ Modulates Mitochondrial Calcium Homeostasis and Cell Death. **M. Noterman, M-K. Shin, E. Vazquez-Rosa, C. Cintrón-Pérez, A. Rajadhyaksha, E. Taylor, A. Pieper.** University of Iowa, Weill Cornell Medicine and Cornell University.

B452 **538.13** Protective Effect of *Larportea aestuans* Extract on Diclofenac-Induced Oxidative Stress in the Brain of Male Wistar Rats. **O.E. Omotosho, D. Ogunlade.** Covenant University, Nigeria.

B453 **538.14** The Role of Glutathione Maintenance in Protection Against Advanced Glycation End Product Induced Neurite Degeneration in SH-SY5Y Cells. **M.A. Stochelski, T.M. Wilmanski, J.R. Burgess.** Purdue University.

B454 **538.15** Understanding How the Protein Environment Accelerates Cofactor-Free O_2 Activation in Antibiotic Biosynthesis Monooxygenases (ABMs). **E. Ellis, M.M. Machovina, J.L. DuBois.** Montana State University.

B455 **538.16** Chebulic Acid Against *t*-BHP-Induced Effect via Modulations of Nrf2 and Its Related Enzymes in HepG2 Cells. **K. Lee, H-L. Jung, S-Y. Yang.** Korea University, Republic of Korea.

B456 **538.17** Citrus Polymethoxyflavones (PMFs) Inhibit 12-*O*-Tetradecanoylphorbol 13-Acetate (TPA) Induced Mouse Skin JB6 P+ Cell Transformation Though the Activation of Nrf2 Pathway. **Z-Y. Su, G-W. Pan, C-L. Tsai, H-X. Wu, G-J. Wei.** Chung Yuan Christian University, Taiwan and Kainan University, Taiwan.

539. REGULATION OF LIPID METABOLISM

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B457 **539.1** Feedback Regulation of HMG-CoA Reductase in Livers of Mice. **S. Su, K. Garland, Y. Jo, S. Hwang, G. Young, I. Fuentes, M. Schumacher, R. Elsabrouty, B. Johnson, R.A. Debose-Boyd.** The University of Texas Southwestern Medical Center.

B458 **539.2** Phosphorylation of Yeast Nem1-Spo7 Protein Phosphatase Complex by Protein Kinase C. **P. Dey, W-M. Su, G-S. Han, G.M. Carman.** Rutgers University.

B459 **539.3** Long Non-Coding RNA H19 Serves as a Lipid Sensor to Reprogram Hepatic Lipid and Glucose Homeostasis by Interaction with RNA Binding Protein PTBP1. **Z. Yang, C. Liu, J. Wu, D-J. Shin, M. Tran, L. Wang.** University of Connecticut.

B460 **539.4** A Conserved Degron Containing an Amphipathic Helix Regulates the Cholesterol-Mediated Turnover of Human Squalene Monooxygenase, a Rate-Limiting Enzyme in Cholesterol Synthesis. **N.K. Chua, V. Howe, N. Jatana, L. Thukral, A.J. Brown.** University of New South Wales Sydney, Australia and CSIR-Institute of Genomics and Integrative Biology, India.

B461 **539.5** Activation of PPARγ Inhibits Hepatic Cholestasis with Involvement of Nogo-B Expression. **S. Zhang.** Nankai University, People's Republic of China.

B462 **539.6** Med17 Is Phosphorylated at S53 by Ck2 for Transcriptional Activation of Lipogenic Genes in Response to Insulin. **J.A. Viscarra, Y. Wang, H.S. Sul.** University of California and Berkeley.

B463 **539.7** Mutation in *Mon2*, Which Encodes a Protein Implicated in Vesicular Transport, Affects Response to Exogenous Fatty Acids in Yeast. **R. Draper, A. Gasparotto, M. Soni, B. Gasper, J. Stukey, V. McDonough.** Hope College.

B464 **539.8** PCSK9 Reduces Hepatic Lipid Content and Confers Protection Against ER Stress and ROS in HepG2 Cells. **J.H. Byun, P. Lebeau, A. Al-Hashimi, K.C. Platko, B. Trigatti, N.G. Seidah, R.C. Austin.** McMaster University, Canada, Thrombosis and Atherosclerosis Research Institute (TaARI), Canada, Clinical Research Institute of Montreal and affiliated to the University of Montreal, Canada.

B465 **539.9** Effects of Phosphorylation State on Perilipin 5 Localization and Trafficking. **H.M. Bailey, J.T. Tansey.** Otterbein University.

B466 **539.10** IL-6 and Bile Acids Are Skin-Derived Factors That Regulate Whole-Body Metabolism in SCD1 Deficient Mice. **S.N. Dumas, C-A. Guo, J.M. Ntambi.** University of Wisconsin—Madison.

B467 **539.11** Dynamic Actin Reorganization and Vav/Cdc42-Dependent Actin Polymerization Promote Macrophage Aggregated LDL Uptake and Catabolism. **R.K. Singh, A.S. Haka, P. Bhardwaj, F.R. Maxfield.** Weill Cornell Medicine and Cornell University.

B468 **539.12** Them1 Regulates the Subcellular Localization of Glycogen in Brown Adipocytes: Implications for Energy Homeostasis. **Y. Li, S. Goyal, L-H. Ang, D.E. Cohen, S.J. Hagen.** Beth Israel Deaconess Medical Center, Weill Cornell Medicine and Cornell University.

B469 **539.13** Characterization of Coq11, a Novel Protein Involved in the Biosynthesis of Coenzyme Q in *Saccharomyces cerevisiae*. **M.C. Bradley, H. Ibarra, A. Awad, H. Tsui, K. Yang, C. Allan, C. Clarke.** University of California and Los Angeles.

B470 **539.14** Identification and Regulation of Nrnp1, a Novel Nutritionally Regulated Gene Involved in Cell Death. **N.S. Cairl, V. Kalman-Maltese, C.M. Smas.** University of Toledo.

B471 **539.15** Polyunsaturated Fatty Acids Directly Regulate Coenzyme Q Biosynthesis. **L. Fernandez del Rio, M.I. Burón, C.F. Clarke, J.M. Villalba.** University of California, Los Angeles and University of Córdoba, Spain.

B472 **539.16** Lipid Droplet Size Determines Cooperation of Lipolysis and Lipophagy in Hepatocytes. **M.B. Schott, S.G. Weller, R. Schulze, M.A. McNiven.** Mayo Clinic.

B473 **539.17** Nutrient Sensing and Mitochondrial Coenzyme Q Biosynthesis: Are They Connected by a Phosphatase? **A.M. Awad, S. Venkataramanan, A. Nag, A.R. Galivanche, M.C. Bradley, L. Neves, S. Douglass, T.L. Johnson, C.F. Clarke.** University of California and Los Angeles.

B474 **539.18** Fatty Acids Bind to the Star-Related Lipid Transfer Domain of Thioesterase Superfamily Member 1, a Master Regulator of Thermogenesis and Energy Expenditure. **M.C. Tillman, E. Ortlund.** Emory University.

B475 **539.19** The PhoP/PhoQ Two-Component Regulatory System Influences on *Escherichia coli* Headgroup-Acylated Glycerophospholipids. **A.S. DiNardo, T.A. Garrett.** Vassar College.

B476 **539.20** The *PAH1*-Encoded Phosphatidate Phosphatase Plays a Role in Lipogenesis in the Oleaginous Yeast *Yarrowia lipolytica*. **D. Hardman, R. Ukey, S. Fakas.** Alabama A&M University.

B477 **539.21** Long-Chain Acyl-CoA Synthetase 6 Deficiency Reduces the Omega-3 Fatty Acid DHA in the Brain and Disrupts Motor Control. **J.M. Ellis, R.F. Fernandez, Y. Zhao, J.L. Counihan, D.K. Nomura, J.A. Chester.** Purdue University and University of California.

540. LIPID SIGNALING

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

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Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B478 **540.1** Chemoproteomic Discovery of Ligand Binding Hotspots in the Lipid Kinome. **K-L. Hsu.** University of Virginia.

B479 **540.2** CB1 but Not CB2 Cannabinoid Receptor Increases Neurite Extension in Human Neuroblastoma. **E.L. Lyons, S. Kabler, A. Howlett, A.L. Kovach, B. Thomas.** Wake Forest University and RTI International.

B480 **540.3** A Novel Role of Sphingolipids and Mitochondria in Glutamate-Induced Programmed Necrosis in Oligodendrocytes. **S.A. Novgorodov, J.A. Voltin, L. Li, M.A. Gooz, J.J. Lemasters, T.I. Gudz.** Medical University of South Carolina.

B481 **540.4** CysLT2R Is a Novel Therapeutic Target for Tumor Angiogenesis, Growth and Metastasis. **L.R. Teegala, E. Duah, V. Kondeti, R. Adapala, C. Thodeti, S. Paruchuri.** University of Akron and Northeast Ohio Medical School.

B482 **540.5** A Reevaluation of the Role of Phosphatidylinositol Transfer Protein A in Growth Factor Signaling. **M.I. McDermott, R. Diz, S. Hur, M.G. Lete, C.J. Applebee, A. Grabon, A. Tripathi, M.J.O. Wakelam, B. Larijani, V.A. Bankaitis.** Texas A&M University, University of the Basque Country, Spain and Babraham Institute, United Kingdom.

B483 **540.6** Novel Biosensors for an Enigmatic Phosphoinositide. **B. Goulden, J. Zewe, R. Wills, G. Hammond.** University of Pittsburgh.

B484 **540.7** A Novel Multi-Domain Phosphatidylinositol Transfer Protein/Oxysterol Binding Protein Senses Specific Phosphoinositide Pools on *Toxoplasma* Dense Granules. **A. Grabon, V.A. Bankaitis.** Texas A&M University.

B485 **540.8** Metabolic Control of Two Dynamic Pools of Diacylglycerol in Budding Yeast. **S. Ganesan, M. Tavassoli, M.L. Sosa, K. Wagner, M. Terebiznik, V. Zaremberg.** University of Calgary, Canada and University of Toronto, Canada.

B486 **540.9** Modified Hplc Method for Detection of Hydroxyoctadecadienoic Acid with Greater Sensitivity. **N.J. Chesmore, W. Zhang, M.P. Richards, D. Shanmuganayagam.** University of Wisconsin—Madison.

B487 **540.10** PI(3,5)P_2 Regulates Vacuole Cation Transport to Mediate Cellular Osmoregulation. **Z. Wilson, G. Odorizzi.** University of Colorado Boulder.

B488 **540.11** Expression Profiling of Genes Regulated by Sphingosine Kinase 2 in a Murine Model of *Pseudomonas aeruginosa* Mediated Acute Lung Inflammation. **D.L. Ebenezer, P. Fu, Y.H. Krishnan, S.C. Jung, H. Hu, Z. Arbieva, R. Madduri, A.K. Harijith, V. Natarajan.** University of Illinois at Chicago, University of Chicago and Argonne National Lab.

541. MEMBRANE DOMAINS,RAFTS,TRANSPORTERS AND CHANNELS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
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Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B489 **541.1** Subcellular Distribution of Cholesterol and Sphingolipids in Rat Hepatocytes. **B. Stieger, J. Steiger, N. Jiménez, I. Riezman, H. Riezman.** University Hospital, Switzerland and University of Geneva, Switzerland.

B490 **541.2** Lipid Raft Dynamics in the Adolescent Brain Under the Influence of Chronic Ethanol and Caffeine. **D.E. Rhoads, C. O'Shea, M. Telatin.** Monmouth University.

B491 **541.3** Brewster Angle Microscopy and Langmuir Monolayer Films: Construction of an Instrument and Basic Software Development for Visualization of Lipid Domains and Lipid Raft Formation. **B.C. Allen, B.E. Sturgeon, A.G. Sostarecz.** Monmouth College.

B492 **541.4** Human Follicle Stimulating Hormone Receptor Lipid Raft Residency Is Hormone and Caveolin Dependent. **H.E. Madden, A. Stewart, B.D. Cohen.** Union College.

B493 **541.5** Follicle Stimulating Hormone Receptor Signaling Is Regulated by Lipid Raft Residency. **M.M. Wells, B.D. Cohen.** Union College.

B494 **541.6** Purification of Hepatocyte and Sinusoidal Endothelial Cells from Mouse Liver Perfusion. **F. Cabral, C.M. Miller, K.M. Kudrna, B.E. Hass, J.G. Daubendiek, B.M. Keller, E.N. Harris.** University of Nebraska-Lincoln.

B495 **541.7** The Effect of Spices on Cancer Incidence in Peru. **P. Perez, R. Solomon.** Mount Saint Mary's University.

B496 **541.8** Personalized Diagnosis for Lafora Disease, a Fatal Epilepsy. **J.L. Wayne, M.K. Brewer, M.S. Gentry.** University of Kentucky.

B497 **541.9** Uncovering Clinically Relevant Mutations in Membrane Transporters by Genetic Analysis Linked to the Determination of Erythrocyte Membrane Protein Expression. **B. Sarkadi, B. Zambo, Z. Bartos, O. Mozner, E. Szabo, G. Varady, L. Homolya.** Institute of Enzymology, Research Centre for Natural Sciences and Hungarian Academy of Sciences, Hungary.

B498 **541.10** Phosphatidylinositol (4, 5)-Bisphosphate Coordinates Functional Interactions in the Dopamine Transporter to Promote Amphetamine Behaviors. **J. Aguilar, A. Shekar, H. Matthies, A. Galli.** Vanderbilt University and University of Alabama at Birmingham.

B499 **541.11** Effects of Vacuolar H^+-ATPase Inhibition on Activation of Cathepsin B and Cathepsin L Secreted from MDA-MB231 Breast Cancer Cells. **A.M. Hinton, A. Uhlman, K. Folkers, J. Liston, H. Pancholi.** Denison University.

B500 **541.12** Functional Characterization of Single Nucleotide Polymorphisms in the *TMEM163* Gene. **V. Sanchez, S. Ali, M.P. Cuajungco.** California State University and Fullerton.

B501 **541.13** Nanodiscs: A Novel Approach to Studying the Methionine ABC Transporter System. **M.G. Winslow, J.G. Yang.** University of San Francisco.

B502 **541.14** Native Gel Electrophoresis Reveals Partial Physical Association of Band 3 and Aquaporins on the Erythrocyte Membrane. **K. Hsu, Y-S. Li, H-J. Lin.** Mackay Memorial Hospital, Taiwan.

542. ORGANELLES AND TRAFFICKING

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
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Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B503 **542.1** Ca2+-Dependent Focal Exocytosis of Golgi-Derived Vesicles Helps Phagocytic Uptake in Macrophages. **N.K. Vashi.** National Institute of Immunology, India.

B504 **542.2** ESCRT Membrane Scission Revealed by Optical Tweezers. **J. Schöneberg, S. Yan, A.H. Bahrami, M. Righini, I-H. Lee, M-R. Pavlin, L-A. Carlson, D. Goldman, G. Hummer, C. Bustamante, J. Hurley.** University of California, Berkeley and Max Planck Institute of Biophysics, Germany.

B505 **542.3** Isolation of Phagosomes Containing Bovine Photoreceptor Outer Segments from Retinal Pigment Epithelial Cells by Magnetic Selection. **R. Dorvilier, S. Shelby.** Florida Southern College.

B506 **542.4** Increasing Seed Iron Content by Gene Manipulation in *Arabidopsis*. **Z. Ghalamkari, T.J. Buckhout.** Humboldt Universität zu Berlin , Germany.

B507 **542.5** Differential Effect of OCRL1 Patient Mutations on Protein Localization, and Sensitivity to Fda-Approved Drug Suppression of Cellular Phenotypes Associated with Lowe Syndrome. **S. Ramadesikan, K. Madhivanan, R.C. Aguilar.** Purdue University.

B508 **542.6** mTOR-Dependent Selective Translation Rapidly Expands Lysosome Biogenesis, Volume and Retention Capacity During Phagocyte Activatio. **R. Botelho, V. Hipolito, K. Tandoc, I. Topisirovic.** Ryerson University, Canada and McGill University, Canada.

B509 **542.7** Nano-Scale Size Holes in ER Sheets Provide an Alternative to Tubules for Highly-Curved Membranes. **S. Bahmanyar, L. Schroeder, A. Barentine, S. Schweighofer, D. Baddeley, J. Bewersdorf.** Yale University and Yale School of Medicine.

B510 **542.8** Yck3 Dependent Phosphorylation of Env7 and Its Regulation During Cell Cycle in *Saccharomyces cerevisiae*. **S. Manandhar, S.P. Valencia, C. Alvarado, I. Mansoora, E. Gharakhanian.** California State University and Long Beach.

B511 **542.9** Effects of the Cell Cycle on Vacuole Size in *S. cerevisiae* Yeast. **J.C. Sims.** San Francisco State University.

B512 **542.10** Biomechanical Control of Lysosomal Secretion via the VAMP7 Hub: A Tug-of-War Mechanism Between VARP and LRRK1. T**. Galli, G. Wang, S. Nola, S. Bovio, M. Coppey-Moisan, F. Lafont.** Institut National de la Santé et de la Recherche Médicale (INSERM) U894, Institute of , France, Institut Pasteur de Lille, National Center for Scientific Research UMR 8204—INSERM U1019, Centre H, France, Metropolitan, National Center for Scientific Research UMR7592 and Institut Jacques Monod, France.

B513 **542.11** Inactivation of Dynamin 1 in Cln1$^{-/-}$ Mouse Brain Contributes to Declining Synaptic Pool Size. **M.B. Bagh, T. Sadhukhan, A.P. Appu, S. Casey, Z. Zhang, A.B. Mukherjee.** Eunice Kennedy Shriver National Institute of Child Health and Human Development and National Institutes.

B514 **542.12** AP-3-Dependent Mechanisms Regulate the Trafficking of ATP8A1 to Lamellar Bodies in Alveolar Type 2 Cells. **S. Kook, P. Wang, S. Meng, H.A. Hanby, A. Jaume, L. Goetzl, M.S. Marks, S.H. Guttentag.** Vanderbilt University Medical Center, The Children's Hospital of Philadelphia and Temple University.

B515 **542.13** YVC1 Acts as a Novel Suppressor of Vacuolar Membrane Fusion. **G.E. Miner, A. Guo, K.D. Sullivan, R.A. Fratti.** University of Illinois at Urbana-Champaign.

B516 **542.14** The Role of the ESCRT Pathway in Prion Disease. **J. Lawrence.** University of California and San Diego.

B517 **542.15** Dissection of the Erv41-Erv46 Retrieval Pathway Suggests a Redox-Regulated Mechanism. **K. Keiser, A. Shibuya, C. Barlowe.** Dartmouth College.

B518 **542.16** The E3 Ubiquitin Ligase WWP2 Regulates Endosomal Trafficking of the Purinergic Receptor P2Y1. **C.R. Kotsis, H. Singh, M.R. Dores.** Hofstra University.

B519 **542.17** Deciphering TRAPP Complex Function in Yeast. **A. Joiner, C. Fromme.** Cornell University.

B520 **542.18** Automated Detection of GPCR Exocytic Events Reveals Distinct Recycling Populations. **Z.Y. Weinberg, T. Phan, M.A. Puthenveedu.** University of Michigan and Carnegie Mellon University.

B521 **542.19** "Acetylation Controls Thyroid Hormone Receptor Intracellular Localization and Intranuclear Mobility". **C.S. Anyetei-Anum, L.A. Allison.** College of William and Mary.

B522 **542.20** PML-Nuclear Bodies Regulate the Stability of the Fusion Protein Dendra2-Nrf2 in the Nucleus of Single Live Cells. **A.F. Burroughs, S. Eluhu, D. Whalen, J.S. Goodwin, A.M. Sakwe, I.J. Arinze.** Meharry Medical College.

B523 **542.21** Gemcitabine and 5-FU Disrupt Nuclear Transport and Subsequent Localization of p21, p27 and p53 in Cancer Cells. **A. Nickle, K.K. Resendes.** Westminster College.

B524 **542.22** Lysophosphatidylcholine Analogues Alter Yeast Nuclear Envelope Architecture and Function. **M.L. Sosa Ponce, J.A. Cobb, V. Zaremberg.** University of Calgary, Canada.

B525 **542.23** The Unfolded Protein Response Regulator, ATF6, Promotes Mesodermal Differentiation. **H. Kroeger, N. Grimsey, R.J. Paxman, W-C. Chiang, L. Plate, Y. Jones, P.X. Shaw, J. Trejo, S.H. Tsang, E. Powers, J.W. Kelly, R.L. Wiseman, J.H. Lin.** University of California, San Diego, Scripps Research Institute, Vanderbilt University and Edward S. Harkness Eye Institute.

B526 **542.24** Targeting Differentially Expressed UPR Mediators in Mucin-Rich Colorectal Cancers and Conventional Colorectal Adenocarcinomas. **E.M. Nakada, S.R. Bruno, J. Miller, B. Korwin-Mihavics, N.L. Chamberlain, J. Ramsey, M. Zenali, S. Ades, V. Anathy.** University of Vermont and University of Vermont College of Medicine.

B527 **542.25** FIC-Mediated Deampylation Is Not Dependent on Homo-Dimerization and Rescues Toxic Ampylation in Flies. **A.K. Casey, A.T. Moehlman, J.K. Zhang, K.A. Servage, H.K. Krämer, K. Orth.** The University of Texas Southwestern Medical Center and Howard Hughes Medical Institute.

B528 **542.26** Characterization of GIV-GRP78 Interaction During Endoplasmic Reticulum Stress. **C. Limso, J. Ngo, P. Nguyen, D. Bhandari.** California State University and Long Beach.

B529 **542.27** Impaired Insulin-Like Growth Factor-1 Function in X-Linked Adrenoleukodystrophy Patients. **G.S. Dhaunsi.** Kuwait University, Kuwait.

B530 **542.28** Myosin IIA Is the Most Important Effector of Zyxin in cAMP-Mediated Endothelial Exocytosis. **G. Wei, P. Li, L. Chen, J. Luo.** Peking University, People's Republic of China.

B531 **542.29** Determining the Role of Annexin A6 in Cell Membrane Repair. **J. Day, K. Sonnemann, W. Bement.** University of Wisconsin—Madison.

B532 **542.30** Tale of the Two Domains in Twinfilin: Deciphering Phagocytosis Through Actin Dynamics. **P.P. Rath, N. Kumar, M. Babuta, A. Bhattacharya, S. Gourinath.** Jawaharlal Nehru University, India and International Centre for Genetic Engineering and Biotechnology, India.

543. MITOCHONDRIA IN HEALTH AND DISEASE

Poster

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
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Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B533 **543.1** mtDNMT1 and DNMT3B Cooperate to Methylate Mitochondrial DNA and Regulate Mitochondrial Transcription. **L. Shock, E. Burton, J. Robinson, S. Taylor.** Virginia Commonwealth University.

B534 **543.2** Mitochondrial Dysfunction in Type 2 Diabetic Skeletal Muscle Cells. **D.L. Castaneda, K. Yamazaki.** California State University and Los Angeles.

B535 **543.3** Inhibition of Excessive Mitochondrial Fission Protects the Cardiomyocyte Against Palmitate-Induced Lipotoxicity. **S-J. Li, C-Y. Chen.** National Taiwan University, Taiwan.

B536 **543.4** Altered Metabolism and Mitochondrial Lipid Content Drive the Evasion of Apoptosis. **K.A. Ross, A.J. Wyeth, K.E. Dittenhafer-Reed.** Hope College.

B537 **543.5** Seeking New Molecular Targets to Control Mitochondrial Biogenesis. **L.R. Silveira, B.A. Pauletti, A.F. Paes Leme, T.I. Lima.** UNICAMP, Brazil and Brazilian Biosciences National Laboratory, Brazil.

B538 **543.6** Protease Oma1 Modulates Mitochondrial Metabolism and Cristae Structure Through Interaction with MICOS Complex. **R.M. Levytskyy, M.P. Viana, O. Khalimonchuk.** University of Nebraska-Lincoln.

B539 **543.7** Activation of Mitochondrial Calpain 1 Leads to Degradation of PDH. **Q. Chen, J. Thompson, Y. Hu, J. Hollander, E. Lesnefsky.** Virginia Commonwealth University and West Virginia School of Medicine.

B540 **543.8** The Genetic Origin of a Rare Mitochondrial Disorder. **L. Bartl, B. DeVries, J. Reider, S.P. Vitiello.** Augustana University.

B541 **543.9** Dual Perturbation of Electron Transport Chain (ETC) Complex and ATP Synthase Triggers PINK1/Parkin-Dependent Mitophagy. **A.T. Ramirez, X. Liu.** University of Colorado Boulder.

B542 **543.10** Investigation the Zinc-Mitophagy Signaling in Hypoxic Cells. **Q. Lu, Y. Li.** Ohio University.

B543 **543.11** Mitochondrial Selective Autophagy (Mitophagy) During Dengue Infection. **G.H. Syed, B. Singh, K. Poornima, F. Alam, K. Avula, D. Taraphdar.** Institute of Life Sciences, India.

B544 **543.12** Mitochondrial Membrane Potential and Aging in the Beer Fermentation Process. **D.J. Hall.** Lawrence University.

B545 **543.13** Regulatory Network Analysis of Endoplasmic Reticulum–Mitochondrial Contacts. **G. Cho, I-t. Cho, Y. Lim, J. Golden.** Brigham and Women's Hospital.

B546 **543.14** What's Killing the Buzz? The Effects of Neonicotinoids on *Apis mellifera* Mitochondrial Metabolism. **M. Dickey.** Salisbury University.

B547 **543.15** Association Between High Fat Consumption, Myelin Loss, and Mitochondrial Dynamics. **M.R. Langley, H. Yoon, H. Kim, I. Lanza, L. Kleppe, W. Simon, A. Matveyenko, N. LeBrasseur, I. Scarisbrick.** Mayo Clinic.

B548 **543.16** The Protective Role of Paraoxonase 2 in Cardiomyocytes Against Myocardial Ischemia-Reperfusion Injury. **D. Sulaiman, A. Devarajan, C.M. Cunningham, J. Li, M. Eghbali, S. Reddy.** University of California and Los Angeles.

B549 **543.17** The Effects of Zinc on Mitochondrial Morphology. **K. Knies, Q. Lu, Y. Li.** Ohio University.

B550 **543.18** Impact of Mitochondrial DNA Haplogroups on Cancer Gene Expression. **K. Schneider, M. Chwa, S. Atilano, M.C. Kenney.** University of California and Irvine.

B551 **543.19** Deciphering the Effect of Endoplasmic Reticulum (ER) Stress on Near-Mitochondrial Localized Translation. **S. Maity, S. Back, J. Rendleman, C. Vogel.** New York University.

B552 **543.20** Potential Mitochondrial Dysfunction in Skeletal Muscle of Mouse Models of *Osteogenesis Imperfecta*. **V. Gremminger, Y. Jeong, R. Cunningham, G. Meers, R.S. Rector, C. Phillips.** University of Missouri

B553 **543.21** A Novel Pharmacological Modulator Abrogates Physiological Mitochondrial Fission Though Specifically Inhibiting the MFF-DRP1 Protein-Protein Interaction. **O.S. Kornfeld, N. Qvit, M. Shamloo, D. Mochly-Rosen.** Stanford University.

544. GLYCANS AND GLYCOBIOLOGY (I)

Poster

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
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Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B554 **544.1** Role of the Kdo Glycosyltransferase KpsS in the Biosynthesis of the Polysialyltransferase Acceptor for *Escherichia coli* K1. **N. Lanz, V. Thon, W. Vann.** U.S. Food and Drug Administration.

B555 **544.2** Endoplasmic Reticulum (ER) Stress Is Anti-Angiogenic and Anti-Tumorigenic. **A. Rivera Ruiz, J.E. Serrano Negron, K. Baksi, D.K. Banerjee.** University of Puerto Rico and Universidad Central del Caribe.

B556 **544.3** ER Stress Marker GRP78 Is *Not* Expressed on $ER^-/PR^-/HER2^-$ Human Breast Cancer Cell Surface *or* Secreted. **D.K. Banerjee, J.E. Serrano Negron, A. Rivera Ruiz, K. Baksi.** University of Puerto Rico and Universidad Central del Caribe.

B557 **544.4** Dolichol Phosphate Mannose Synthase: A Glycosyltransferase with Unity in Molecular Diversities. **K. Baksi, Z. Zhang, J.E. Serrano Negron, D.K. Banerjee.** Universidad Central del Caribe and University of Puerto Rico.

B558 **544.5** Characterization of O-GlcNAc Hydrolase with Phosphomimetic Mutations. **M. Hinkle, G. Crawford.** Mercer University.

B559 **544.6** Biochemical Characterization of Missense Mutations in O-GlcNAc Transferase Found in Patients with X-Linked Intellectual Disability. **S.N. George, N. Selvan, H. Stephen, L. Wells.** University of Georgia.

B560 **544.7** Screening Point Mutations of the O-GlcNAc Hydrolase Enzyme, OGA, to Investigate Potential Regulation. **G. Crawford.** Mercer University.

B561 **544.8** Genotype-Phenotype Correlations for Protein *O*-Linked Mannose N-Acetylglucosaminyltransferase 1 in Congenital Muscular Dystrophy. **J.Z. Ho, S.R. Boyd, D. Singh, S.M. Halmo, L. Wells.** University of Georgia.

B562 **544.9** A Novel Monomodular and Multifunctional Processive β-1,4-Endoglucanase Has Been Identified and Characterized from Porcine Gut Microbiome. **W. Wang, T. Archbold, J.S. Lam, M.S. Kimber, M.Z. Fan.** University of Guelph, Canada.

B563 **544.10** Molecular and Structural Recognition of *Listeria* Cell-Wall Glycopolymers by Bacteriophage-Encoded SH3b Domains. **Y. Shen, I. Kalograiaki, A. Prunotto, M. Dunne, E. Sumrall, F.J. Cañada, M. Loessner.** ETH Zürich, Switzerland, Centro de Investigaciones Biológicas, Spain and Faculdade de Medicina Universidade de Lisboa, Switzerland.

B564 **544.11** Characterization of Bacterial Cell Wall Fragment Recognition by the Yeast Protein Cyr1p. **D.J. Scanlon, J. Burch, C. Grimes.** University of Delaware.

B565 **544.12** Understanding Specificity of Glycosaminoglycan Interactions with Proteins. **U.R. Desai, B.B. Patel.** Virginia Commonwealth University and McGuire VA Medical Center.

B566 **544.13** Computational Study of Glycosaminoglycan Specificity for Growth Factor and Chemokine Family Members. **B. Nagarajan, N.V. Sankaranarayanan, U.R. Desai.** Virginia Commonwealth University

B567 **544.14** Protein-Glycan Interactions: Binding of Different Norovirus VLPs to a Panel of Histo-Blood Group Antigens. **D. Liu, A.N. Dhawane, X. Zhang, X. Cui, M. Diez-Valcarce, J. Vinje, S.S. Iyer.** Georgia State University and Centers for Disease Control and Prevention.

B568 **544.15** Breaking the Limits in Analyzing Carbohydrate Recognition by NMR: Resolving Branch-Selective Interaction of a Tetraantennary N-Glycan with Lectins. **A. Canales, I. Boos, L. Karst, L. Perkams, T. Luber, T. Karagiannis, J. Cañada, G. Domínguez, J. Perez-Castells, C. Unverzagt, J. Jiménez-Barbero.** Complutense University of Madrid, Spain, Bayreuth University, Germany, Centro de Investigaciones Biológicas, Centro de Investigaciones Biológicas, Consejo Su, Spain, CEU San Pablo University, Spain and CIC bioGUNE, Spain.

B569 **544.16** High-Specificity Affinity Reagents for the Detection of Glycan Sialylation. **L. Yang, S. Wu, J.C. Cooper, M.K. Paul, A.L. Cummings, Z.M. Eletr, S.L. Ben-Arye, V. Padler-Karavani, K.N. Samli, R.J. Woods.** Lectenz Bio, Tel Aviv University, Israel and University of Georgia.

B570 **544.17** Resolving Extended N-Glycans by NMR: New Insights into Influenza Hemagglutinin N-Glycan Interactions. **B. Fernández de Toro Ronda, W. Peng, A. Thompson, G. Domínguez, F.J. Cañada, J. Pérez Castells, J. Jiménez Barbero, J.C. Paulson, Á. Canales.** Centro de Investigaciones Biológicas, Centro de Investigaciones Biológicas, Consejo Su, Spain, Scripps Research Institute, CEU San Pablo University, Spain, CIC bioGUNE, Spain and Complutense University of Madrid, Spain.

B571 **544.18** Deciphering a Novel Mechanism Regulating Galectin-Glycoprotein Lattice Assembly/Disassembly During Cell-Cell Interactions. **L. Elantak, P. Touarin, O. Bornet, Q. Chen, L.G. Scott, F. Guerlesquin.** National Center for Scientific Research, France and Cassia LLC.

B572 **544.19** Library of Recombinant Heparan Sulfates from Mammalian Cell Culture: Paving the Way to Bioengineered Heparin. **B. Thacker, G. Lee, M. Scott, T. Groth, K. Thorne, S. Sharfstein, C. Glass.** TEGA Therapeutics and State University of New York Polytechnic Institute.

B573 **544.20** Glycosense™: A Rapid Method for Monitoring *in Vitro* Glycoengineering. **L. Yang, M.J. Saunders, K.N. Samli, R.J. Woods.** Lectenz Bio and University of Georgia.

B574 **544.21** Highly Specific and Rapid Glycan Based Amperometric Detection of Influenza Viruses. **X. Cui, A. Das, A. Dhawane, J. Sweeney, X. Zhang, V. Chivukula, S. Iyer.** Georgia State University and Atlanta Metropolitan State College.

B575 **544.22** Synthesis and Evaluation of Biotinylated Bivalent Histoblood Group Antigens for Capturing Human Noroviruses. **A. Dhawane, M. Diez-Valcarce, B. Gurale, H. Dinh, J. Vinje, S. Iyer.** Georgia State University and Centers for Disease Control and Prevention.

B576 **544.23** A Novel Systems-Level Approach to Unravel the Regulation and Biosynthetic Steps of Glycosylation. **N. Lewis.** University of California and San Diego.

Pathology

545. NEUROPATHOLOGY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Neuroscience

Presentation time: 11:45 am–12:45 pm

D1 **545.1** Boston Naming Test Predicts Deterioration of Cerebrospinal Fluid Biomarkers in Pre-Symptomatic Alzheimer's Disease. **C. Wilder, K. Moncrieffe, A. Nolty, X. Arakaki, A. Fonteh, M. Harrington.** Fuller Theological Seminary and Huntington Medical Research Institutes.

D2 **545.2** Identifying Alzheimer's Disease Biomarkers by Analyzing Fatty Acids in Cerebrospinal Fluid and Urine. **M. Kwong, H. Chew, K. Castor, M. Cipolla, M. Harrington, A.N. Fonteh.** HMRI.

D3 **545.3** Impaired Chemoreflex Response to Acute Hypoxia Correlates with Decreased Activation of the Medial Nucleus Tractus Solitarii in the Stz-Induced Rat Model of Alzheimer's Disease. **A.G. Brown, M. Thapa, J.W. Hooker IV, T.D. Ostrowski.** Kirksville College of Osteopathic Medicine, A.T. Still University and Truman State University.

D4 **545.4** Evidence of Increased Prefrontal Cortex Inflammation and Amyloid Precursor Protein Processing in a Translational Swine Model of Heart Failure with Preserved Ejection Fraction. **B.J. Baranowski, T.D. Olver, J.C. Edwards, T.J. Jurrisen, J. Padilla, R.S. Rector, C.E. Emter, R.E.K. MacPherson.** Brock University, Canada and University of Missouri.

D5 **545.5** Glutamic-Oxaloacetic Transaminase Combined with Metabolic Therapy in a Mouse Model of Amyotrophic Lateral Sclerosis. **C.Q. Rogers, M. Ramirez, C.S. Landon, J.M. DeBlasi, A.P. Koutnik, D.P. D'Agostino.** University of South Florida.

D6 **545.6** Role of MicroRNA-9 in the Pathogenesis of Parkinson's Disease. **S.Y. Goh, X.Y. Yeo, D.K. Srinivasan, S.T. Dheen, S.S.W. Tay.** Department of Anatomy, National University of Singapore and Yong Loo Lin School of Medicine, Singapore.

D7 **545.7** Cardiac Conduction Disease in Huntington's Disease Mouse Model (BACHD). **Y. Zhu, I. Shamblin, S. Ali, M. Gray, S. Huke.** University of Alabama at Birmingham.

D8 **545.8** Pathophysiological and Neurobehavioral Characteristics of a Propionic Acid-Mediated Autism-Like Rat Model. **J. Choi, S. Lee, J. Won, Y. Jin, Y. Hong, T-Y. Hur, J-H. Kim, Y. Hong.** Inje University, Republic of Korea, National Institute of Animal Science, Republic of Korea and Gyeongsang National University, Republic of Korea.

D9 **545.9** Neuroregeneration Improved by Ketones. **C. Ari D'Agostino, M. Zippert, D.P. D'Agostino.** University of South Florida.

D10 **545.10** Role of Cyclin A2 in Aging Hippocampus and rRNA Dynamics. **M.J. Alves, M. Goksel, S. Fair, S.M. Nunez, B. Kaya, H. Mustafa, C. Czeiler, J. Otero.** The Ohio State University.

D11 **545.11** Prion Deposition in the Retina of Sporadic Cruetzfeldt-Jakob Disease. **V. Goodwill, J. Lin, C. Sigurdson, M. Geschwind, H. Sanchez.** University of California and San Diego.

D12 **545.12** Cross-Talk Between Lipoprotein and Insulin Receptors in the Retina of Diabetic Mice. **J. Sherman, D. El-Desoky, R. Freter, R. Adams, H. Mbony, T. Joseph, D. Heron, A. Hossain, P. Bhattacharjee.** Xavier University of Louisiana.

D13 **545.13** Loss of Sex Hormones Alters Indices of Prefrontal Cortex and Hippocampal Insulin Signaling and Increases Lipid Content in a Region-Specific Manner Independent of Cardiac Pressure Overload in Female Aortic-Banded Yucatan Miniature Swine. **G.C. Hayward, A.J. Yang, P.J. Leblanc, J.A. Hiemstra, J.C. Edwards, C.A. Emter, T.D. Olver, R.E. MacPherson.** Brock University, Canada and University of Missouri.

D14 **545.14** Elucidating the Involvement of Endothelial TRPC3 Channels in Neurovascular Coupling During Status Epilepticus. **M. Cozart, S. Rhee, N. Rusch, K. Phelan, F. Zheng.** University of Arkansas for Medical Sciences.

D15 **545.15** A Novel Fiji Workflow Demonstrates Dynamic Changes in Postnatal Respiratory Nuclei Innervation by *Nkx2.2*- and *Olig3*-derived Neurons. **J. Liu, S. Fair, B. Kaya, J. Zuniga, H. Mostafa, M. Alves, C. Czeisler, J. Otero.** The Ohio State University.

D16 **545.16** Using Neurogenic Explants to Assess the Role of the Stem Cell Niche Structure Fractones in Adult Neurogenesis and Pathology. **A.S. Wulff, H. Davis, F. Mercier.** University of Hawaii at Manoa.

D17 **545.17** Mapping Astrocytes to Understand Development and Function of the Hindbrain. **H.R. Mostafa, C. Czeisler, J.J. Otero, M. Aljuhani.** The Ohio State University.

D18 **545.18** Astrogliosis and Downregulation of EAAT2 in Rats Infused with Nef Transfected Astrocytes. **J.M. Valles Ortiz, M.L. Cruz, Y.L. Rodriguez, K.M. Cintron, R.J. Noel.** University of Puerto Rico at Ponce and Ponce Health Sciences University.

D19 **545.19** Cross-Talk Between the Gut and the Brain in Rats Subjected to LPS-Induced Inflammation: Role of α- Synuclein. **M-F. Doursout, G. Gaskey, Z. Peng, D.L. Bick, K. Smith, R. Devalottai, M. Kowada, M. Schiess.** McGovern Medical School at The University of Texas Health Science Center.

D20 **545.20** MMP-12 Knockout Mouse: Is It a Relevant Animal Model to Study the Role of MMP-12 in Post-Stroke Brain Damage? **K.R. Nalamolu, B. Chelluboina, I.B. Magruder, A. Mohandas, I. Venkatesh, J.D. Klopfenstein, D.M. Pinson, D.Z. Wang, K.K. Veeravalli.** University of Illinois College of Medicine at Peoria.

D21 **545.21** Effects of Alcohol on Innate Immune Responses of BV-2 Microglial Cell Line Without Type 7 Adenylyl Cyclase. **Y. Hu, M. Yoshimura.** Louisiana State University.

D22 **545.22** Plasma Lipid Metabolism Is Altered in Acute Mild Traumatic Brain Injury. **A.N. Fonteh, K. Castor, E. Jung Im, X. Arakaki, J. Dawlaty, R.T. Goldweber, M. Harrington.** Neurosciences, HMRI, HMRI and Huntington Hospital.

D23 **545.23** Sex-Specific Neurobiological Differences in Addiction Neuropathology: An Educational Pilot Program for Next Generation Stem Workforce. **P. Vieira.** California State University.

D24 **545.24** The Effect of Myotonic Dystrophy on Intracellular Calcium Handling and Mitochondrial Function. **G. Herrera Rios, K. Yamazaki.** California State University and Los Angeles.

D25 **545.25** Effects of Botulinum Toxin Type A Combined with Exercise on the Functional Recovery After Spinal Cord Injury. **Y. Jin, D.M. Sumsuzzman, Y. Hong.** Inje University, Republic of Korea.

D26 **545.26** Theasinensins A Against Methylglyoxal-Induced Neurotoxicity via Autophagy in SH-SY5Y Cells. **A-C. Cheng, M-F. Lee, T-L. Huang, K-C. Cai, M-H. Pan.** Chang Jung Christian University, Taiwan and National Taiwan University, Taiwan.

D27 **545.27** The Role of mTOR and Ubiquitin in Plaque and Tangle Formation in Alzheimer's Disease Pathogenesis: A Report of Co-Localization in Two Alzheimer's Autopsy Cases. **J. Byers, S. French, M. Cornford.** Harbor-UCLA Medical Center.

D28 **545.28** Dynamic Integrative Sigma Quanta Energies in Multiple Neuro-Physio Processes on Example of Complex Regional Pain Syndrome/Reflex Synaptic Disorder—a Case Study. **G.P. Einstein, O.L. Tulp, C.M. Konyk, N.P. Kealoha.** Einstein Medical Institute, University of Science and Arts and Technology Montserrat, Montserrat.

546. BREAKING BAD: CONSEQUENCES OF LIVER INJURY

Poster

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Liver Pathobiology

Regenerative Medicine (Stem Cells, Tissue Regeneration, Biomaterials)

Cell and Tissue Injury

Presentation time: 11:45 AM–12:45 PM

D29 **546.1** Enhancement of Adiponectin Ameliorates Non-Alcoholic Fatty Liver Disease via Inhibition of FoxO1 in Type I Diabetic Rats. **X. Xie, Z. Xia.** HongKong University, People's Republic of China.

D30 **546.2** A Comparison of Multiple Histotechnical and Morphological Methods for Measuring Hepatic Lipids in NASH Models. **A.C. Opsahl, D.M. Crowell, Y. Zhan, F.J. Geoly, S.P. O'Neil.** Pfizer Inc.

D31 **546.3** Expression of Miscellaneous Genes Upregulated in Hepatocellular Carcinoma in Patients with Alcoholic (ASH) and Non-Alcoholic Steatohepatitis (NASH). **J. Lu, L. Nguyen, S. Samadzadeh, M. Masouminia, A. Mendoza, B. Tillman, T. Morgan, B. French, S. French.** Harbor-UCLA Medical Center, Veterans Affairs Medical Center and Long Beach.

D32 **546.4** Alcoholic Versus Non-Alcoholic Steatohepatitis: Levels of Expression of Some Proteins Involved in Tumorigenesis. **L. Nguyen, M. Masouminia, A. Mendoza, S. Samadzadeh, B. Tillman, B. French, S. French.** Harbor-UCLA Medical Center.

D33 **546.5** Putative MicroRNA Regulatory Networks in Hepatic Stellate Cells Underlying Chronic Ethanol-Mediated Impairment of Liver Regeneration After Partial Hepatectomy. **A. Parrish, E. Juskeviciute, J. Hoek, R. Vadigepalli.** Thomas Jefferson University.

D34 **546.6** AKR1A1 Deficiency Is Associated with High Risk of Alcohol-Induced Fatty Liver Syndrome. **W-R. Chen, Y-W. Lan, H-L. Chen, C-M. Chen.** Department of Life Sciences, National Chung Hsing University, Taiwan, Department of Medical Biotechnology and Laboratory Science, Chang Gung Christian University, Taiwan, Department of Bioresources and Da-Yeh University, Taiwan.

D35 **546.7** CXCR2 Regulates Hepatic Injury After Bile Duct Ligation by Altering Neutrophil Migration. **T. Konishi, R. Schuster, A. Lentsch.** University of Cincinnati.

D36 **546.8** The Role of Lipocalin-2 (LCN2) and High Mobility Box Group 1 (HMGB1) in Acetaminophen-Induced Acute Liver Failure. **E.D. Reed, R. Shashidharamurthy, V.S. Bhave.** Philadelphia College of Osteopathic Medicine.

D37 **546.9** Histone Deacetylase 3 Promotes Liver Regeneration and Liver Cancer Cells Proliferation Through Signal Transducer and Activator of Transcription 3 Signaling Pathway. **X. Lu, X. Zhuang, Y. Zhu, X. Cao, M. Shao, Q. Xu, Y. Zhou, Z. Wu, H. Ji, Q.R. Lu, J. Yang, Y. Shi, J. Liao, Y. Zeng, H. Bu.** Laboratory of Pathology, West China Hospital, Sichuan University, People's Republic of China, Department of Pathology, West China Hospital, Sichuan University, People's Republic of China, Key Laboratory of Transplant Engineering and Immunology, National Health and Family Planning Commiss, People's Republic of China, Department of Pediatrics, Division of Experimental Hematology and Cancer Biology, Brain Tumor Center, Department of Liver and Vascular Surgery, West China Hospital, Sichuan University, People's Republic of China, Department of Bioengineering, Bourns College of Engineering, University of California and Riverside.

D38 **546.10** β-Catenin Deficiency in Hepatocytes Aggravates Hepatocarcinogenesis Driven by Oncogenic β-Catenin and Met. **Y. Liang, Y. Feng, M. Zong, X-F. Wei, J. Lee, Y. Feng, H. Li, G-S. Yang, Z-J. Wu, X-D. Fu, G-S. Feng.** University of California, San Diego, Second Military Medical University, People's Republic of China and Chong-Qing Medical University, People's Republic of China.

547. BIOBANKING, EPIDEMIOLOGY, BIOINFORMATICS, AND BIOCOMPUTATIONAL PATHOLOGY

Poster

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Digital and Computational Pathology

Presentation time: 11:45 AM–12:45 PM

D39 **547.1** An Ensemble Machine Learning Approach to Predict Cognitive Impairment and Amyloid Deposition Through Metabolic and Vascular Deficits in ADNI Cohorts. **D.W. Ma, A-L. Lin.** Sanders Brown Center on Aging.

D40 **547.2** The Minimum Information About a Biosynthetic Gene Cluster Standard as a Means of Organizing Bioinformatic Data. **S.C. Epstein, M.H. Medema, L.K. Charkoudian.** Haverford College and Wageningen University, Netherlands.

D41 **547.3** High Throughput Pancreatic Islet Microtissue 3D Characterization for Compound Screening. **T. Villani, M. Johnson, G. Gardner.** Visikol Inc.

D42 **547.4** High Fat Diet Increases HMGB1 Levels in 4NQO-Induced Oral Cancer. **J. Goral, P. Mulligan, A. Meyer, J.M. Green, L. Pitstick, M. Pytynia, M.J. Ciancio, B. Jham.** Midwestern University.

D43 **547.5** Characterizing Native American Mitochondrial DNA Haplogroups in Puerto Ricans by Next-Generation Sequencing (NGS). **P.M. Matos, J.C. Martínez-Cruzado.** University of Puerto Rico at Mayagüez, Puerto Rico.

D44 **547.6** The Assessment of Cognitive Food Consumption Experience. **S.S. Atakan, B. Wansink.** Cornell University.

D45 **547.7** Heavy Baristas, Heavy Orders: Customers Order More Calories from Overweight Baristas. **B. Wansink, A. Junghans.** Cornell University and FountLabs, Netherlands.

D46 **547.8** First Seen First Bought: Supermarket Aisles Order and Spending. **B. Wansink, K. Stein, R. Lutz.** Cornell University and University of Florida.

D47 **547.9** High fat diet risk factor for gingival Immunosuppression and cancer. **K. Kaur, G.A. Eibl, A. Jewett.** UCLA.

D48 **547.10** An Overview of Minority-Based Research on Diabetes Type II in the US Between 2012–2017. **A. Tajkarimi.** Santa Monica College.

D49 **547.11** Egg Consumption and Risk of Cardiovascular Diseases, Evidence from China Health and Nutrition Survey 2000-2011 **J. Zhang, W. Du, F. Huang, C. Su, J. Zhang, H. Jiang, X. Jia, Y. Ouyang, Y. Wang, L. Li, H. Wang.** National Institute of Nutrition and Food Safety and Chinese Center for Disease Control and Prevention, People's Republic of China.

D50 **547.12** Dietary Behaviors and Nutritional Intake of Patients with Type 2 Diabetes Mellitus in Japan. **M. Nakao, K. Yamauchi, Y. Ishihara.** Kurume University, Japan.

D51 **547.13** Cultural Analysis and Demographics of Caprine Consumption Among Texas Residents. **C.S. Dimgba, B. Copeland, O. Ojumu.** Prairie View A&M University.

D52 **547.14** Comparison of Field Measures Versus Imaging and Total Versus Regional Body Composition in Predicting Inflammation in Preadolescent Hispanic Girls. **J.W. Bea, J. Funk, M. Hetherington-Rauth, B. Wertheim, L. Mosqueira, R. Thuraisingam, V. Lee, R. Blew, T. Lohman, S.B. Going.** University of Arizona

D53 **547.15** Assessment and Monitoring of Biospecimen Quality in an Academic Biorepository. **M. Koch, K. Winstead, F. Sagin, K. Dillehay McKillip.** University of Cincinnati.

D54 **547.16** Methodology to Determine Food Acquisition Strategies Among Homeless Youth. **C. Harris, J. Kloubec.** Bastyr University.

D55 **547.17** Students' Risk Factors for and Perception of Type 2 Diabetes at an Upstate University College: A Pilot Study. S**. Sullivan, J. Antwi, W. Proulx, R. Lavin, M. Bellavia.** State University of New York College at Oneonta.

D56 **547.18** Translation for Portuguese and Validation of the Questionnaire of the Patient Neuropathy Interpretation (Pin). **M. Reis.** Universidade Nove de Julho, Brazil.

D57 **547.19** Obesogenic Environment Factors Related to the Obesity Prevalence in Korean Children. **M. Lee.** Sungshin Women's University, Republic of Korea.

548. ENVIRONMENTAL AND TOXICOLOGICAL PATHOLOGY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Environmental and Toxicologic Pathology

Presentation time: 11:45 am–12:45 pm

D58 **548.1** The Effect of Intermittent Hyperoxia on Stem Cell Mobilization. **K.J. MacLaughlin, G.J. Barton, R.K. Braun, M. Eldridge.** University of Wisconsin—Madison.

D59 **548.2** Histopathological Effect of Some Medicinal Plants on Kidney and Liver Functions in Rats. **A.C. Adeyemo, A.F. Adeniyi.** Federal University of Technology, Akure, Nigeria, Department of Agricultural Management Technology, Federal College of Agriculture and Akure, Nigeria.

D60 **548.3** Dietary Arsenic and Gut Microbiome Analysis. **D. Laubitz, P.R. Kiela, B.T. Chau, R.C. Lantz, J.L. Burgess, M.K.R. O'Rourke, M.R. Kurzius-Spencer.** University of Arizona.

D61 **548.4** Relationships Between Perceived Health Status and Ambient Air Quality Parameters in Healthy Japanese. **Y. Ishihara, M. Nakao, K. Yamauchi, H. Omori, S. Mitsuma.** Kurume University, Japan, Kumamoto University, Japan and Niigata Association of Occupational Health Inc., Japan.

D62 **548.5** Carbon Dioxide Challenge Enhances the Sensitivity of Whole Body Plethysmography (WBP) Measurements of Lung Growth and Ozone-Induced Changes in Juvenile Long-Evans Rats. **J. Dye, E. Stewart, A. Ledbetter, C. Miller.** U.S. Environmental Protection Agency and Oak Ridge Institute for Science and Education.

D63 **548.6** The Influence of Maternal High Fat Diet and Ozone Exposure on Serum Metabolomic Profiles in Juvenile Offspring. **S.J. Snow, C. Gordon, P. Phillips, M. Schladweiler, A. Ledbetter, A. Henriquez, C. Miller, K. Broniowska, E. Karoly, U. Kodavanti.** U.S. Environmental Protection Agency, University of North Carolina at Chapel Hill, Metabolon and Inc.

D64 **548.7** Modifications in MUC2 and OCLN Expression in Human Alveolar Adenocarcinoma Epithelial Cells Following E-Cigarette Chemical Exposure. **A. Wright, J. Mitchum, J.G. Daft.** Lee University.

D65 **548.8** Effect of Pistachios and Mixed Nuts on Bone Density and Osteogenic Gene Expression in Young Male Rats. **B.E. Wickman, E. Rochester, L. Hauffe, M. Kern, M.Y. Hong, C. Liu, S. Hooshmand.** San Diego State University.

D66 **548.9** Effects of Non-Esterified Fatty Acids on the Expression and Secretion of Angiopoietin-Like Protein 4 and Fibroblast Growth Factor 21 in Calf Hepatocytes Cultured *in Vitro*. **X. Zhu, J. Wang, L. Liu.** Northwest A&F University, People's Republic of China and Hunan Agricultural University, People's Republic of China.

D67 **548.10** Assessment of Tobacco Users in Creating an Educational Intervention to Promote Oral Health. **S. Chawla, G.P. Einstein, O.L. Tulp.** Nova Southeastern University School of Dentistry, Einstein Medical Institute, University of Science and Arts and Technology Montserrat, Montserrat.

D68 **548.11** Investigation of the Impact of Lead Exposure on the Inorganic and Organic Compounds Profile of Lung Tissue in a Rat Model. **I.M. Attafi, H.M. Korashy, S.A. Al Bakheet, K.A. Abu Jabal, O.M. Belali.** Poison Control and Medical Forensic Chemistry Center, Saudi Arabia, Pharmacology and Toxicology, King Saud University, Riyadh, Saudi Arabia, Department of Pharmaceutical Services, Ministry of Health, Jazan, Saudi Arabia, Department of Pharmaceutical Services, Ministry of Health and Abha, Saudi Arabia.

Pharmacology

549. PHARMACOLOGY EDUCATION

Poster

(*Sponsored by:* ASPET Division for Pharmacology Education)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C1 **549.1** Fourth Year Medical Students Perceive High Educational Value to Innovative Geriatric Pharmacology Educational Tools Integrated into a Clerkship Elective. **A.L. Gorman, A. Berry, M. Dangiolo.** University of Central Florida College of Medicine.

C2 **549.2** A Pilot Study to Examine the Perspectives of Pharmacy Students Towards Adding a Nutrition Course in Pharmacy Degree Curriculum. **M.M. Syed-Abdul, S.S. Kabir, D.S. Soni, J.T. Barnes, T.A. Faber, M.T. Timlin.** University of Missouri, Northeastern Illinois University and Southeast Missouri State University.

C3 **549.3** Development of a Patient-Centered Clinical Toxicology Elective in Collaboration with the Illinois Poison Center. **A. El-Alfy.** Medical College of Wisconsin.

C4 **549.4** A Redesigned Pharmacology Series Increases Students' Satisfaction and Is Associated with Improved Performance in Therapeutics. **K. Brandl, S. Schneid, S. Tsunoda, L. Awdishu.** Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California, San Diego.

C5 **549.5** Utilizing Cases in Pharmacogenetics Education of Undergraduate Medical Students. **G. Athauda, H. Tempest, G. Petroianu, T. Weiler.** Florida International University.

C6 **549.6** Utilizing Standardized Patient Encounter in Pharmacology Education of Undergraduate Medical Students. **G. Athauda, J. Ottolenghi, C. Lupi, S. Kashan, E. Gray, S. Stumbar.** Florida International University and Maimonides Medical Center.

C7 **549.7** Will Use of Cerego™ Spaced-Learning and Self-Test Sets Improve Medical Students' Performance on Summative Examination Pharmacology Questions? **G. Pham, D. Quest, D. Baatar.** Paul L. Foster School of Medicine and Texas Tech University Health Sciences Center El Paso.

C8 **549.8** SOAPing in Pharmacology: An Innovative Tool to Foster Critical Thinking During Didactic Years in Pharmacy School. **V. Rajagopalan, H.M. Ellerby, E. Vo.** Touro University-California.

C9 **549.9** Medical Pharmacology Board Scores Increase with Flipped Classroom and Video Lectures. **A. Prancan, K. Ali.** Touro College of Osteopathic Medicine.

C10 **549.10** PharmABCology: An Initiative to Create Logical Mnemonics Systems for Learning Drug Names. **W. Liang.** The Chinese University of Hong Kong, Hong Kong.

C11 **549.11** Introduction of New Blood Pressure Guidelines with Pre-Recorded Simulated Scenes During TBL. **M.J. Hernandez, R.W. Parker, J. Thompson, J.C. Ferguson, R. Reeves, S. Menzies, J. Giannini.** Alabama College of Osteopathic Medicine.

C12 **549.12** High-Value and Person Centered Care Taught Through Virtual Families. **S.K. Rajasekaran, M. Ambrozewicz, L. Mazzurco, A. Mohanram.** Eastern Virginia Medical School.

C13 **549.13** Advocating the Responsible Use of Drugs Through an Academic Service-Learning Activity in Higher Education. **T. Ignatova, O. Yashchenko, A. Fernández, M. Sabaté, E. Trullàs, V. Granados, J. Morgó, J. Solé, N. Vacas, J-E. Vilaseca, M. Á. Garcia, M.L. Cuffí.** Faculty of Medicine and Health Sciences, University of Barcelona, Spain, Faculty of Library and Information Science and University of Barcelona, Spain.

550. STIMULANTS I

Poster

(*Sponsored by:* ASPET Division for Behavioral Pharmacology)

(*Cosponsored by:* Division for Neuropharmacology (NEU))

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Behavioral Pharmacology

Neuroscience

Presentation time: 12:30 PM–2:30 PM

C14 **550.1** Role of N-Methyl-D-Aspartate Receptor (NMDAR) in Co-Morbid Schizophrenia and Substance Abuse. **R.I. Desai, M.D. Puhl, J.T. Coyle.** McLean Hospital/Harvard Medical School.

C15 **550.2** Lack of Evidence for Methylenedioxypyrovalerone (MDPV)-Induced Persistent Dopaminergic or Serotonergic Deficits: Comparison with Methamphetamine and Mephedrone. **C.P. Magee, C.L. German, P.S. Curtis, G.R. Hanson, A.E. Fleckenstein.** University of Utah

C16 **550.3** Intravenous Self-Administration of Synthetic Cathinones in Rhesus Monkeys. **F.B. de Moura, A. Sherwood, T.E. Prisinzano, S.J. Kohut, J. Bergman.** Harvard Medical School and University of Kansas.

C17 **550.4** MDPV Self-Administration in Female Rats: Influence of Reinforcement History. **M.R. Doyle, A. Sulima, K.C. Rice, G.T. Collins.** The University of Texas Health Science Center, National Institute on Drug Abuse and National Institutes of Health Intramural Research Program.

C18 **550.5** Anti-Methamphetamine Antibody Gene Therapy Ameliorates Methamphetamine-Induced Locomotor Effects in Mice for 8 Months After a Single Treatment. **C.E. Hay, L.E. Ewing, M.D. Hambuchen, P. Margaritis, S.M. Owens, E.C. Peterson.** University of Arkansas for Medical Sciences and The Children's Hospital of Philadelphia.

C19 **550.6** Anti-Methamphetamine Antibody Gene Therapy Protects Against Some METH-Induced Inflammation. **C. Bolden, K. McLeroy-Charles, C.E. Hay, L.E. Ewing, P. Margaritis, E.C. Peterson.** University of Arkansas for Medical Sciences and Children's Hospital of Philadelphia.

C20 **550.7** Development and Preclinical Testing of a Vaccine for 3,4-Methylenedioxypyrovalerone (*R,S*)-MDPV) Substance Use Disorders. **S.J. McClenahan, C. Kormos, M. Gunnell, M. Hambuchen, P. Lamb, I. Carroll, A. Lewin, S.M. Owens.** University of Arkansas for Medical Sciences and Research Triangle Institute.

C21 **550.8** Clinical Potential of an Enzyme-Based Novel Therapy for Cocaine Overdose. **F. Zheng, C-G. Zhan.** University of Kentucky.

C22 **550.9** Highly Efficient Long-Acting Cocaine Hydrolases as a Treatment for Cocaine Addiction. **C-G. Zhan, F. Zheng.** University of Kentucky.

C23 **550.10** Inhibition of Cocaine Self-Administration by a Novel Mutant Cocaine Esterase (ET CocE) in Rats. **K. Jimenez, J. Nichols, J.H. Woods, R.K. Sunahara, G.T. Collins.** The University of Texas Health Science Center and University of California, San Diego School of Medicine.

C24 **550.11** The Indiscriminate Use of Cocaine Associated with Other Illicit Drugs by Undergraduate Brazilian Students. **A.M.A. Latrônico, R.P. Miranda, H.B. Ilg, I.D. Taricano.** Universidade Nove de Julho, Brazil.

C25 **550.12** The Role of Trace Amine Associated Receptor-1 (TAAR-1) on the Modulation of Circadian Rhythms in Mice. **N. Zejnilovic, S.J. Clough, G.C. Glatfelter, T.J. Phillips, M.L. Dubocovich.** University at Buffalo, State University of New York and Oregon Health & Science University

551. LEARNING AND MEMORY

Poster

(*Sponsored by:* ASPET Division for Neuropharmacology)

(*Cosponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Behavioral Pharmacology

Neuroscience

Presentation time: 12:30 pm–2:30 pm

C26 **551.1** The Medial Prefrontal Cortex Is Involved in Social Odor Recognition Memory. **L.M. Granata, S. Robinson, R.D. Hienz, C.M. Davis.** Johns Hopkins University School of Medicine.

C27 **551.2** Determining Key Carbonic Anhydrase Isozymes Involved in Learning and Memory via Mouse Memory Assays. **N. Lemon, R.K.K. Sanku, A.M. Chong, M.A. Ilies, E.A. Walker.** Temple University School of pharmacy.

C28 **551.3** Potential Model of Carbonic Anhydrase Effects on Learning and Memory. **R.K.K. Sanku, N. Lemon, M. Salkovitz, B. Draghici, M.A. Ilies, E.A. Walker.** Temple University School of Pharmacy.

C29 **551.4** Studies on Identification of Genes Associated with Neuronal Memory Using of Rat Hippocampal Neurons. **R. Opoku, I. Ahmed, M. Patwary, A. Nur-e-Kamal.** Medgar Evers College.

C30 **551.5** Cocaine Exposure Results in Persisting Impairment of Hippocampal Long-Term Potentiation and Reduced Performance in a Spatial Working Memory Task in C57BL/6J Mice. **C.J. Preston, K.A. Brown, J.J. Wagner.** University of Georgia.

C31 **551.6** A Transient Dopamine Signal Represents the Value of Avoidance in Negative Reinforcement. **J. Roberts, K. Pultorak, B. Busch, E. Oleson.** University of Colorado Denver.

C32 **551.7** Predicting Impulsivity and Compulsivity in Mice Using a Rapid Drug Abuse Liability Battery (RDALB) Assessing Hyperneophagia, Locomotor Reactivity, and Novelty Preference. **W. Hyatt, M. Berquist, L. Russell, W. Fantegrossi.** University of Arkansas for Medical Sciences.

552. ALZHEIMER'S

Poster

(*Sponsored by:* ASPET Division for Neuropharmacology)

(*Cosponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Behavioral Pharmacology

Neuroscience

Presentation time: 12:30 pm–2:30 pm

C33 **552.1** Novel Imidazoline I_2 Receptor Ligands for Alzheimer's Disease. **C. Escolano, S. Abas, S. Rodriguez-Arevalo, A. Bagan, M. Pallas, C. Griñan-Ferre, F. Vasilopoulou, L.F. Callado, J.A. García-Sevilla, J. García-Fuster, F.X. Sureda, B. Pérez.** Universitat de Barcelona, Spain, University of the Basque Country, Spain, University of the Balearic Islands, Spain, Universitat Rovira i Virgili, Spain and Universitat Autonoma de Barcelona, Spain.

C34 **552.2** Histochemical and Behavioral Analysis of the 3xTg-AD Mouse Model of Alzheimer's Disease. **D.A. Mitrano, R. Schendzielos, E. Croushore, B. Genovese, R. Quintanilla, E. Dymond, P. Pearce, S. Houle, H. Halleck-Pinkleton, H. Grau, L.S. Webb.** Christopher Newport University.

C35 **552.3** Decreased Levels of Beta-Arrestin 1 in Brains of Patients with Alzheimer's disease. **P. Potter, S. Choi, D. Jones, T. Beach.** Midwestern University and Banner Sun Health Research Institute.

C36 **552.4** Honokiol and Pioglitazone Ameliorate Alzheimer's Disease Pathologies *in Vitro* and *ex Vivo*. **T. Lynd, M. Govindarajulu, M. Dhanasekaran, V. Suppiramaniam.** Auburn University.

C37 **552.5** A Natural Product Composition Targeting Oxidative Stress Induced Mitochondrial Dysfunction in Alzheimer's Disease. **M. Bhaskar, M. Chintamaneni.** National Institute of Neurological Disorders and Stroke, National Institutes of Health and NMIMS University, India.

C38 **552.6** Cannabidiol, a Non-Psychoactive Marijuana Component, Exhibits Antioxidant and Neuroprotective Effects in Neuronal Alzheimer's Cell Model SH-5Y. **G.H. Briggs.** Auburn University.

C39 **552.7** Autotaxin and Glutamate Dysregulation in Alzheimer's Mice Model. **E. Jones, M. Govindarajulu, S. Knowlton, V. Suppiramaniam.** Auburn University.

C40 **552.8** The Effects of HIV-1 gp120 on the Puncta Count and Expression of α5-Containing $GABA_A$ Receptors in Cultured Rat Hippocampal Neurons. **A. Jo, M. Green, S. Thayer.** Claremont McKenna College and University of Minnesota.

553. PARKINSON'S, NEURODEGENERATION

Poster

(*Sponsored by:* ASPET Division for Neuropharmacology)

(*Cosponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Neuroscience

Aging

Ion Channels and Transporters

Lipids and Membranes

Presentation time: 12:30 PM–2:30 PM

C41 **553.1** The Fyn-Dependent Voltage-Gated Potassium Channel Kv1.3 Modulates Neuroinflammation and Neurodegeneration in Parkinson's Disease Models. **S. Sarkar, H.M. Ngyen, E. Malovic, M. Langley, J. Luo, N. Singh, H. Jin, V. Ananthram, A. Kanthasamy, H. Wulff, A. Kanthasamy.** Iowa State University and University of California, Davis.

C42 **553.2** Nicotinic Receptor Dysfunction Underlies Abnormal Responses to Muscarinic Receptor Antagonist Treatment in DYT1 Dystonia. **A.M. Downs, X. Fan, E.J. Hess.** Emory University.

C43 **553.3** The Role of Monoamines on MPP^+ and H_2O_2 Induced Oxidative Stress Response. **S. Cobb, K. Shepherd.** Morehouse School of Medicine.

C44 **553.4** Inflammation Produced by Alcohol Synergizes with Methamphetamine to Cause Dopaminergic Deficits. **A.L. Blaker, B.K. Yamamoto.** University of Toledo College of Medicine and Life Sciences and Indiana University School of Medicine.

C45 **553.5** Dopamine Transporter Activation Reduces Kv2.1 Activation Potential and Cluster Size. **J. Lebowitz, J.A. Pino Reyes, K. Divita, C. Henckel, M. Lin, G.E. Torres, H. Khoshbouei.** University of Florida College of Medicine.

C46 **553.6** Correlation Between Neuroanatomical and Respiratory Functional Changes in a Parkinson´s Disease Model. **S.D.A. Fernandes, K. Carvalho, T.S. Moreira, A.C. Takakura.** University of São Paulo and University of São Paulo, Brazil.

C47 **553.7** Sustained Crosstalk Between TLR2 and IL-1R1 Exacerbates Neurodegeneration in Parkinson's Disease. **M.E. Johnson, S. Kortagere.** Drexel University College of Medicine.

C48 **553.8** Methylene Blue Protects the Dopaminergic Neurons Through Upregulation of BDNF. **S. Bhurtel, D-Y. Choi, N. Katila.** Yeungnam University, Republic of Korea.

C49 **553.9** Clinical Efficacy of Glutamine Supplementation in *aldh5a1* KO mice *(aldh5a1$^{-/-}$)*, a Phenocopy of the GABA Metabolic Disorder Succinic Semialdehyde Dehydrogenase Deficiency (SSADHD). **M.N. Brown, K.M. Gibson, M.A. Schmidt, D.C. Walters, J-B. Roullet.** Washington State University.

C50 **553.10** Protein Kinase C ζ-Dependent Upregulation of GDNF by Metformin. **N. Katila, D-Y. Choi, S. Bhurtel.** Yeungnam University, Republic of Korea.

C51 **553.11** Dopamine Cell Loss Within the Nigrostriatal Pathway Due to Oxidative Stress from Chronic Methylphenidate. **H.V. Oakes, A. Hall, T. Ensley, K. Medlock, S. Ketchem, B. Pond.** East Tennessee State University Gatton College of Pharmacy.

554. ANXIETY / DEPRESSION / HIPPOCAMPUS

Poster

(*Sponsored by:* ASPET Division for Neuropharmacology)

(*Cosponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Behavioral Pharmacology

Molecular Pharmacology

Neuroscience

Presentation time: 12:30 PM–2:30 PM

C52 **554.1** Scale Up Isolation, Characterization and in Vivo Evaluation of Aaptamine from *A. aaptos* Suggests Its Anti-Depressant Effects Are Linked to the DOP Receptor. **E. Lambu, N.L. McIntosh, A. Coker, F. Li, M. Fewerda, L. Milan-Lobo, L. He, P. Crews, J.L. Whistler, T.A. Johnson.** Dominican University of California, University of California, San Francisco and University of California, Santa Cruz.

C53 **554.2** Assessing the Antidepressant-Like Effects and Discriminative Stimulus Properties of Ketamine Enantiomers in C57BL/6 Mice. **J.H. Porter, D.A. Smith, R. Rice, H. Nangunuri, A.N. Baldwin, F. Zhang.** Virginia Commonwealth University.

C54 **554.3** Ghrelin, a Potential Antidepressant in Adult Rats, Does Not Reduce Depressive-Like Symptoms in Juvenile Rats. **T.M. Jackson, E.M. Stanley, T.D. Ostrowski, D.S. Middlemas.** A.T. Still University of Health Sciences.

C55 **554.4** Efficacy of Negative Allosteric Modulators of $mGlu_2$ and $mGlu_3$ in a Rodent Model of Major Depressive Disorder. **M.E. Joffe, C.I. Santiago, J.L. Engers, C.W. Lindsley, P.J. Conn.** Vanderbilt.

C56 **554.5** Effect of Long-Term Methylphenidate Exposure on Neurogenesis in the Hippocampus. **A. Hall, H. Oakes, T. Ensley, S. Ketchem, B.B. Pond.** East Tennessee State University Gatton College of Pharmacy.

C57 **554.6** The α7 Nicotinic Receptor Positive Allosteric Modulator, PNU-120596, Reverses Lipopolysaccharide-Induced Depressive-Like Behavior in Mice. **S. Alzarea, S. Rahman.** South Dakota State University.

C58 **554.7** AMPA Receptor Modulators Selective for the Accessory Protein TARP-G8. **M.P. Maher, N. Wu, S. Ravula, M.K. Ameriks, B.M. Savall, B. Lord, M. Seierstad, N.I. Carruthers, T.W. Lovenberg.** Janssen R & D.

C59 **554.8** Voltage-Gated Sodium Channel Activation Triggers Calcium Influx and Hippocampal Neuron Complexity. **D.A. Gomez, T.F. Murray.** Creighton University.

C60 **554.9** The Flavanol (-)-Epicatechin Improves Learning, Memory and Anxiety Behavior in Ovariectomized Rats. **T. Neri-Gomez, G. Manjarrez-Gutierrez, A. Garate-Carrillo, G. Ceballos, F. Villarreal, I. Ramirez-Sanchez.** Instituto Politécnico Nacional School of Medicine, Mexico and University of California, San Diego School of Medicine.

C61 **554.10** Transience of Antidepressant-Induced $G\alpha_s$ Signaling Potentiation Revealed by High-Throughput Real-Time cAMP Accumulation. **N. Senese, M. Rasenick.** University of Illinois at Chicago.

C62 **554.11** High Mobility Group Box-1 as a Putative Ovarian Hormone Dependent Mechanism Mediating Stress Susceptibility in Females. **J.E. Finnell, B.L. Muniz, C.M. Lombard, C.M. Moffitt, C.S. Wood, L.P. Reagan, M.A. Wilson, S.K. Wood.** University of South Carolina School of Medicine.

C63 **554.12** Impact of Early Life Sleep Deprivation on Later Life Behaviors in Rats. **F. Atrooz, H. Liu, C. Kochi, S. Salim.** University of Houston.

C64 **554.13** Involvement of CRF1 Receptors in Bed Nucleus of Stria Terminalis (BNST) on Baroreflex Responses in Chronically Stressed Rats. **L.A. de Oliveira, L. Gomes de Souza, R. Benini, C.C. Crestani.** UNESP, Brazil.

C65 **554.14** Angiotensinergic Neurotransmission in the Medial Amygdaloid Nucleus Modulates the Cardiovascular Responses to Emotional Stress in Rats. **C.C. Crestani, W. Costa-Ferreira, L. Gomes-de-Souza.** School of Pharmaceutical Sciences and São Paulo State University, Brazil.

C66 **554.15** A Molecular Validation of Serotonin Signaling Systems Association with Major Depressive Disorder (MDD) in South Indian Population. **S. Rashmi, A. Sangilimuthu, D.K. Srinivasan, V. Balachandar.** Karpagam Academy of Higher Education, India, National University of Singapore, Singapore and Bharathiar University, India.

555. SIGNAL TRANSDUCTION—GPCRS

Poster

(*Sponsored by:* ASPET Division for Molecular Pharmacology)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C67 **555.1** Binding and Signaling Properties of the Leu^8 and Pro^8 Isoforms of Oxytocin for Oxytocin Receptors from Four Primate Species. **M.L. Toews, J.H. Taylor, N.A. Schulte, T.F. Murray, J.A. French.** University of Nebraska Medical Center, University of Nebraska Omaha and Creighton University.

C68 **555.2** The Role of Distal Helix 5 as a Determinant of GPCR-G Protein Coupling Selectivity. **N. Okashah, Q. Wan, A. Inoue, N. Lambert.** Augusta University and Tohoku University, Japan.

C69 **555.3** Investigating Phosphorylation Differences in FFA4 Short and Long Isoforms. **I.S. Senatorov, A. Cheshmehkani, N.H. Moniri.** Mercer University.

C70 **555.4** Roles of GPR39, a Zinc-Sensing Receptor, in the Regulation of Barrier Function of Intestinal Epithelial Cells. **T. Chantivas, P. Pongkorpsakol, C. Muanprasat.** Faculty of Medicine Ramathibodi Hospital, Mahidol University, Thailand, Faculty of Science and Mahidol university, Thailand.

C71 **555.5** Seizure-Protective Receptors GPR37l1 and GPR37 Regulate Calcium-Binding Protein S100A5 Expression and Secretion. **T.T. Nguyen, M. Giddens, D. Duong, R. Hall.** Emory University.

C72 **555.6** Different Phosphorylation Sites Regulate α-1D-adrenergic Receptor Function. **G. Carmona Rosas.** Universidad Nacional Autónoma de México, Mexico.

C73 **555.7** Signaling Bias and Antagonism of Pilocarpine for M3 Muscarinic Acetylcholine Receptor. **A.N. Pronin, K. Wang, V.Z. Slepak.** University of Miami.

C74 **555.8** Amyloid Beta Peptide Modulates the Signaling Property of Chemokine-Like Receptor 1 **R.D. Ye, S. Zhang, D. Liao, H. Gong.** University of Macau, People's Republic of China and Shanghai Jiao Tong University, People's Republic of China.

C75 **555.9** Identification of Residues in Human Melatonin Type 2 Receptor Involved in Signaling Selectivity or General Signal Transmission Using Natural Variants. **B. Plouffe, A. Karamitri, T. Flock, J.M. Gallion, A. Bonnefond, J-L. Guillaume, C. Le Gouill, P. Froguel, O. Lichtarge, X. Deupi, R. Jockers, M. Bouvier.** Université de Montréal, Canada, Institut Cochin, Université Paris Descartes, France, Paul Scherrer Institute, Switzerland, Baylor College of Medicine and Institut Pasteur de Lille, France.

C76 **555.10** Identification of Key Regions Mediating Human Melatonin Type 1 Receptor Biased Signaling Revealed by Natural Variants. **A. Hegron, B. Plouffe, A. Bonnefond, W. Gao, P. Froguel, C. Le Gouill, R. Jockers, M. Bouvier.** Universite de Montreal, Canada, Institut Pasteur de Lille, France and Institut Cochin, France.

C77 **555.11** Development of a Novel Radioligand for Characterization of the Mas Receptor for Angiotensin 1-7 **R.C. Speth, H.W. Pang, C.T. Neagra, S. Bergoine, A. Linares, F.F. Stoyell-Conti.** Nova Southeastern University.

C78 **555.12** Endothelial GPCRs Activate p38 MAPK Inflammatory Signaling via Non-Canonical TAB1, 2 and 3-Dependent Pathways. **Y. Lin, R. Narala, N. Grimsey, J. Trejo.** School of Medicine, University of California, San Diego.

C79 **555.13** Signaling Profile of a New PAR2 Inhibitor with Anti-Inflammatory Effects. **C. Avet, M. Semache, F. Gross, C. Le Gouill, J. Mancini, Y. Bennani, C.E. Sayegh, M. Bouvier.** Université de Montréal, Canada, Vertex Pharmaceuticals Inc. and Ra Pharmaceuticals Inc.

C80 **555.14** Ligand Binding to the β2-Adrenergic Receptor Is Dependent Upon Its Oxidation State. **K.M. Rambacher, N.H. Moniri.** Mercer University.

C81 **555.15** Five Different Phosphorylation Sites in the C-Terminal Regulate a1B-Adrenergic Receptor Signaling and Regulations. **D.A. Hernández.** Instituto de Fisiología Celular, Mexico.

C82 **555.16** Modeling Angiotensin II-Mediated Activation of the Angiotensin II Type 1 Receptor. **S.D. Anderson, W.M. Botello-Smith, Y.L. Luo, B.T. Andresen.** Western University of Health Sciences.

C83 **555.17** Machine Learning Methods for Rapid Prediction of Thermostabilizing Mutants of G-Protein-Coupled Receptors in Detergents. **N. Vaidehi, S. Muk, M. Sandhu, S. Achuthan, S. Jana, S. Bhattacharya, C.G. Tate, R. Grisshammer.** Beckman Research Institute at City of Hope, Medical Research Council Laboratory of Molecular Biology, United Kingdom, National Cancer Institute and National Institutes of Health.

C84 **555.18** Co-Activation of Adenosine and Glutamate Receptors Modulates Signaling in Primary Brain Cell Cultures. **K.J. Gregory, S.D. Hellyer, S. Albold, K. Leach, L.T. May.** Monash Institute of Pharmaceutical Sciences and Monash University, Australia.

C85 **555.19** Adenosine G Protein-Coupled Receptor Biased Agonism to Treat Ischemic Heart Disease. **L.T. May, J-A. Baltos, C.H. Chuo, E.A. Vecchio, B.H. Wang, A.R. Kompa, A. Christopoulos, P.J. Scammells, P.J. White.** Monash Institute of Pharmaceutical Sciences, Monash University, Australia, Centre of Cardiovascular Research and Education in Therapeutics and Monash University, Australia.

C86 **555.20** Comparison of Agonist Occupancy of M_2 Muscarinic Receptor-G Protein Complexes in Myocardial Homogenates with Functional Estimates of Active Receptor-State Affinity in Isolated Atria. **F.J. Ehlert.** University of California, Irvine.

556. SIGNAL TRANSDUCTION—ION CHANNELS

Poster

(*Sponsored by:* ASPET Division for Molecular Pharmacology)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C87 **556.1** Structure Assisted Design of Small Molecule KCa Channel Modulators. **H. Wulff, H.M. Nguyen, B.M. Brown, H. Shim, V. Yarov-Yarovoy.** University of California, Davis.

C88 **556.2** Ellagic Acid Exerts Anti-Inflammatory Actions via Disruption of Store-Operated Ca Entry (SOCE) Pathway Activators and Coupling Mediators. **M. Murphy, X. Quin, C. Mathias, D. Thomas, D. Bose.** Western New England University and University of the Pacific.

C89 **556.3** Distinct Regulatory Domains on the N- and C-Termini of Kv7.4 and Kv7.5 Contribute to Both Their Voltage-Dependence of Activation and Their Responses to PKA and PKC. **K.L. Byron, L.I. Brueggemann, L.L. Cribbs.** Loyola University Chicago.

C90 **556.4** Activity Mapping of Seizures in a Mouse Model of Dravet Syndrome. **A.M. Huffman, J. Calhoun, J. Kearney.** Northwestern University.

C91 **556.5** The Loop Diuretics Bumetanide and Ethacrynic Acid Inhibit Voltage-Gated Calcium and Sodium Channels in Cultured Cortical Neurons. **C. Katnik, J. Cuevas.** University of South Florida College of Medicine.

557. SIGNAL TRANSDUCTION—G PROTEINS

Poster

(*Sponsored by:* ASPET Division for Molecular Pharmacology)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C92 **557.1** Regulator of G-Protein Signaling Complex Gβ5-R7 Strongly Potentiates Insulin Secretion Stimulated by Muscarinic Cholinergic Receptor. M3 **V.Z. Slepak, Q. Wang, A. Pronin.** University of Miami and Miller School of Medicine.

C93 **557.2** Crystal Structure of the C-Terminal Guanine Exchange Factor Module of Trio Reveals Its Oncogenic Potential. **S. Bandekar.** University of Michigan.

C94 **557.3** A Novel BRET Biosensor for Gαq-GTP Reveals Unique Properties of Cancer-Associated GNAQ Mutants. **M. Garcia-Marcos, M. Maziarz, A. Leyme.** Boston University.

C95 **557.4** Molecular Cloning of a Novel Brain-Specific RGS6 Isoform Preferentially Expressed in the Substantia Nigra of Humans with Parkinson's Disease. **K.E. Ahlers-Dannen, A. Stewart, J. Yang, J.G. Koland, R.A. Fisher.** University of Iowa and Florida Atlantic University.

C96 **557.5** Regulator of G-Protein Signaling 10 (RGS10) Inhibits NF-κB Signaling, COX-2 and Inflammatory Cytokine Production in Ovarian Cancer Cells. **F. Almutairi, S.B. Hooks.** University of Georgia.

C97 **557.6** Modulation of Synaptic Transmission: Quantitative Analysis of Gβγ Specificity to Adrenergic α_{2a} Receptor and SNARE. **Y.Y. Yim, K. Betke, W.H. McDonald, R. Gilsbach, Y. Chen, K. Hyde, Q. Wang, L. Hein, K. Schey, H. Hamm.** Vanderbilt University , University of Freiburg, Germany and University of Alabama at Birmingham School of Medicine.

C98 **557.7** The G Protein Gamma Subunit, Ste18, Is a Phosphorylation-Dependent Ph Sensor That Controls MAPK Activation in Yeast. **Z. Nassiri Toosi, M.P. Torres.** School of Biological Sciences and Georgia Institute of Technology.

C99 **557.8** Regulator of G-Protein Signaling (RGS10) Regulates the Expression of COX-2 and TNF-α in Microglia via G-Protein Independent Mechanism. **M.Y. Wendimu, M. Alqinyah, S. Hooks.** University of Georgia.

C100 **557.9** Role of Protein Dynamics in Selectivity of Thiadiazolidinone Inhibition of RGS Proteins. **V. Shaw, H. Mohammadiarani, H. Vashisth, R. Neubig.** Michigan State University and University of New Hampshire.

C101 **557.10** The Mechanistic Role of Metal Ions, Ca^{2+} and Mg^{2+}, in RGS: G-Protein Interactions. **J. O'Brien, M. Sieng, M. Hayes, A. Fowler, A. Lyon, D. Roman.** University of Iowa and Purdue University.

C102 **557.11** Loss of the Inhibitory G-Protein, $G\alpha_z$, in the Cell Protects Against Spontaneous and Streptozotocin-Induced Diabetes in NOD Mice. **H. Wienkes, D. Peter.** University of Wisconsin—Madison.

C103 **557.12** Loss of Caveolin-3 (Cav-3) Promotes G-Protein-Regulated Matrix Metalloprotease 14 (MMP14) Activation in the Aged Heart. **K.J. Haushalter, A.C. Overland, H.H. Patel, P.A. Insel.** University of California, San Diego.

C104 **557.13** Dynamin Internalizes Tyrosine Phosphorylated Sphingosine 1 Phosphate Receptor 1 and Impair Downstream Signaling. **M. Anwar, M.R. Amin, D. Mehta.** University of Illinois at Chicago.

C105 **557.14** Molecular GPS: Receptor and G-Protein Dynamics That Drive Selectivity in GPCRs. **M. Sandhu, M. Dysthe, S. Sivaramakrishnan, N. Vaidehi.** Beckman Research Institute at City of Hope and University of Minnesota Twin Cities.

558. SOLUBLE EPOXIDE HYDROLASE: BIOCHEMISTRY AND ENZYMOLOGY

Poster

(*Sponsored by:* ASPET Division for Drug Discovery and Development)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C106 **558.1** Dual Soluble Epoxide Hydrolase (SEH)/ Fatty Acid Amide Hydrolase (FAAH) Inhibitors with Improved Potency Towards Rodent Species. **S.D. Kodani, S.H. Hwang, C. Morisseau, B.D. Hammock.** University of California, Davis.

C107 **558.2** Dual Inhibitors of Cyclooxygenase-2 and Soluble Epoxide Hydrolase: Studies of Binding Modes at the Active Sites and Time-Dependency of Inhibition, and Development of Water-Soluble Prodrugs. **S.H. Hwang, Z. Gaieb, C. Morisseau, J. Yang, K. Wagner, M.K. Gilson, B.D. Hammock.** University of California, Davis, and University of California, San Diego.

C108 **558.3** Discovery of Novel Inhibitors of the Phosphatase Activity of the Soluble Epoxide Hydrolase. **J.S. Kramer, S. Woltersdorf, S. Wittmann, K. Hiesinger, F. Klingler, J. Heering, D. Merk, A. Chaikuad, D. Pogoryelov, D. Steinhilber, G.E. Rovati, S. Knapp, E. Proschak.** Goethe University, Germany and University of Milan, Italy.

C109 **558.4** Development of a Comprehensive Profiling Method for Regulatory Lipid Mediators Using UPLC-MS/ MS. **J. Yang, D. Wan, J. Sun, B.D. Hammock.** University of California, Davis.

C110 **558.5** Ultrasensitive Immunoassay for Ex-Vivo Human Soluble Epoxide Hydrolase Detection. **D. Li, Y. Cui, C. Morisseau, J. Bellien, B. Hammock.** University of California, Davis and Institut National de la Santé et de la Recherche Médicale (INSERM) U1096, France.

C111 **558.6** In Vitro and in Vivo Metabolism of Soluble Epoxide Hydrolase Inhibitor 1-Trifluoromethoxyphenyl-3-(1-Propionylpiperidin-4-Yl) Urea (TPPU). **D. Wan, J. Yang, C.B. McReynolds, K.M. Wagner, B. Barnych, C. Morisseau, J. Sun, S.H. Hwang, B.D. Hammock.** Department of Entomology and Nematology, University of California, Davis.

C112 **558.7** Estrogen-Dependent Epigenetic Regulation of Soluble Epoxide Hydrolase via DNA Methylation. **Y-M. Yang, D. Sun, S. Kandhi, G. Froogh, B.D. Hammock, A. Huang.** New York Medical College and University of California.

559. SOLUBLE EPOXIDE HYDROLASE: NEUROLOGY AND PAIN

Poster

(*Sponsored by:* ASPET Division for Drug Discovery and Development)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C113 **559.1** Inhibitor of Soluble Epoxide Hydrolase Attenuates Decline in Learning and Memory of Diabetic Rats. **S.K. Goswami, N. Minaz, R. Razdan, B.D. Hammock.** Drexel University , Al-Ameen College of Pharmacy, India and University of California.

C114 **559.2** A Dual-Inhibitor of Soluble Epoxide Hydrolase and P38 Kinase Alleviating Tau Hyperphosphorylation and Amyloid Neurotoxicity for Potential Treatment of Neuroinflammation in Alzheimer's Disease. **Z. Liang, C. Morisseau, S.H. Hwang, B.D. Hammock, Q.X. Li.** University of Hawaii at Manoa and University of California, Davis

C115 **559.3** A Key Role of Soluble Epoxide Hydrolase in the Pathogenesis of Parkinson's Disease. **Q. Ren, M. Ma, J. Yang, R. Nonaka, A. Yamaguchi, K-I. Ishikawa, K. Kobayashi, S. Murayama, S. Saiki, W. Akamatsu, N. Hattori, B.D. Hammock, K. Hashimoto.** Chiba University, Japan, University of California, Juntendo University School of Medicine, Japan, National Institute for Physiological Sciences, Japan and Tokyo Metropolitan Geriatric Hospital, Japan.

C116 **559.4** Inhibition of Soluble Epoxide Hydrolase Protects the Brain from Permanent Middle Cerebral Artery Occlusion. **R.C. Koehler, R. Tu, X. Zhang.** Johns Hopkins University.

C117 **559.5** Identification of Potent Soluble Epoxide Hydrolase Inhibitors for Veterinarian Usage. **C. Morisseau, D.S. Shihadih, T.R. Harris, S.D. Kodani, S-H. Hwang, K.S.S. Lee, B. Hamamoto, A. Guedes, B.D. Hammock.** University of California, Davis.

C118 **559.6** Soluble Epoxide Hydrolase/Phosphodiesterase Dual Inhibitor Is Efficacious Against Inflammatory Pain. **K.M. Wagner, R. Bloecher, G.R. Reddy, C. Morisseau, B.D. Hammock.** University of California, Davis.

C119 **559.7** Advancing Soluble Epoxide Hydrolase Inhibitors for the Treatment of Osteoarthritis in Companion Animals. **C. McReynolds, S.H. Hwang, J. Yang, K. Wagner, W.K. Schmidt, B. Hammock.** University of California, Davis and EicOsis.

560. SOLUBLE EPOXIDE HYDROLASE: METABOLIC DISEASE AND GI

Poster

(*Sponsored by:* ASPET Division for Drug Discovery and Development)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Drug Discovery and Development

Presentation time: 12:30 PM–2:30 PM

C120 **560.1** Lipidomic Profiling Reveals Soluble Epoxide Hydrolase as a Therapeutic Target of Obesity-Induced Colonic Inflammation. **W. Wang, J. Yang, J. Zhang, Y. Wang, S.H. Hwang, D. Wan, K.Z. Sanidad, H. Yang, J-Y. Liu, Y. Park, Z. Liu, B.D. Hammock, G. Zhang.** University of Massachusetts Amherst and University of California, Davis

C121 **560.2** Inhibition of Soluble Epoxide Hydrolase Attenuates Food Allergen-Induced Eosinophil Recruitment and Gastrointestinal Inflammation. **S. Rao, I. Bastan, X.N. Ge, M. Dileepan, Y.G. Greenberg, A.G. Guedes, S.H. Hwang, B.D. Hammock, R.J. Washabau, P. Sriramarao.** University of Minnesota and University of California, Davis.

C122 **560.3** Can Inhibition of Soluble Epoxide Hydrolase Ameliorate Increased Susceptibility to DSS Induced Colitis in Soybean Oil Fed Mice? **S.P. Deol, J. Yang, J. Yu, A. Trivedi, C. Morisseau, B.D. Hammock, F.M. Sladek.** University of California, Riverside and University of California, Davis.

C123 **560.4** Pharmacological Inhibition of Soluble Epoxide Hydrolase Promotes Brown Adipogenesis. H**. Overby, J. Kearns, K. Hildreth, S. Chahed, S. Kodani, C. Morisseau, B. Hammock, S. Wang, A. Bettaieb, L. Zhao.** University of Tennessee, Knoxville, University of California, Davis and Texas Tech University.

C124 **560.5** Ablation of Soluble Epoxide Hydrolase Expression Increases Beige Fat Over White Fat Through an Increase in Mitochondrial Integrity, Insulin Sensitivity and HO-1-PGC1α-Adiponectin *in-Vitro* and *in-Vivo*. **L. Liu, L. Vanella, J.A. Bradbury, D.C. Zeldin, N.G. Abraham.** New York Medical College, University of Catania, Italy, National Institute of Environmental Health Sciences and National Institutes of Health.

C125 **560.6** Novel Soluble Epoxide Hydrolase Inhibitors Featuring a 2-Oxaadamantane Moiety: Synthesis, *in Vitro* Profiling and *in Vivo* Evaluation in Murine Models of Acute Pancreatitis. **S. Vázquez, S. Codony, J. Pizarro, E. Pujol, E. Valverde, I. Loza, J.M. Brea, E. Saez, J. Oyarzabal, M. Vázquez-Carrera, R. Leiva.** Institute of Biomedicine of the University of Barcelona, Spain, CiMUS Research Center, University of Santiago de Compostela, Spain, Center for Applied Medical Research and University of Navarra, Spain.

C126 **560.7** Pharmacological Inhibition or Genetic Ablation of Soluble Epoxide Hydrolase Attenuates Obesity-Induced Nonalcoholic Fatty Liver Disease. **J. Zhang, J. Yang, W. Wang, H. Yang, K.z. Sanidad, S-H. Yang, E. Sukamtoh, G. Zhang.** University of Massachusetts Amherst and University of California, Davis

C127 **560.8** Inhibition of Soluble Epoxide Hydrolase by t-TUCB Ameliorated Liver Injury in a Chronic-Binge Ethanol Administration Mouse Model. **J. Warner, S. Gosh Dastidar, D. Warner, Y. Song, C. McClain, I. Kirpich.** University of Louisville.

561. SOLUBLE EPOXIDE HYDROLASE: CARDIOVASCULAR

Poster

(*Sponsored by:* ASPET Division for Drug Discovery and Development)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Drug Discovery and Development

Vascular Biology

Presentation time: 12:30 PM–2:30 PM

C128 **561.1** Characterization of a Novel Inhibitor of Soluble Epoxide Hydrolase and Role in Ocular Neovascularization. **B. Park, S.P.B. Sardar Pasha, Y. Si, S.O. Meroueh, S-Y. Seo, T.W. Corson.** Indiana University School of Medicine and Gachon University, Republic of Korea.

C129 **561.2** The Soluble Epoxide Hydrolase Attenuates Pathological Vascularization by Preventing Astrocyte Loss in a Retinopathy of Prematurity Model in Mice. **J. Hu, S.I. Bibli, J. Wittig, J. Lin, R. Popp, H-P. Hammes, I. Fleming.** Institute for Vascular Signalling, Goethe University, Germany, Fifth Medical Department, University Medicine Mannheim and University of Heidelberg, Germany.

C130 **561.3** A Novel Interaction Between AT1 Receptor and Soluble Epoxide Hydrolase in Diabetic Retinopathy. **M.H. Wang, M. Al-Shabrawey.** Augusta University.

C131 **561.4** Identification of Structural-Activity Features of Long Chain Polyunsaturated Fatty Acid Epoxides in Angiogenesis. **R.M. Betts, K.S. Lee, M. Cinelli, L. Karchall, J. Luca, N. Confer.** Michigan State University.

C132 **561.5** Inhibition of SEH Prevents High Fructose-Induced Impairment of Myocardial Oxygen Consumption in Young Rats. **G. Froogh, S. Kandhi, R. Duvvi, Z. Weng, Y. Le, N. Alruwaili, J. Ashe, D. Sun, A. Huang.** New York Medical College.

C133 **561.6** Alterations in the Eicosanoid Profile and Mitochondrial Injury in Human Ventricular Tissue Following Myocardial Infarction. **L. Jamieson, S. Shah, M. Edin, D. Zeldin, G.Y. Oudit, J.M. Seubert.** University of Alberta, Canada and National Institutes of Health.

C134 **561.7** EET-Agonist Prevents and Reverses Heart Failure in Obesity Induced Diabetic Cardiomyopathy. **S.P. Singh, J.A. McClung, L. Bellner, J. Schragenheim, N.G. Abraham.** New York Medical College.

C135 **561.8** EETs Exacerbate Chronic Hypoxia-Induced Pulmonary Hypertension. **S. Kandhi, N. Alruwaili, G. Froogh, Y-M. Yang, W. Deng, M.S. Wolin, A. Huang, D. Sun.** New York Medical College.

C136 **561.9** Soluble Epoxide Hydrolase Contributes to the Endothelial Dysfunction of Peripheral Conduit Arteries in Type 2 Diabetic Patients. **T. Duflot, I. Remy-Jouet, C. Morisseau, J. Wils, D. Li, G. Prevost, R. Joannides, J. Bellien.** Rouen University Hospital, France, Institut National de la Santé et de la Recherche Médicale (INSERM) U1096, France and University of California, Davis.

C137 **561.10** Modulation of Arachidonic Acid Metabolism in the Rat Kidney by Quercetin: Implications for Regulation of Blood Pressure. **F. Elbarbry, J. Harrelson, M. Espiritu, T. Pham, K. Ibrahim.** Pacific University and Kafr ElSheikh University, Egypt.

C138 **561.11** Inhibition of Soluble Epoxide Hydrolase Attenuates the Kidney Injury Caused by Ischemia/Reperfusion in a Murine Model of Acute Kidney Injury Involved in GSK-3β Phosphorylation. **J-Y. Liu, B-Q. Deng, Y. Luo, X. Kang, C-B. Li, K.S.S. Lee, B.D. Hammock.** Tongji University School of Medicine, People's Republic of China and University of California.

C139 **561.12** Modulation of Arachidonic Acid Metabolism in the Rat Kidney by Thymoquinone: Implications for Regulation of Blood Pressure. **F. Elbarbry, A. Ung, K. Lack.** Pacific University.

C140 **561.13** EET Enhances Renal Function in Obese Mice Resulting in Restoration of MFN1/2 Signaling and a Decrease in Hypertension Through Inhibition of Sodium Chloride Co-Transporter. **J. Schragenheim, L. Bellner, S.P. Singh, J.A. McClung, D. Bamshad, J. Rudman, A. Meissner, I. Grant, C.T. Stier; Jr., N.G. Abraham.** New York Medical College.

C141 **561.14** Role of Cytochrome P450 2J2 and Soluble Epoxide Hydrolase in Drug Cardiotoxicity. **M.S. Solanki, B. Jones, L. Dawkins-Hall, A. Pointon, K. Herbert.** University of Leicester, United Kingdom and AstraZeneca, United Kingdom.

562. RENAL INJURY AND NEPHROTOXICITY

Poster

(*Sponsored by:* ASPET Division for Toxicology)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Molecular Pharmacology

Toxicology

Cell and Tissue Injury

Cell Signaling, Signal Transduction

Presentation time: 12:30 PM–2:30 PM

C142 **562.1** Trichlorophenol Induced Nephrotoxicity in Isolated Rat Renal Cortical Cells. **G.O. Rankin, V. Nguyen, W.M. Hicks, K.C. Brown, M. Dial, T. Leader, M.A. Valentovic, D. Anestis.** Joan C. Edwards School of Medicine and Marshall University.

C143 **562.2** The Effect of the Dipeptidyl Peptidase-4 Inhibitor Sitagliptin on Gentamicin Nephrotoxicity in Mice. **B.H. Ali, Y.M. Suleimani, A.M. Abdelrahman, T. Karaca, A. Nemmar.** Sultan Qaboos University, Oman, Trakya University, Turkey and United Arab Emirates University, United Arab Emirates.

C144 **562.3** Doxorubicin Renal Cytotoxicity and Protection by Resveratrol (RES). **M. Valentovic, M. Getty, K.C. Brown.** Joan C. Edwards School of Medicine and Marshall University.

C145 **562.4** Proximal Tubule Beta-2 Adrenergic Receptor Is Responsible for Recovery of Renal Function Following Ischemia Reperfusion Injury. **R.B. Cameron, E. Simmons, S. Miller, W. Gibbs, R. Schnellmann.** University of Arizona.

C146 **562.5** ERK1/2 Regulates NAD^+ Metabolism During Acute Kidney Injury Through MicroRNA-34a-Mediated NAMPT Expression. **J.B. Collier, R.G. Schnellmann.** University of Arizona.

C147 **562.6** Thioredoxin Interacting Protein Deficiency Protects Against Obesity-Induced Podocyte Injury and Glomerular Sclerosis. **R.S. Mohammad, G.B. Singh, N. Kshirasagar, X. Li, T. Hussain, N. Li, P-L. Li, S. Koka, K.M. Boini.** University of Houston and Virginia Commonwealth University.

C148 **562.7** Contribution of High Mobility Group Box 1 to Obesity-Induced Podocyte Dysfunction and Glomerular Injury. **S. Koka, R.S. Mohammad, G.B. Singh, N. Kshirasagar, T. Hussain, N. Li, P-L. Li, X. Li, K.M. Boini.** University of Houston and Virginia Commonwealth University.

C149 **562.8** Sex-Unrelated Counteraction by Nicotine of the Endotoxemia-Evoked Facilitation of Renal Vasodilator Capacity in Rats: Roles of $\alpha7/\alpha4\beta2$ nAChRs and Hsp70. **A.M. Wedn, S.M. El-Gowilly, M.M. El-Mas.** Faculty of Pharmacy and Alexandria University, Egypt.

C150 **562.9** Upregulation of Cystathionine-γ-Lyase/Hydrogen Sulfide Pathway Underlies the Celecoxib Counteraction of the Cyclosporine-Induced Hypertension and Renal Insult in Rats. **M.M. Helmy, M.W. Helmy, M.M. El-Mas.** Faculty of Pharmacy, Alexandria University, Egypt, Faculty of Pharmacy and Damanhour University, Egypt.

C151 **562.10** Podocyte-Specific Deletion of ASAH1 Gene Produced Podocytopathy Without Sclerotic Pathology: A Potential Mouse Model for Steroid-Insensitive Minimal Change Disease. **G. Li, H. Lohner, S. Dempsey, X. Yuan, Q. Zhang, T. Gehr, J. Ritter, P-L. Li.** Virginia Commonwealth University.

C152 **562.11** Silencing TRPC6 Gene Attenuates Hypertension-Induced Renal Injury in 5/6 Ablation/infarction Model. **W. Wang, B. Lyu, P-L. Li, N. Li.** Virginia Commonwealth University.

C153 **562.12** NFE2L2 (NRF2) Attenuates TGF-$\beta1$ Signaling by Elevation of SMAD7 in Mouse Mesangial MES-13 Cells. **M-K. Song, I-G. Ryoo, D. Ryu, S-H. Lee, M-K. Kwak.** The Catholic University of Korea, Republic of Korea.

C154 **562.13** Mesenchymal Stem Cells Ameliorate Uric Acid Induced Nephropathy in Rats. **L. Li, D. Cheng, Y. Yuan, Y. Chen, J. Cheng, Y. Lu.** West China Hospital and Sichuan University, People's Republic of China.

C155 **562.14** Increased Podocyte Exosome Release in Glomerular Injury Induced by NLRP3 Inflammasome Activation During Hyperhomocysteinemia. **Q. Zhang, G. Li, J. Hong, X. Yuan, O.M. Bhat, H. Lohner, N. Li, P-L. Li.** Virginia Commonwealth University.

563. LIVER INJURY AND HEPATOTOXICITY

Poster

(*Sponsored by:* ASPET Division for Toxicology)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Toxicology

Inflammation/Immunity

Cell and Tissue Injury

Liver Pathobiology

Presentation time: 12:30 PM–2:30 PM

C156 **563.1** Anti-Liver Fibrotic Effect of Triggering Receptor Expressed on Myeloid Cells 2 (TREM2) via Macrophage Phenotype Switching. **B. Kang, N. Kim, J.W. Yang, K.W. Kang.** Seoul National University, Republic of Korea.

C157 **563.2** Short- and Long-Term Effects of Phenytoin Exposure on the Liver Proteome of Neonatal and Adult Mice Using SWATH-MS Technology. **J. Shi, S.C. Piekos, L. Chen, X. Jing, X-B. Zhong, H-J. Zhu.** University of Michigan and University of Connecticut.

C158 **563.3** The Mechanistic Effects of JNK and p53 Knockdown on Hepatocyte Viability Following Dipyridyl Herbicide Exposure. **N.U. Nguyen, B. Stamper.** Pacific University.

C159 **563.4** Deficiency of PDK4 Sensitizes Mouse Liver to Diethylnitrosamine and Arsenic Toxicity Through Inducing Apoptosis. **J. Choiniere, J. Wu, M. Lin, L. Wang.** University of Connecticut.

C160 **563.5** Activation of Pregnane X Receptor Sensitizes Mice to Hemorrhagic Shock Induced Liver Injury. **Y. Xie, M. Xu, M. Deng, Z. Li, P. Wang, Y. Guo, X. Ma, J. Fan, T. Billiar, W. Xie.** University of Pittsburgh School of Pharmacy and University of Pittsburgh.

C161 **563.6** Lodoxamide Protects Against LXR-Mediated Steatosis Through G Protein-Coupled Receptor 35 in Hep3B Cells and Primary Mouse Hepatocytes. **S-Y. Nam, D-S. Im.** Pusan National University , Republic of Korea.

C162 **563.7** Cell-Specific Role of Aryl Hydrocarbon Receptor in Liver Fibrosis. **J. Yan, W. Xie.** University of Pittsburgh.

C163 **563.8** Isothiocyanates Activate the Constitutive Androstane Receptor in an Oxidative Stress Dependent Manner in hUGT1 Mice. **M. Paszek, E. Yoda, S. Chen, R.H. Tukey.** University of California, San Diego.

C164 **563.9** Generation of an Adult Hyperbilirubinemia Model in Liver-Specific Humanized *UGT1A1*6* Mice. **E. Mennillo, Y. Maruo, N. Nguyen, A. Thérien, S. Chen, O. Barbier, R.H. Tukey.** University of California, San Diego, Shiga University of Medical Science, Japan and Université Laval and the Faculty of Medicine, Canada.

C165 **563.10** Hepatotoxicity Evaluation on Foodborne Pyrrolizidine Alkaloids. **Y. He, X. Wu, J. Ma, Y. Ye, P.P. Fu, G. Lin.** The Chinese University of Hong Kong, People's Republic of China, Joint Research Laboratory for Promoting Globalization of Traditional Chinese Medicines between Shang, People's Republic of China, National Center for Toxicological Research and U.S. Food and Drug Administration.

C166 **563.11** Pyrrole-Protein Adducts, a Mechanism-Based Biomarker of Pyrrolizidine Alkaloid Induced Hepatotoxicity. **J. Ma, M. Li, Y. Ye, P.P. Fu, G. Lin.** The Chinese University of Hong Kong, Hong Kong, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, People's Republic of China and U.S. Food and Drug Administration.

C167 **563.12** Tributyrin Administration Targets Alcohol-Induced Pathogenic Mechanisms in the Gut-Liver Axis: Relevance to the Development of Therapeutic Strategies in Alcoholic Liver Disease. **H.M. Donde, G. Wilson, S. Ghare, J. Zhang, M. Vadhanam, S. Joshi-Barve, C. McClain, S. Barve.** University of Louisville and Hudson Alpha.

C168 **563.13** Protective Effect of APLN Against Liver X Receptor-Mediated Hepatic Steatosis Through HG11/APLNR in Human and Mouse Hepatocytes. **J. Huang, S. Kang, S-J. Park, D-S. Im.** College of Pharmacy and Pusan National University, Republic of Korea.

C169 **563.14** Oxycholesterol Protects Against LXR-Mediated Steatosis Through Epstein-Barr Virus-Induced GPCR 2 (EBI2) in Human and Mouse Hepatocytes. **J. Huang, S. Kang, S-J. Park, D-S. Im.** College of Pharmacy and Pusan National University, Republic of Korea.

564. METABOLIC ENZYMES

Poster

(*Sponsored by:* ASPET Division for Drug Metabolism)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Drug Metabolism and Disposition

Catalysis, Enzyme Mechanisms

Chemical Biology

Presentation time: 12:30 PM–2:30 PM

C170 **564.1** Exploring Structural Conformations of Human P450 1A1 with Diverse Ligands. **A.G. Bart, E.E. Scott.** University of Michigan.

C171 **564.2** Evaluation of Carbazeran as an Enzyme-Selective Substrate of Human Aldehyde Oxidase: Evidence for Regiospecific Oxidation of Carbazeran by CYP1A2, CYP2D6, CYP3A4, and CYP3A5. **A.J. Lau, J. Xie, N.F.D. Saburulla, S. Chen, H.L. Zhang, S.Y. Wong.** National University of Singapore, Singapore, NanoBioTec and LLC.

C172 **564.3** Insights into the Structural Determinants of Substrate Binding to Human Cytochromes P450 2C9 and 2C18. **M.B. Shah.** Albany College of Pharmacy and Health Sciences.

C173 **564.4** Site-Specific Dueteration Decreases Cytrochrome P450 Production of 12-Hydroxy-Nevirapine Through the Kinetic Isotope Effect. **C.J.S. Heck, H.K. Seneviratne, N.N. Bumpus.** Johns Hopkins University.

C174 **564.5** Towards a System Approach to the Human Cytochrome P450 Ensemble: A New Strategy for Studying the Network of P450-P450 Interactions in Human Liver Microsomes. **D.R. Davydov.** Washington State University.

C175 **564.6** Physical Organization of Heme Oxygenase 1, NADPH-Cytochrome P450 Reductase, and the Cytochromes P450 in the Endoplasmic Reticulum. **J.P. Connick, W.L. Backes.** Louisiana State University Health Sciences Center—New Orleans.

C176 **564.7** Cytochromes P450 Involved in Metabolism of Flavonoid Aglycones. **M. Bojic, G. Benkovic, Z. Males, R. Truban Zulj, S. Tomic.** University of Zagreb Faculty of Pharmacy and Biochemistry, Croatia and Agency for Medicinal Product and Medical Devices, Croatia.

C177 **564.8** Kinetics of Letrozole Metabolism by Cytochrome P450 3A4: Modulation and Fitting to Non-Michaelis Menten Models. **R.P. Colson, H. Heers, J. Chan, J. Harrelson.** Pacific University.

C178 **564.9** Identification of the Enzyme Isoforms Responsible for the *N*-Oxide Detoxification Pathway in Tobacco Specific Nitrosamines (TSNAs). **Y.X. Perez-Paramo, C.J.W. Watson, G. Chen, P. Lazarus.** Washington State University.

C179 **564.10** Altered Steroid and Drug Metabolism by a Cytochrome P450 Oxidoreductase Variant Found in Apparently Normal Population. **A.V. Pandey, S. Parween, F. Roucher-Boulez, Y. Morel.** University Children's Hospital Bern, Switzerland and Université Lyon, France.

C180 **564.11** Characterization of the *in Vivo* Catalytic Efficiency of *CYP2C9 M1L*, a Novel and Common Variant in the Yup'ik Alaska Native Population. **L.M. Henderson, S. Hopkins, B.B. Boyer, K.E. Thummel.** University of Washington and University of Alaska Fairbanks.

C181 **564.12** Impact of Adenylate Kinases and Naturally Occurring Adenylate Kinase 2 Variants on the Phosphorylation of the Anti-HIV Drug Tenofovir. **J. Tillotson, N. Bumpus.** Johns Hopkins University.

C182 **564.13** Effects of Genetic Polymorphisms on the Sulfation of 17α-Ethinylestradiol (EE2) by Human Cytosolic Sulfotransferase SULT1E1. **A.A. El Daibani, F.A. Alherz, M.S. Abunnaja, M. Liu.** University of Toledo.

C183 **564.14** UGT1A10 Drives Tissue-Specific Differences in the Clearance of the Chiral Tobacco Carcinogen, Nnal. **S. Kozlovich, G. Chen, P. Lazarus.** Washington State University.

C184 **564.15** Detoxification of Polycyclic Aromatic Hydrocarbons (PAHs) by UDP-Glycosyltransferase 3A2 (UGT3A2) Variants Using Alternative Sugars. **A.G. Vergara, C.J.W. Watson, G. Chen, P. Lazarus.** Washington State University.

C185 **564.16** Inhibition of Testosterone Glucuronidation by Imatinib in Human Liver Microsomes Characterized for UGT2B17 Expression. **K. Yabut, A. Basit, H.Y. Zhang, C. Collins, B. Prasad.** University of Washington.

C186 **564.17** Investigation of Relative Contribution of Intestinal and Hepatic UGT2B17 on Testosterone First-Pass Metabolism. **H.Y. Zhang, A. Basit, D. Busch, D.K. Bhatt, M. Drozdzik, M. Ostrowski, A. Li, S. Oswald, B. Prasad.** University of Washington, University of Greifswald, Germany, Pomeranian Medical University, Poland and In Vitro ADMET Laboratories.

565. INNOVATIONS IN CANCER THERAPEUTICS

Poster

(*Sponsored by:* ASPET Division for Cancer Pharmacology)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Cancer and Therapy

Drug Discovery and Development

Breast Cancer

Chemical Biology

Presentation time: 12:30 PM–2:30 PM

C187 **565.1** Bioengineering of Single ncRNA Molecule for Multi-Targeting Against NSCLC. **H.E. Petrek, P.Y. Ho, Q. Zhang, N. Batra, J. Jilek, A-M. Yu.** University of California, Davis.

C188 **565.2** Bioengineered *Let-7c* Is Effective at Reducing Orthotopic Hepatocellular Carcinoma Tumor Burden and Is Well Tolerated in Mouse Models. **J.L. Jilek, Q. Zhang, P.Y. Ho, M. Tu, Z. Duan, A. Yu.** University of California, Davis.

C189 **565.3** Targeted Osmotic Lysis of Highly Invasive Carcinomas Using a Pulsed Magnetic Field and Pharmacological Blockade of Voltage-Gated Sodium Channels. **D. Paul, P.E. Maggi, L. Minkoff, F. Del Piero, H.J. Gould; III.** Louisiana State University Health Sciences Center, Louisiana State University, Fonar Corporation and Louisiana State University School of Veterinary Medicine.

C190 **565.4** Therapeutic Validation of Single- and Double-Anti-MYC and Anti-KRAS Approaches for the Treatment of Ovarian Cancer. **H.E. DeSouza, T.A. Brooks.** Binghamton University.

C191 **565.5** Effect of Calcium Sulfide Nanoclusters in Cell Proliferation of Malignant Lung and Pancreatic Cell Lines. **G. Trossi Torres, M. Figueroa Rosado, K. Muñoz Forti, E. Suarez.** Pontifical Catholic University of Puerto Rico and University of Puerto Rico at Ponce.

C192 **565.6** Engineered Cas Clusters to Limit Breast Cancer Cell Growth and Proliferation Selectively. **M. Castro, E. Suarez, D. Rivera, W. Adorno, K. Munoz.** University of Puerto Rico at Mayaguez and University of Puerto Rico at Ponce.

C193 **565.7** Effect of Calcium Sulfide Nanoclusters in the Migration of Non-Small Cell Lung Adenocarcinoma Cell Line HCC827. **A.M. Rivera Reyes, K. Muñoz Forti, G. Arroyo Martínez, G. Trossi Torres, A.A. Ruiz Rivera, E.A. Suarez-Martínez.** University of Puerto Rico at Ponce, Puerto Rico and Pontifical Catholic University of Puerto Rico , Puerto Rico.

C194 **565.8** Anticancer Activity of *Annona muricata* Extract on Triple Negative Breast Cancer Cells and Isolation/ Charcterization of Active Compounds. **H. Alshaeri, M. Alasmari, A. Pino-Figueroa.** Massachusetts College of Pharmacy and Health Sciences.

C195 **565.9** Muscadine Grape Skin Extract Inhibits Androgen-Independent Prostate Cancer Cell Growth, Inducing Cell-Cycle Arrest, and Decreasing Migration by Targeting Heat Shock Protein 40. **C. Brown.** Howard University Graduate School

C196 **565.10** Nanoformulated Talazoparib Enhances the Efficacy and Reduces the Toxicity of This PARP Inhibitor in a Preclinical Model of BRCA-Deficient Breast Cancer. **D. Zhang, P. Baldwin, S. Sridhar, K. Liby.** Michigan State University and Northeastern University.

C197 **565.11** The Chick Chorioallantoic Membrane (CAM) as a Multi-Purpose Preclinical Model in Oncology. **S. Hafner, Z. Zuo, V. Rasche, T. Syrovets, T. Simmet.** Ulm University, Germany.

566. ANTICANCER DRUG RESPONSE

Poster

(*Sponsored by:* ASPET Division for Cancer Pharmacology)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C198 **566.1** Investigation of Non-Caspase Mediated Mechanisms of Death in Response to Treatment with Novel Chalcone in Glioblastoma Cell Lines. **L.R. Inbody, C.R.T. Stang, A.M. Eichel, C.B. Orahood, M.J. Dick, A.H. Mohamed, M.C. Hickey, R.S. Khupse, R.A. Schneider.** University of Findlay College of Pharmacy.

C199 **566.2** S100A8 and S100A9 Proteins in Tyrosine Kinase Inhibitor Resistance in FLT3-LTD-Positive Acute Myeloid Leukemia. **M.E. Zavorka Thomas, D.R. Buelow, J.Y. Jeon, S.B. Pounds, S.D. Baker.** The Ohio State University and St. Jude Children's Research Hospital.

C200 **566.3** Characterization of Drug Resistance Protein Expression Levels in Human Melanoma Cells and Subsequent Treatment with Antifungal Agents. **D.W. Koh, S.G. McKamey, A.T. Daghistani, L.R. Jira, S.D. Blake.** Ohio Northern University.

C201 **566.4** Gene Expression of Solute Carrier Organic Anion Transporters in Multidrug Resistant Breast Cancer Cells. **L. Bennett, S. Hall, M. Issa, K. Goralski.** Dalhousie University, Canada.

C202 **566.5** Assessment of Modeling Techniques and Feature Selection for Predicting Drug Response from Gene Expression Data for Cytotoxic Anticancer Agents. **J.D. Mannheimer, A. Prasad, D.L. Duval, D.L. Gustafson.** Colorado State University.

C203 **566.6** Characterizing the Effects of Ascorbic Acid and Hyperbaric Oxygen on Glioblastoma Cells. **J. DeBlasi, A. Poff, N. Ward, A. Koutnik, C. Rogers, D. Diamond, S. Moss, D. D'Agostino.** University of South Florida and H. Lee Moffitt Cancer Center and Research Institute.

C204 **566.7** High Dose Ascorbate Effect on Certain Cancer Cell Lines. **L.L. Bennett.** Union University College of Pharmacy.

C205 **566.8** Cytochrome P450 Epoxygenase Eicosanoid Pathway as Novel Biomarker and Therapeutic Target of Colorectal Cancer. **G. Zhang, W. Wang, J. Yang, M. Edin, B. Hammock, D. Zeldin.** University of Massachusetts Amherst, University of California, Davis, National Institute of Environmental Health Sciences and National Institutes of Health.

C206 **566.9** Biomarker Discovery for Cancer Sensitivity to CDK8 Inhibitors. **Z. Lu, J.E. Spear, W.A. Russu.** University of the Pacific.

C207 **566.10** Role of Glutathione-S-Transferases in the Metabolism of the Anti-Cancer Agent and Aromatase Inhibitor, Exemestane. **I.L. Teslenko, G. Chen, Z. Xia, P. Lazarus.** Washington State University.

C208 **566.11** Molecular Targeting and Inactivation of Glutaminase and CDK4/6 in Mantle Cell Lymphoma. **B.E. Gibbs, C.P. Masamha.** Butler University.

C209 **566.12** Phenformin Inhibits Proliferation of Acquired Gefitinib Resistant Non-Small-Cell Lung Cancer (NSCLC) Through the Reduction of NAD^+/NADH Ratio. **S. Kim, K.W. Kang.** Seoul National University, Republic of Korea.

C210 **566.13** Tryptophan Metabolism and IDO/TDO Expression in Bladder Cancer: A Case-Control Study in Singapore. **S.H. Lee, K. Esuvaranathan, E. Chiong, T.P. Thamboo, S.N. Choo, L.N.M. Raman, R. Mahendran, E.C.Y. Chan.** National University of Singapore, Singapore and National University Health System, Singapore.

C211 **566.14** Tumor Suppressor Alpha-Arrestin ARRDC3 Controls GPCR Signaling and Breast Cancer Chemoresistance. **W.A. Pan, A. Arakaki, J. Trejo.** Department of Pharmacology, School of Medicine, University of California, San Diego.

C212 **566.15** Effect of Tumor Conditioned Media from Prostate Cancer Cells on Fibroblast Cell Morphology, Viability and Gene Expression. **S.P. Kaur, B.S. Cummings.** University of Georgia.

567. ION CHANNELS

Poster

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C213 **567.1** Local Regulation of L-Type $Ca_v1.2$ Channel and Vascular Reactivity by Adenylyl Cyclase 5 During Diabetic Hyperglycemia. **A.U. Syed, D. Gosh, M.P. Prada, G. Reddy, M.A. Nystoriak, N. Chiamvimonvat, L.F. Santana, Y.K. Xiang, M. Nieves-Cintrón, M.F. Navedo.** University of California, Davis and University of Louisville.

C214 **567.2** Lysosomal Ca^{2+} Release via TRPML1 Channels Regulated by Acid Ceramidase and Associated Sphingolipids in Podocytes. **G. Li, N. Li, P-L. Li.** Virginia Commonwealth University.

C215 **567.3** Development of Novel Inhibitors of Swelling-Activated LRRC8 Anion Channels. **E. Figueroa, M. Fulton, S. Kharade, M. Kramer, D. Weaver, C. Lindsley, J. Denton.** Vanderbilt University.

C216 **567.4** Structure-Activity Relationship Studies of SK Channel Modulation. **R. Orfali, Y-W. Nam, A. Viegas, M. Zhang.** Chapman University.

C217 **567.5** Cystic Fibrosis Transmembrane Conductance Regulator Is Heterologously Expressed in Human Heart. **M. Watson, D. Cholon, S. Perez-Tamayo, V. Agrawal, Y. Shibata, M. Gentzsch, D. Bowles.** Duke University Medical Center, Marsico Lung Institute, University of North Carolina and GeneCentric Therapeutics, Inc.

C218 **567.6** The Role of the K2p Channels Task-1, Trek-1 and Trek-2 in the Use of Treprostinil Therapy in Pulmonary Arterial Hypertension. **K.P. Cunningham, E.L. Veale, J. Abu-Hanna, L. Clapp, A. Mathie.** University of Kent, United Kingdom and University College London, United Kingdom.

C219 **567.7** $K_v7.2$-7.5 Channel-Activation Contributes to Bladder Relaxation Induced by Oxybutynin or Mirabegron. **T. Dalsgaard, D. Strøbæk, P. Christophersen.** Saniona, Denmark.

C220 **567.8** LRRC26 Is Functional as an Auxiliary Subunit of Large-Conductance Ca^{2+}-Activated K^+ (BK) Channel and Regulates BK Channel Activity in Bronchial Smooth Muscle Cells. **S. Noda, Y. Suzuki, H. Yamamura, Y. Imaizumi.** Nagoya City University, Japan.

568. GENERAL CARDIOVASCULAR PHARMACOLOGY

Poster

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C221 **568.1** The Hydrogel-Encapsulated T0901317 Reduces Atherosclerosis Without Effect on Lipogenesis in ApoE Deficient Mice. **Q. Li.** Nankai University, People's Republic of China.

C222 **568.2** Contrasting Effects of Myeloid Specific Ablation of Statin-Responsive KLF2 in Atherosclerosis and Skeletal Muscle Injury. **P. Manoharan, T.L. Radzyukevich, J.A. Heiny, J.B. Lingrel.** University of Cincinnati.

C223 **568.3** Inhibition of Histone Deacetylase 6 Activity Provides Protection Against Atherogenesis: A Role of HDAC6 Neddylation. **Y. Nomura, M.C. Rossberg, A. Bhatta, L. Romer, D. Berkowitz, D. Pandey.** Johns Hopkins University.

C224 **568.4** Deletion of RAP1 Increases Atherosclerosis Development in $ApoE^{-/-}$ Mice by Increasing Macrophage Infiltration and Foam Cell Formation. **X. Chen, A. Xu, E.H.C. Tang.** The University of Hong Kong, People's Republic of China.

C225 **568.5** Modulation of Mean Arterial Pressure and Diuresis by Renomedullary Infusion of Selective Inhibitors of Fatty Acid Amide Hydrolase. **A. Ahmad, S.K. Dempsey, Z. Daneva, J.L. Poklis, N. Li, P.L. Li, J.K. Ritter.** Virginia Commonwealth University.

C226 **568.6** Knockout of Sphingosine Kinase 1 Attenuates Kidney Damage in DOCA-Salt Mice. **B. Lyu, W. Wang, P-L. Li, N. Li.** Virginia Commonwealth University.

C227 **568.7** Interleukin 6 Plus High Salt Increases Systolic Blood Pressure. **G.G. Hecht, H.C. Moyer, A. Krishnamurthy, H. van Elst, R.S. Hoover, B.M. Wynne.** Emory University.

C228 **568.8** Hemodynamic Effects of $G_{q/11}$-Specific Cyclic Depsipeptide Inhibitor Ligands in Normotensive and Hypertensive Mice. **A.J. Edwards, M.M. Meleka, S.A. Dahlen, P. Osei-Owusu.** Drexel University College of Medicine.

C229 **568.9** The α7-nACHRs/heme Oxygenase/Carbon Monoxide Pathway Arbitrates Nicotine Counteraction of the Inflammatory and Renal Vasoconstrictor Hyporeactivity in Endotoxic Rats. **A.M. Wedn, S.M. El-Gowilly, M.M. El-Mas.** Faculty of Pharmacy and Alexandria University, Egypt.

C230 **568.10** Regional Haemodynamic Responses to Adenosine A_{2a}-Receptor Agonists in Conscious Freely Moving Rats. **S.L. Cooper, J. March, S. Hill, J. Woolard.** University of Nottingham, United Kingdom.

C231 **568.11** Characterization of the Cardiovascular and Renal Effects of Synthetic Nociceptin/orphanin FQ Receptor Partial Agonists. **I.B. Denys, J. Gao, N.T. Zaveri, D.R. Kapusta.** Louisiana State University School of Medicine, Department of Pharmacology and Astraea Therapeutics.

C232 **568.12** Bradykinin Increases Blood Pressure in Endotoxemic Rats. **E. Anton, T. Corrêa, D. Fernandes, J. Assreuy, J.E. da Silva Santos.** Federal University of Santa Catarina, Brazil.

C233 **568.13** Changes in the Participation and Expression of Angiotensin II Receptor AT1 in Heart and Kidney of Rats 6 Weeks Old with Neonatal Administration of Dexamethasone and Hyperbaric Oxygen Therapy. **A. Duron-Gil, G. Guevara-Balcazar, M.A. Martinez-Godinez, I. Rubio-Gayosso, A. Franco-Vadillo, M.C. Castillo-Hernandez.** Escuela Superior de Medicina and Instituto Politecnico Nacional, Mexico.

C234 **568.14** Role of Angiotensin II in Cardiovascular Stress Responses in Rats Exposed to Glucocorticoids in Utero. **L. Madhavpeddi, B.D. Hammond, C.R. Royal, R.J. Handa, T.M. Hale.** University of Arizona College of Medicine—Phoenix, Colorado State University, University of Arizona and College of Medicine.

C235 **568.15** Targeting the Right Ventricle as a Treatment Strategy for Pulmonary Arterial Hypertension. **M.W. Gorr, W. Liang, A. Muthusamy, K. Sriram, P.A. Insel.** University of California, San Diego.

C236 **568.16** Developing and Characterizing Human Biomimetic Arteriole for Studying Pulmonary Hypertension. **A. Bhatta, J.V. Pagaduan, X. Chen, H. West-Foyle, A. Hou, J. Liu, Q. Jin, T.D. Nguyen, S. Kuo, D. Berkowitz, D.H. Gracias, L.H. Romer.** Johns Hopkins University.

569. DIABETES AND VASCULAR DAMAGE

Poster

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C237 **569.1** The Aortic Function of Female UC Davis Type 2 Diabetes Mellitus (UCD-T2DM) Rats. **F. Akther, M.R. Razan, T. Tang, J.L. Graham, K.L. Stanhope, P.J. Havel, R. Rahimian.** University of the Pacific and University of California.

C238 **569.2** Impaired Mesenteric Arterial Function of Male UC Davis Type 2 Diabetes Mellitus (UCD-T2DM) Rats: Possible Involvement of Small Conductance Calcium-Activated Potassium Channels (SKCa). **M.R. Razan, F. Akther, D.Y. Wang, S. Shaligram, J.L. Graham, K.L. Stanhope, P.J. Havel, R. Rahimian.** University of the Pacific and University of California.

C239 **569.3** Mesenchymal Stem Cells Ameliorate Palmitic Acid Induced Lipotoxicity of Human Umbilical Vein Endothelial Cells and High-Fat Induced Obese Rats by Suppression of Endoplasmic Reticulum Stress. **R. Luo, L. Li, L. Li, G. Yang, H. Li, Y. Lu, J. Cheng, Y. Chen.** Sichuan University, People's Republic of China.

C240 **569.4** Administration of SGLT2 Inhibitor Empagliflozin Against TNF-α Induced Endothelial Dysfunction in Human Venous and Arterial Endothelial Cells. **L. Uthman, A. Homayr, M.W. Hollmann, C.J. Zuurbier, N.C. Weber.** Academic Medical Center, Netherlands.

C241 **569.5** Mitochondrial DNA Activates NLRP3 Inflammasome and Contributes to Endothelial Dysfunction and Inflammation in Type 1 Diabetic Mice. **C.A. Pereira, N.D.S. Ferreira, C.Z. Zanotto, D. Carlos, R. Tostes.** University of Sao Paulo, Brazil.

C242 **569.6** Aldosterone Activates NLRP3/Inflammasome in the Vasculature of Type 2 Diabetic Mice. **N. dos Santos Ferreira, T. Bruder-Nascimento, C. André Pereira, C. Zillioto Zanotto, J. Fernandes da Silva, R.D.C. Tostes.** University of Sao Paulo, Brazil and Augusta University.

C243 **569.7** Arginase Inhibition Improves Vascular Function and Restores NO Production in Diabetic Conditions. **A. Shatanawi, M.S. Momani.** The University of Jordan, Jordan.

C244 **569.8** FoxO1 Couples Reactive Oxygen Species in Diabetic Atherosclerosis. **J. Liu, D. Yan, X. Xie, Z. Xia.** The University of Hong Kong, People's Republic of China and The University of Hong Kong, Hong Kong.

C245 **569.9** Intra-Abdominal Lipectomy Reduces Large Arterial Stiffness and Blood Pressure in Metabolic Syndrome. **A.A. Soler, B. Hutcheson, J. Yang, I. Hunter, K. McEvoy, F.F. Zhang, S. Joshi, C. Bradford, K. Gotlinger, J. Falck, S. Proctor, M.L. Schwartzman, P. Rocic.** New York Medical College, Tuskegee University, The University of Texas Southwestern Medical Center and University of Alberta, Canada.

C246 **569.10** Anchored G_s-Coupled Purinergic Receptor Regulation of L-Type $Ca_v1.2$ and Vascular Tone in Diabetic Hyperglycemia. **M.P. Prada, A.U. Syed, O.R. Buonarati, D. Ghosh, M.A. Nystoriak, G.R. Reddy, K.C. Sasse, S.M. Ward, Y.K. Xiang, L.F. Santana, M. Nieves-Cintrón, J.W. Hell, M.F. Navedo.** University of California, Davis, University of Louisville, University of Nevada, University of Nevada and Reno.

C247 **569.11** Mild Hyper-Caloric Intake Is Associated with Peri-Vascular Adipose Inflammation and Vascular Dysfunction: Modulation by Antidiabetic Drugs. **M.A-W. Khatib, F. Sleiman, E.I. Saad, H.H. Fouad, K. Issa, A. Eid, A. Eid, A.F. El-Yazbi.** University of Alexandria, Egypt and The American University of Beirut, Lebanon.

570. TRANSLATIONAL PHARMACOLOGY I

Poster

(*Sponsored by:* ASPET Division for Translational and Clinical Pharmacology)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Cancer and Therapy

Cardiovascular

Drug Discovery and Development

Translational and Clinical Pharmacology

Presentation time: 12:30 PM–2:30 PM

C248 **570.1** New Approach in Characterize siRNA Delivery Platform for Clinical Translation. **T. Miti, H. Pan, S.A. Wickline.** University of South Florida.

C249 **570.2** DNA-PK Is Activated in Human Atherosclerotic Plaques and Its Partial Inhibition by Gene Heterozygosity Reduces Atherogenesis in Mouse Model of the Disease. **M.A. Ghonim, K. Pyakurel, H. Luu, M. Dean, H. Bazan, H. Boulares.** Louisiana State University Health Sciences Center.

C250 **570.3** Development of Insulin Resistance After Long-Term Glucocorticoid Action as the Mechanism of Transformation of Gastroprotective Effect Glucocorticoids into Proulcerogenic Consequences. **L. Filaretova, O. Morozova, T. Podvigina.** Pavlov Institute of Physiology, Russian Federation.

C251 **570.4** Development of Novel in Vitro and in Vivo Models to Evaluate Antibiotic Efficacy Against Shigellosis. **S. Arnold, M. McCloskey, S. Shaheen, M. Hulverson, R. Choi.** University of Washington.

C252 **570.5** Long-Term Somatic Hypoalgesia as a Marker of Pathological Conditions in Gastrointestinal Tract. **L. Filaretova, Y. Punin, M. Sudalina, N. Yarushkina.** Pavlov Institute of Physiology, Russian Federation.

C253 **570.6** Trends and Advances on Precision Medicine Through Scientometric Analysis. **E. Sohn, E-H. Sohn.** Korea Institute of Science and Technology, Republic of Korea and Kangwon National University, Republic of Korea.

C254 **570.7** Phospholipids as Indicators of Castration Resistant Prostate Cancer. **L.M. Ingram, M. Manosoura, S. Pati, B. Cummings.** University of Georgia

C255 **570.8** Relative Neutralization of Heparin from Different Origins by Protamine, Polybrene, Platelet Factor 4, and Synthetic Heparin Antagonist PMX. **R. Laddu, A. Farooqui, F. Siddiqui, O. Iqbal, D. Hoppensteadt, A. Kouta, J. Fareed.** Loyola University Medical Center.

C256 **570.9** Identification of Novel Host Factors That Reduce Cell Damage Induced by the Bacterial Pore-Forming Toxin Streptolysin **O.T. Escajadillo, L. Popov, S. Dahesh, J.E. Carette, V. Nizet.** University of California, San Diego and Stanford University.

C257 **570.10** G Protein-Coupled Receptors in Human Lung Fibroblasts: Novel Therapeutic Approaches for Idiopathic Pulmonary Fibrosis? **A.V. Michkov, K. Sriram, S. Mukherjee, L.J. Janssen, P.A. Insel.** University of California, San Diego and McMaster University, Canada.

571. TRANSLATIONAL PHARMACOLOGY II

Poster

(*Sponsored by:* ASPET Division for Translational and Clinical Pharmacology)

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Cardiovascular

Drug Discovery and Development

Translational and Clinical Pharmacology

Presentation time: 12:30 PM–2:30 PM

C258 **571.1** Patient Perceptions of Cholesterol Medications. **J.T. Davies, S. Delfino, C. Feinberg, M. Johnson, V. Nappi, J. Olinger, A. Schwab, K. Real, S. Rose.** University of Kentucky.

C259 **571.2** Indomethacin Induces Browning and Brown Adipogenesis in Murine 3T3-L1 White Adipocytes and Human Brown Fat Cells. **H.B. Overby, S. Wang, L. Zhao.** University of Tennessee, Knoxville and Texas Tech University.

C260 **571.3** The Association of Vitamin D Levels to Advanced Liver Fibrosis and Response to Hepatitis C Therapy. **M.K.A. Elhag, S. Deiab, N. Hussain, R.K.A. Aziz.** Ras al-Khaimah Medical and Health Sciences University, United Arab Emirates, Ajman University, United Arab Emirates and Alain University, United Arab Emirates.

C261 **571.4** Pharmacogenetic Assessment of 5-HT1A-rs6295 (C1019G) and *5-HT*$_{2A}$-Rs6311 (G1438A) Receptor Gene Polymorphisms in SSRI Treatment Outcome Among Malays in Malaysia. **I.M. Badamasi, J. Stanslas, L. Munn Sann, N. Ibrahim, K. Shaari, M.K.H. Ling.** Universiti Putra Malaysia, Malaysia.

C262 **571.5** The Antithrombotic Effects of 12-LOX Derived Metabolites of DPA, ω-6. **A. Chen, J. Yeung, A. Szatkowski, M. Jackson, J. Watson, C. Freedman, A. Das, T. Holman, M. Holinstat.** University of Michigan, University of Illinois at Urbana-Champaign and University of California, Santa Cruz.

C263 **571.6** 12-LOX Oxylipins Derived from Omega-3 Supplementation with Docosahexanoic Acid Potently Regulate Human Blood Platelets. **R. Shami, M. Hawley, J. West, T. Holman, M. Holinstat.** University of Michigan and University of California, Santa Cruz.

C264 **571.7** Renally-Clearable Polymeric Nanochelator for Iron Overload Therapy. **M. Han, H. Kang, J. Xue, H.S. Choi, J. Kim.** Northeastern University and Massachusetts General Hospital.

C265 **571.8** A Novel Metformin-Methylglyoxal Imidazolinone Metabolite (IMZ) Sensitizes Cells to Insulin; a Potential Role in Alleviating T2DM Complications. **T.L. Hargraves, N.J. Mastrandrea, S.S. Lau, T.J. Monks.** University of Arizona and Wayne State University.

C266 **571.9** Integrated Sigma Quanta Therapy as a Possible Adjunct for Type 1 Diabetes: A Case Study. **D.D. Thornton, O.L. Tulp, G.P. Einstein.** University of Science, Arts and Technology Montserrat, Montserrat and Einstein Medical Institute.

C267 **571.10** Methylglyoxal Potentiates Thrombin and Collagen-Induced Human Platelet Aggregation. **C.A. Salles, C.F. Freitas, C.H. Lescano, A.C.A. Naime, E. Antunes.** Faculdade de Ciências Médicas—FCM—Universidade de Campinas (UNICAMP), Brazil and Pontifícia Universidade Católica de Minas Gerais, Brazil.

Physiology

572. ATHEROSCLEROSIS/THROMBOSIS/PLATELETS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A1 **572.1** Plasminogen Activator Inhibitor-1 After Acute Myocardial Infarction in Obstructive Sleep Apnea Patients. **A. Svatikova, P. Singh, F. Kuniyoshi, A. Gami, V.K. Somers.** Mayo Clinic.

A2 **572.2** Impaired Platelet Mitochondrial Bioenergetics Is Associated with Hemodynamic Dysfunction in Patient with Peripheral Arterial Occlusive Disease. **M-L. Lin, J-S. Wang.** Chang Gung Christian University, Taiwan.

A3 **572.3** Effect of Hypoxia on Macrophage MMP-2 Expression: Role of O_2 Availability in Determining Atherosclerotic Plaque Stability. **P. Kumar, S. Teece, C. Kyoo Yoon, C. Mcpherson, D. Kopriva, J. Buttigieg.** University of Regina, Canada and University of Saskatchewan, Canada.

A4 **572.4** Mapping Platelet Responses in Native American Populations. **S.J. Stein, T.G. Rodezno, K.N. Graber, K.A. Hora, S.M. Clarke, R.S. Pahlke, K.M. Abbott, M.K. Larson.** Augustana University.

A5 **572.5** Ovarian Cancer Cell Exosome Interactions with Platelets: A Role for the Novel Transmembrane Protein SUS. D2 **T.G. Rodezno, S.J. Stein, K.N. Graber, K.A. Hora, M. Madeo, J.J. Roetman, J.A.A. Gubbels, M.K. Larson.** Augustana University and Sanford Research.

A6 **572.6** The Oxidized Phospholipid POVPC Induces Endothelial to Mesenchymal Transition. **Z-J. Ou, Y. Li, J. Chen, S-X. Li, T-T. Wang, M-M. Shi, J-S. Ou.** The First Affiliated Hospital of Sun Yat-sen University, People's Republic of China.

A7 **572.7** Macrophage Insulin-Like Growth Factor I (IGF1) Upregulates Atherosclerotic Plaque Collagen and Suppresses Atherosclerosis by Reducing Matrix Metalloproteinases. **P. Snarski, S. Danchuk, S. Sukhanov, T. Yoshida, Y. Higashi, S.Y. Shai, B. Chandrasekar, P. Delafontaine.** University of Missouri and Tulane University.

A8 **572.8** Does Light Pollution Affect the Development of Atherosclerosis?. **R.H. Wendroth, E.G. McGann, D.A. Howatt, J.S. Pendergast.** University of Kentucky.

A9 **572.9** Circadian Disruption Accelerates Atherosclerosis in *Apolipoproteine*-Deficient Mice. **J.S. Pendergast, J.M. Chalfant, D.A. Howatt, E.G. McGann.** University of Kentucky.

573. ANGIOGENESIS/MICROVASCULAR REMODELING/INJURY AND REPAIR

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A10 **573.1** Agent Based Model of Endothelial Cell and Pericyte Interactions During Angiogenesis in the Germinal Matrix. **M. Rikard, H. Patolia, J. Chappell, S.M. Peirce.** University of Virginia and Virginia Tech Carilion School of Medicine and Research Institute.

A11 **573.2** Hydrogen Sulfide Improves Hyperhomocysteinemia-mediated Impairment of Angiogenesis in Skeletal Muscle. **A. Majumder, M. Singh, A.K. George, S.C. Tyagi.** University of Louisville.

A12 **573.3** Interaction of Phospho-Moesin and CD44 in Pericytes Attenuated the Maturation of Neovessles in Age-Induced Angiogenesis. **Q. Huang, S. Zhang, L. Chen, Y. Cui, X. Liu, X. Guo.** Southern Medical University, People's Republic of China.

A13 **573.4** Recovery of Functional Vasodilation During Skeletal Muscle Regeneration. **C.A. Fernando, D.D.W. Cornelison, S.S. Segal.** University of Missouri.

A14 **573.5** Inhibition of Inflammation and Pyroptosis Mitigate Diabetic Retinopathy via Suppressing Receptor Activated NF-κB Ligand (Rank-L). **R.P. Petit Homme.** University of Louisville School of Medicine.

A15 **573.6** Induction of Microvascular Network Growth in the Mouse Mesentery. **A.D. Suarez-Martinez, S.M. Peirce-Cottler, B. Isakson, J. Scallan, W.L. Murfee.** University of Florida, University of Virginia and University of South Florida.

A16 **573.7** Effect of Injury by Catheter Balloon in Wistar Rats Through Time, Characterizing Restenosis. **N.P. Pereira, T. Fernandes, E.M. de Oliveira.** University of São Paulo, Brazil.

A17 **573.8** Femoral Artery Ligation Impairs Skeletal Muscle Force Production in C57BL/6J Mice. **C.E. Nickell, T.R. Cardinal.** California Polytechnic State University.

A18 **573.9** Endothelial Cell Caveolin-1 Depletion Modulates TGF and Notch Signaling Associated with Pulmonary Arterial Hypertension. **S.D.S. Oliveira, J. Chen, M. Castellon, O. Chernaya, O. Colamonici, M.G. Bonini, R. Machado, R. Minshall.** University of Illinois at Chicago and Indiana University.

A19 **573.10** The Impact of Primary Myoblast Transplantation on Functional Vasodilation Following Arteriogenesis in Mice with Diet-Induced Obesity. **C.M. Tran, V. Hamzeinejad, T.R. Cardinal.** California Polytechnic State University.

574. INFLAMMATION/LEUKOCYTE-ENDOTHELIUM INTERACTIONS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A20 **574.1** Characterization of Microparticle Generation from Blood and Endothelial Cells During Inflammatory Stimulation. **V. Chatterjee, J. Meegan, J. Overstreet, D. Coleman, C. Szekeres, S. Yuan.** USF Health and Morsani College of Medicine.

A21 **574.2** Citrullinated Histone 3 Contributes to Endothelial Barrier Dysfunction During Sepsis. **J. Meegan, X. Yang, M. Jannaway, V. Chatterjee, S.Y. Yuan.** University of South Florida.

A22 **574.3** Resolvin D1 Blocks ROS-Mediated Inhibitory Crosstalk Between SHP2 and PP2A and Suppresses Endothelial-Monocyte Interactions. **N. Singh, R.N. Chattopadhyay, A.M. Mani, G.N. Rao.** University of Tennessee Health Science Center.

A23 **574.4** The Effect of Docosahexaenoic Acid on Macrophage Polarization. **S-T. Ding, Y-J. Peng, Y-S. Chen.** National Taiwan University, Taiwan.

A24 **574.5** FPR2/ALX Is a Therapeutic Target for the Resolution of Thrombo-Inflammation. **F.N.E. Gavins.** Louisiana State University Health Sciences Center—Shreveport.

A25 **574.6** Neutrophils Form Elongated Shear-Derived Particles (SDP) via Shedding Tethers and Slings. **A. Marki, K. Buscher, Z. Fan, Y-T. Yeh, N. Hartmann, J. Dan, J. Bui, H. Winkels, E. Ehinger, S. McArdle, Z. Mikulski, Y. Altman, M. Kronenberg, S. Chien, K. Ley.** La Jolla Institute for Allergy and Immunology, University of California, San Diego and Sanford Burnham Prebys Medical Discovery Institute.

A26 **574.7** Investigating the Sex-Based Differences in Lung Inflammation in an Obesity Model of Early Sepsis. **A. Azraf, S. Galkin, D. Dwivedi, M. Khan, A. Fox-Robichaud.** McMaster University, Canada and Thrombosis and Atherosclerosis Research Institute (TaARI), Canada.

A27 **574.8** Recombinant Human Vimentin Binds Preferentially to P-Selectin Through the Rod Domain to Block Leukocyte Adhesion to Platelets. **F. Lam, Q. Da, M. Cruz.** Baylor College of Medicine.

A28 **574.9** Alterations in Human Neutrophil Function by Bisphenol A. **A. Balistrieri, A. Meier, R. Corriden.** University of California and San Diego.

575. ISCHEMIA-REPERFUSION/FREE RADICAL BIOLOGY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A29 **575.1** Ginsenoside Rg1 Ameliorates Rat Myocardial Ischemia-Reperfusion Injury by Modulating Energy Metabolism Pathways. **J-Y. Han, L. Li, C-S. Pan, L. Yan, Y-C. Cui, Y-Y. Liu, H-N. Mu, K. He, K. Sun, J-Y. Fan, L. Huang.** School of Basic Medical Sciences, Peking University, People's Republic of China, Beijing China-Japan Friendship Hospital, People's Republic of China and Peking University Health Science Center, People's Republic of China.

A30 **575.2** Human Placental Stem Cell Therapy in Stroke: Endothelial/Smooth Muscle Mechanisms Underlying Protection. **M. Barzegar, A. Minagar, Y. Wang, W.J. Yun, C. Boyer, S.G. Cananzi, S.J. Alexander.** Louisiana State University Health Sciences Center—Shreveport.

A31 **575.3** Remote Limb Ischemic Preconditioning Improves Post-Resuscitation Long Term Survival in a Rat Fixed Pressure Hemorrhagic Shock Model. **W. Dai, J. Shi, J. Carreno, S. Hale, R.A. Kloner.** Huntington Medical Research Institutes.

A32 **575.4** Blood-Based Biomarkers as Early Predictor of Mortality in Experimental Hemorrhagic Shock. **J. Shi, W. Dai, J. Carreno, S.L. Hale, R.A. Kloner.** Huntington Medical Research Institutes.

A33 **575.5** Synergistic Neuroprotective Effect by Combination Treatment with DAPK1 and PIN1 Inhibitor on Ischemic Stroke. **J. Won, H. Kang, Y. Hong.** Graduate School of Inje University, Republic of Korea and Inje University, Republic of Korea.

A34 **575.6** Comparison of Anesthetic Effects of Isoflurane Used Alone or Combined with Xylazine on Induced Cerebral Ischemia. **J-H. Kim, J. Won, Y. Hong.** Gyeongsang National University, Republic of Korea, Graduate School of Inje University, Republic of Korea and Inje University, Republic of Korea.

A35 **575.7** Nrf2 Deletion Is Associated with Impaired BK_{ca} Channel Expression and Function in Rat Cerebral Arterial Muscle Cells. **D. Gebremedhin, D.R. Harder, J.H. Lombard.** Medical College of Wisconsin.

A36 **575.8** Endothelial Cell Pannexin 1 Modulates Severity of Ischemic Stroke by Regulating Cerebral Inflammation and Myogenic Tone. **M.E. Good, S.A. Eucker, J. Li, H.M. Bacon, S.M. Lang, J.T. Butcher, T.J. Johnson, Z. Zuo, B.E. Isakson.** University of Virginia and Duke University.

576. LYMPHATIC AND VENULAR FUNCTION

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A37 **576.1** Improved Methods for Characterizing Ion Channel Expression in Smooth Muscle, Endothelial and Adventitial Cells from Collecting Lymphatic Vessels. **P. Gui, S. Zawieja, M. Li, J. Castorena-Gonzale, M.J. Davis.** University of Missouri School of Medicine.

A38 **576.2** Inducible Adipose Tissue VEGF-D Drives Lymphatic Expansion and Improves Systemic Insulin Sensitivity in Obesity. **A. Chakraborty, G.M. Lammoglia, J.M. Rutkowski.** Texas A&M College of Medicine.

A39 **576.3** Lymphatic Wall Remodeling with Systemic and Tissue-Associated Inflammation in Obese Zucker Rats. **A.N. Trujillo, J.W. Breslin.** University of South Florida.

A40 **576.4** Are Lymphatic Contractions Initiated and/or Coordinated by ICC-Like Cells in the Lymphatic Vessel Wall? **M.J. Davis, J. Castorena-Gonzale, M. Li, P. Gui, T.L. Domeier, S. Zawieja.** University of Missouri School of Medicine.

A41 **576.5** Evaluation of the Impact of the Traditional Medicine Formulation Goreisan and Its Components on Mesenteric Lymphatic Vessel Contraction and Lymphatic Endothelial Barrier Function. **M. Jo, A.N. Trujillo, N. Shibahara, J.W. Breslin.** University of Toyama, Japan and University of South Florida.

A42 **576.6** Substance P Regulates Inflammatory Pathways in Lymphatic Muscle. **A. Kumar, Y. Lee, M. Muthuchamy, S. Chakraborty.** The University of Texas at Austin and Texas A&M University.

A43 **576.7** A 3-D Biomicrofluidic Lymphatic Vessel Analogue for Studying Lymphangiogenesis and Lymphatic Vessel Function. **C-W. Chang, P. Kumar, J.W. Song.** The Ohio State University.

577. INSTRUMENTATION, METHODOLOGY, AND EXPERIMENTAL MODELS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A44 **577.1** An *ex Vivo* Platform for Studying Angiogenesis in Perfused Microvascular Networks. **J. Motherwell, P. Katakam, W. Murfee.** Tulane University and University of Florida.

A45 **577.2** Tissue Oxygenation Within Diabetic Wounds Can Be Monitored Using Difluoroboron β–Diketonate Polylactide Nanoparticles. **A. Bruce, N. Sun, M. Zhuang, C. Fraser, S. Hu, S. Peirce.** University of Virginia.

A46 **577.3** Automated Quantitation of Microvascular Perfusion Parameters Using Fluorescence Videomicroscopy and Computational Image Processing. **P.M. McClatchey, N. Mignemi, Z. Xu, I. Williams, D. Wasserman.** Vanderbilt University.

A47 **577.4** Improving Accuracy of Falling Drop Hemoglobin Method via Modifications to Column Length. **W. Rupprecht, T. Randolph.** Saint Louis University.

A48 **577.5** Assessing Mitochondrial Respiratory Function in Isolated Mouse Brain Microvessels Using Seahorse Xfe Analyzer: Role of Neuronal Nitric Oxide Synthase. **V.N.L.R. Sure, S.S.V.P. Sakamuri, J.A. Sperling, I. Merdzo, W.R. Evans, I. Rutkai, D.W. Busija, P.V.G. Katakam.** Tulane University School of Medicine.

578. MICROVASCULAR DEVELOPMENT AND AGING

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A49 **578.1** The Effect of Aging on Vasomotion Responses to Varying Rates of Local Heating. **A.T. Del Pozzi, Z.T. Martin, K.M. Soave, G.J. Hodges.** Ball State University and Brock University, Canada.

A50 **578.2** Mitochondrial Respiratory Function in the Vasculature with Advancing Age: Examining the Link to Vasodilatory Dysfunction. **S.H. Park, O.S. Kwon, S-Y. Park, R.H.I. Andtbacka, J.R. Hyngstrom, R.S. Richardson.** University of Utah, George E. Whalen VA Medical Center and University of Nebraska.

A51 **578.3** Non-Invasive Assessment of Arterial Stiffness Correlates with Age-Related Vessel Structure: A New Popmètre Device for Rats. **S.L. Amaral, M.F. Fabricio, M.R. Vidal, T.F.R. Ruiz, A.S. Zago, C.A. Vicentini, M.T. Jordão, L.C. Michelini.** São Paulo State University, Brazil and University of São Paulo, Brazil.

A52 **578.4** Improved Diastolic Dysfunction and Coronary Blood Flow in Aging Following Stromal Vascular Fraction Therapy. **N. Kelm, F. Yuan, M. George, C. Shofner, J. Beare, A. LeBlanc.** University of Louisville.

A53 **578.5** Decline in Conduit Artery Function Across the Healthy Human Adult Lifespan: Influence of Successful Aging. **K. Shields, R. Broxterman, O.S. Kwon, S. Park, C. Jarrett, K. Smith, D.W. Wray, R. Richardson.** University of Utah, Geriatric Research, Education, and Clinical Center, University of Utah Health and Huntsman Cancer Institute University of Utah.

A54 **578.6** Delineating the Age-Related Attenuation of Vascular Function: Evidence Supporting the Efficacy of Single Passive Leg Movement. **J.R. Hydren, R.M. Boxterman, J.D. Trinity, J.R. Gifford, O.S. Kwon, A.C. Kithas, R.S. Richardson.** University of Utah and Brigham Young University.

A55 **578.7** Changes in the PO_2-Dependence of Oxygen Consumption in the Skeletal Muscle of Developing Rats. **S. Dodhy, R. Pittman.** Virginia Commonwealth university.

A56 **578.8** Angiogenesis Is Not Impaired in Cultured Rat Mesenteric Microvascular Networks. **N.A. Hodges, W. Murfee.** Tulane University and University of Florida.

A57 **578.9** Cerebral Microhemorrhages Impair Gait Coordination in Mice. **S. Tarantini, A. Yabluchanskiy, G.A. Fulop, D. O'Connor, W.E. Sonntag, A. Csiszar, Z. Ungvari.** University of Oklahoma Health Sciences Center.

579. CORONARY CIRCULATION

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A58 **579.1** Tetrahydrobiopterin Prevents Coronary Artery Malformations Induced by Pregestational Diabetes. **A. Engineer, Y.J. Lim, X. Lu, Q. Feng.** University of Western Ontario, Canada.

A59 **579.2** Alterations to Protein Level and Cellular Location of the BK_{ca} α-Subunit in the Coronary Vasculature Are Dependent on Sex Hormones, Metabolic Status, and Species: A Retrospective Study in Multiple Swine Models of Pressure Overload-Induced Heart Failure. **J.C. Edwards, T.D. Olver, P.K. Thorne, Z. Nourian, J.A. Hiemstra, J.R. Ivey, M.H. Laughlin, R.S. Rector, J. Padilla, M.A. Hill, C.A. Emter.** University of Missouri.

A60 **579.3** Transient Focal Ischemia in a Mouse Model of Hypertrophic Cardiomyopathy (HCM). **I. Shamblin, S. Bennuri, D. Joensson, G. Halade, S. Huke.** University of Alabama at Birmingham.

A61 **579.4** Electronic Cigarettes Impair Human Coronary Endothelial Function. **K. Davoren, M. Rashid, F. Nafeh, N. Moy, R. Elashoff, J. Lindner, R.G. Victor.** Chiang Mai University, Cedars-Sinai Medical Center, David Geffen School of Medicine at University of California, Los Angeles and Oregon Health & Science University.

A62 **579.5** Increasing Endothelial Adenosine via Adenosine Kinase Inhibition Augments Conducted Vasodilation in Hfpef. **A.C. Davila, S. Christiansen, V. Patel, V. Kamath, J. Li, H. Su, Y. Huo, N. Weintraub, Z. Bagi.** Medical College of Georgia at Augusta University.

A63 **579.6** Altered Coronary Vascular Function in a Mouse Model of Hypertrophic Cardiomyopathy. **J.M. Muller-Delp, J.J. Maraj, S. Huke.** Florida State University and University of Alabama at Birmingham.

A64 **579.7** Chronically Increased Aldosterone *in Vivo* Attenuates Coronary Vasodilation to Adenosine. **M. Khan, S.M. Brown, A.I. Meuth, S.B. Bender.** Harry S. Truman Memorial Veterans Hospital.

A65 **579.8** Deletion of Smooth Muscle, but Not Endothelial, Mineralocorticoid Receptors Prevents Obesity-Associated Coronary Vascular Dysfunction in Females. **S.M. Brown, A.I. Meuth, I.Z. Jaffe, S.B. Bender.** Harry S. Truman Memorial Veterans Hospital and Tufts Medical Center.

A66 **579.9** Growth, Ageing of Coronary Arterial Trees Obey Scaling Laws. **N. Pei, H. Yunlong.** Peking University, People's Republic of China.

A67 **579.10** Echocardiographic Assessment of G-Protein Coupled Estrogen Receptor (GPER) Activation on Coronary Blood Flow and Cardiac Function in Mice. **X. Yu, S. Guo, G. Han.** Texas A&M University.

580. CARDIOPROTECTION

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A68 **580.1** Improvement of Mitochondrial Function in Human Atrial Tissue by Remote Ischemic Conditioning. **P. Kleinbongard, N. Gedik, U. Frey, A. Zandi, M. Thielmann, H. Jakob, J. Peters, M. Kamler, G. Heusch.** University of Essen Medical School, Germany.

A69 **580.2** KVβ2 Subunit Regulates Cardiac Levels of Slc41a3 a Sodium-Magnesium Transporter. **J. Tur, K.C. Chapalamadugu, S.M. Tipparaju.** University of South Florida.

A70 **580.3** Mitophagy Must Be Maintained at a Certain Level in Order to Provide Cardioprotection in Mice During Fasting. **K. Bantis, Y. Zhang, S. Kobayashi, Q. Liang.** New York Institute of Technology College of Osteopathic Medicine.

A71 **580.4** Reduction of Reperfusion Cardiac Injury in Donation After Circulatory Death Hearts Through Modulation of Electron Transport. **Q. Chen, S. Toldo, E. Lesnefsky, M. Quader.** Virginia Commonwealth University.

A72 **580.5** Inhibition of Sodium Glucose Cotransporter-2 Preserves Cardiac Function During Regional Myocardial Ischemia via a Frank-Starling Mechanism. **H. Baker, A. Kiel, K. Mather, J. Tune, A. Goodwill.** Indiana University School of Medicine and Weldon School of Biomedical Engineering Purdue University.

A73 **580.6** Sodium Butyrate Attenuates Angiotensin II-Induced Cardiac Hypertrophy by Inhibiting COX2/PGE2 Pathway via a HDAC5/HDAC6-Dependent Mechanism. **L. Zhang, M. Deng, A. Lu, Y. Chen, Y. Chen, C. Wu, W. Wang, Z. Tan, T. Yang, Q. Zhu, L. Wang.** Sun Yat-sen University, People's Republic of China and Guangzhou University of Chinese Medicine, People's Republic of China.

A74 **580.7** Regression of Pressure Overload-Induced Cardiac Hypertrophy by Teta-Mediated Myocardial Copper Supplementation in Rats. **J. Liu, Y. Liu, X. Sun, S. Fan, X. Ding, L. Qiu, P. Han, Y.J. Kang.** Regenerative Medicine Research Center and Sichuan University West China Hospital, People's Republic of China.

A75 **580.8** Critical Role of Angiotensin II Type 2 Receptors in the Control of Mitochondrial and Cardiac Function in Angiotensin II-Preconditioned Rat Hearts. **R. Nuñez, S. Javadov, N. Escobales.** University of Puerto Rico School of Medicine.

A76 **580.9** Dopamine Receptor D3 Agonist (Pramipexole) Abolishes Morphine-Induced Cardiac Fibrosis in Mice. **G.G. Gaweda, R.P. Iyer, P.R. Shaver, G.A. Grilo, M-L. Dinkins, H.J. Stoffel, S. Clemens, L.E. de Castro Brás.** East Carolina University.

A77 **580.10** *S*-Nitrosoglutathione Reductase Is Essential for Reducing Ischemia-Reperfusion Injury in Female Hearts by Metabolizing Formaldehyde. **M.J. Kohr, K. Casin, N. Mackowski, R. Veenema, A. Chan, A. St. Paul, D. Bedja, S. Biswal.** Johns Hopkins Bloomberg School of Public Health and Johns Hopkins University School of Medicine.

A78 **580.11** Transcriptional Profiling of Laser Captured Neurons in the Dorsal Motor Nucleus of the Vagus in Response to Ischemic Heart Failure. **J. Gorky, R. Vadigepalli, J. Schwaber.** Thomas Jefferson University.

A79 **580.12** Modulation of MicroRNA 15b and Its Downstream Protein Targets in the Heart by Oral Ingestion of Beetroot Wine: Potential Protective Role Against Doxorubicin Cardio Toxicity. **S. Rehman, J. Talukder.** West Virginia University and University of Wisconsin—Stout.

A80 **580.13** Cardiac Function in a Chemical Toxin (Organophosphate) Induced Model of Gulf War Illness: Benefit of Exercise Training. **J.F. Machi, F. Conti, R. Schmidt, M. Morris.** Nova Southeastern University.

A81 **580.14** Targeted Gene Therapy with RXFP1 Attenuates Myocardial Infarction and Preserves Left Ventricular Function in Mice. **T.V. Devarakonda, E. Kohlbrenner, C. Cain, A. Das, R.J. Hajjar, F.N. Salloum.** Virginia Commonwealth University School of Medicine and Icahn School of Medicine at Mount Sinai.

A82 **580.15** Microarray Analysis of Long Non-Coding RNA and mRNA Expression Profiles in Diabetic Cardiomyopathy Using Human iPSCs-Derived Cardiomyocytes. **T. Pant, M. Mishra, X. Bai, Z.J. Bosnjak, Z-D. Ge, A. Dhanasekaran.** Medical College of Wisconsin and Anna University, India.

A83 **580.16** Postconditioning Effect of PDE5 Inhibitor, Sildenafil in Normal and Diabetic Rabbits Following Myocardial Ischemia/Reperfusion Injury. **R. Ockaili, A. Samidurai, S.M. Filippone, C.K. Cain, A. Das, R.C. Kukreja.** Virginia Commonwealth University.

A84 **580.17** Microarray Analysis of Long Noncoding RNAs in the Heart and Plasma of Type 2 Diabetic *db/db* Mice. **T. Pant, A. Dhanasekaran, Z. Bosnjak, Z-D. Ge.** Medical College of Wisconsin and Anna University, India.

581. VASCULAR ION CHANNELS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A85 **581.1** Role of Ryanodine Type 2 Receptors in Elementary Ca^{2+} Signaling in Arteries and Vascular Adaptive Responses. **M. Kassmann, I.A. Szijártó, C.F. García-Prieto, G. Fan, J. Schleifenbaum, Y-M. Anistan, C. Tabeling, Y. Shi, F. le Noble, M. Witzenrath, Y. Huang, L. Markó, M.T. Nelson, M. Gollasch.** Charité-Universitätsmedizin Berlin, Germany, Karlsruhe Institute of Technology, Germany, The Chinese University of Hong Kong, Hong Kong and The University of Vermont.

A86 **581.2** Inhibition of $I_{Ca,L}$ by DHEA in Aortic Smooth Muscle Cells: Voltage-Dependency, Modulation by GPCR Signaling and Inhibition of Glucose-6-Phosphate Dehydrogenase. **R. Ochi, S. Chettimada, S.A. Gupte.** University of South Alabama.

A87 **581.3** Endothelial Cell PKD2 (TPP1) Channels Are Essential for Flow-Mediated Vasodilation. **C.E. Mackay, C. Fernandez-Pena, S.A. Bulley, J.H. Jaggar.** University of Tennessee Health Science Center.

A88 **581.4** Intravascular Pressure Stimulates Vasoconstriction Through PKD2 Channel Sumoylation in Smooth Muscle Cells. **R. Hasan, W. Yin, S. Bulley, D. Leo, J.H. Jaggar.** University of Tennessee Health Science Center.

A89 **581.5** Yoda1-Induced Phosphorylation of the Akt and ERK1/2 Does Not Require Piezo1 Activation. **N.G. dela Paz, J.A. Frangos.** La Jolla Bioengineering Institute.

A90 **581.6** Spironolactone Prevents Elevated Expression of Vascular ENaC in Hypertension. **S. Mugloo, Z. Ashley, C. Leader, A. Bahn, I. Sammut, R. Walker, F. McDonald, M. Fronius.** University of Otago, New Zealand.

A91 **581.7** Role of BKCa Channels in Mesenteric Artery Vascular Smooth Muscle Tone of Diabetic Rats. **A.P. Hernández-Garcia, A. Hernández-Méndez, E.G. Chi-Ahumada, P. Algara-Suárez, R. Espinosa-Tanguma.** Universidad Autónoma De San Luis Potosí, Mexico.

A92 **581.8** Regulation of Capillary Hemodynamics by K_{ATP} Channels in Resting Skeletal Muscle. **D.M. Hirai, J.C. Craig, T.D. Colburn, A. Tabuchi, K.S. Hageman, T.I. Musch, D.C. Poole.** Kansas State University.

A93 **581.9** Knocking Out Endothelial TRPV4 Channels Enhances Vasoconstriction and Exacerbates Endothelial Dysfunction in Low-Flow Vascular Injury. **S.J. McFarland, M.S. Taylor, D.S. Weber.** University of South Alabama College of Medicine

A94 **581.10** Functional Molecular Complexes of Junctophilin-2 and Caveolin-1 Provide a Structural/Functional Basis for Ca^{2+}-Microdomain Formation Between BK_{Ca} Channels and RyRs in Vascular Smooth Muscle Cells. **T. Saeki, Y. Suzuki, H. Yamamura, H. Takeshima, Y. Imaizumi.** Nagoya City University, Japan and Kyoto University, Japan.

A95 **581.11** Increased Expression of MicroRNA-29b Attenuates Function of Ca^{2+}-Activated K^+ Channels in Human PASMC from Idiopathic PAH Patients. **A. Babicheva, R.J. Ayon, A. Makino, J.X-J. Yuan.** University of Arizona.

582. ROLE OF THE MICROBIOME IN CARDIOVASCULAR DISEASE (POSTERS)

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A96 **582.1** The Effect of Salt and Enalapril on Gut Bacteria Composition and Blood Level of Gut Bacteria-Derived Cardiovascular Markers. **M. Ufnal, K. Bielinska, M. Konop, M. Radkowski, M. Grochowska, K. Perlejewski, T. Huc, D. Motooka, S. Nakamura.** Medical University of Warsaw, Poland, Genome Information Research Center, Research Institute for Microbial Diseases and Osaka University, Japan.

A97 **582.2** Examining the Role of Gut Dysbiosis in Neuroinflammation and Hypertension in a Model of Obstructive Sleep Apnea. **D. Durgan, B.P. Ganesh, J. Nelson, J. Eskew, N. Ajami, J. Petrosino, R. Bryan.** Baylor College of Medicine, The University of Texas Health Science Center and Mercer University.

A98 **582.3** Dysbacteriosis an Inciting Cause of Endothelial Dysfunction Mediated Through Mitochondrial DNA Interactions. **K. Ait-Aissa, J.C. Hockenberry, A.O. Kadlec, D.S. Chabowski, J.M. Linn, D.D. Gutterman, A.M. Beyer.** Medical College of Wisconsin.

A99 **582.4** Gut Dysbiosis in the Development of Cerebral Small Vessel Disease. **J.W. Nelson, P. Ganesh, N. Ajami, R. Bryan, D. Durgan.** Baylor College of Medicine and The University of Texas Health Science Center at Houston.

A100 **582.5** The Acute Chronotropic Effect of the Uremic Metabolite, Trimethylamine-N-Oxide (TMAO), on Mouse Cardiac Muscle. **D.M. Sanborn, C. Oakley, M. Grillo, J. Vallejo, N. Rafie, M. Wacker.** University of Missouri—Kansas City School of Medicine.

A101 **582.6** Suppression of the Gut Microbiome-Derived Metabolite Trimethylamine N-Oxide Prevents Western Diet-Induced Arterial Dysfunction. **V.E. Brunt, Z.J. Sapinsley, R.A. Gioscia-Ryan, J.J. Richey, M.C. Zigler, D.R. Seals.** University of Colorado Boulder.

A102 **582.7** Short-Term Captopril Treatment Causes Persistently Decreased Blood Pressure Associated with Long-Lasting Shifts in Gut Microbiota and Improvement in Gut Pathology. **T. Yang, V.P. Aquino, Q. Yanfei, G.O. Lobaton, C. Jobin, E.M. Richards, C.J. Pepine, M.K. Raizada.** University of Florida.

A103 **582.8** Accumulation of Gut Bacteria May Cause the Age-Related Decline of Anoxia Tolerance in Adult *Drosophila melanogaster*. **J. Sargent, J. Campbell, J. Harrison.** Arizona State University.

583. CARDIAC MUSCLE; PHYSIOLOGY AND METABOLISM IN HEALTH AND DISEASE

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A104 **583.1** Oxidative Stress-Induced Changes in Ca^{2+} Sensitivity of Cardiomyocytes Do Not Recover. **T. Mejia Piedrahita, S. Osorio, Y.S. Han, R. Diaz, G. Sieck.** Mayo Clinic and Universidad de Valparaiso, Chile.

A105 **583.2** Analysis of Mutations in Muscle Lim Protein Associated with Human Heart Failure. **S. Boateng, J. Atkins, S. Hawanatu, T. Sorensen, L. McGuffin.** University of Reading, United Kingdom and Diamond Light Source Ltd, United Kingdom.

A106 **583.3** Cardiac, Respiratory, and Physical Activity Profiles in Young D2-MDX Dystrophic Mice. **J.C. Quindry, T.S. Quindry, K. Tiemessen, J.T. Selsby.** University of Montana.

A107 **583.4** The Pathway for Fatty Acid: Palmitate Transport from Plasma into Fat Vacuoles and Mitochondria in the Heart. **J.B. Bassingthwaighte, N. Barr.** University of Washington and Cornell University.

584. CARDIOVASCULAR ENDOCRINOLOGY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A108 **584.1** Enhanced Expression of Pro-Renin Receptor and Proinflammatory Cytokines in *Npr1* Gene Disrupted Mice. **R. Periyasamy, S. Das, K.N. Pandey.** Tulane University School of Medicine.

A109 **584.2** GPER Agonist G1, but Not Other Specific Ers Improves Diastolic Function and Attenuates Cardiac Ras Activation in Estrogen-Deficient SHR. **L. Groban, J. da Silva, X. Sun, S. Ahmad, R. Sudo, H. Wang, C. Ferrario, G. Zapata-Sudo.** Wake Forest School of Medicine and Universidade Federal do Rio de Janeiro, Brazil.

A110 **584.3** Study of Vascular and Endothelial Function in Type II Diabetes with Newly Diagnosed Hypertension: Effect of Angiotensin Converting Enzyme Inhibitor. **P. Srivastava, D.S. Chandran, A.K.S. Jaryal, V.P. Jyotsna, K.K.S. Deepak.** All India Institute of Medical Sciences, India.

A111 **584.4** MicroRNA-21 Overexpression Exacerbates Aldosterone-Mediated Renal Injury. **S.L. Njemanze, C. Lewis, M. Syed, A.M. Huffman, J.P. Ball, H.J. Broome, M.J. Ryan, M.E. Hatley, L.L. Yanes Cardozo, D.G. Romero.** University of Mississippi Medical Center and St. Jude Children's Research Hospital.

A112 **584.5** NaHS Induced ANP Secretion via PI3K/AKT/NO/cGMP and K_{ATP} Channel Pathway. **L. Yu, B.M. Park, S.H. Kim.** Chonbuk National University Medical School, Republic of Korea.

A113 **584.6** Involvement of NO and ROS in Organ Culture-Induced Vascular Damage. Influence of Androgenic Function. **M. Ferrer, J. Gómez Rivas, D.M. Villalpando, F.R. de Bethencourt.** Universidad Autónoma de Madrid, Spain and Hospital Universitario La Paz, Spain.

A114 **584.7** Pannexin 1 Channels in Renin Expressing Cells Regulate RAAS and Blood Pressure. **L.J. DeLalio, T.C.S. Keller, H. Askew Page, E. Masati, P.Q. Barrett, A. Gomez, T. Le, B.E. Isakson.** University of Virginia.

A115 **584.8** Preeclampsia Alters the Role of Nitric Oxide in Androgen Metabolite-Induced Vasorelaxation of Rat Uterine Artery. **A.E. Hanson, J.M. McKenna, N.W. Garcia, M. Perusquia, J.N. Stallone.** Texas A&M University and Universidad Nacional Autónoma de México, Mexico.

A116 **584.9** Hypotestosteronemia-Induced Hypertension in Male Sprague-Dawley Rats Is Reversed by Testosterone Replacement Therapy, Which Is a Non-Genomic, Estrogen-Independent Effect. **A.E. Hanson, N.W. Garcia, J.M. McKenna, M. Perusquia, J.N. Stallone.** Texas A&M University and Universidad Nacional Autónoma de México, Mexico.

585. GENETICS/GENOMICS OF CARDIOVASCULAR DISEASE, KIDNEY DISEASE, DIABETES AND EXERCISE

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A117 **585.1** Transcriptomic Profiling of Mitochondrial Dysfunction Induced Apoptosis in Accelerated Cardiovascular Disease. **F. Xu, F. Guan, A. Halim, L. Ho, K. Lim, T. Lu.** Brookline High School, Brigham and Women's Hospital and Harvard Medical School, University of Rochester and Massachusetts General Hospital and Harvard Medical School.

A118 **585.2** Tick-Tock, Tick-Tock: Clock Gene Expression Is Altered in Sleep Apnea. **M. Holzworth, M. Canales, R. Berry, R. Beyth, M.L. Gumz.** University of Florida.

A119 **585.3** Nuclear-Mitochondrial Crosstalk in the Heart During Diabetes Mellitus—the Impact on RNA in Mitochondrial Subpopulations. **Q.A. Hathaway, D.L. Shepherd, A.J. Durr, J.M. Hollander.** West Virginia University.

A120 **585.4** Role of Chromosome 14 in the Genetic Basis for Endurance Exercise Capacity and Responses to Training in Mice. **M.P. Massett, J.J. Avila, S.K. Kim.** Texas A&M University.

586. FUNCTIONAL GENETICS/GENOMICS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A121 **586.1** Identifying Pathways for Apolipoprotein A2 Actions on Respiratory Rhythmogenesis. **K.P. Strohl, S. Azzam, D. Saleh.** Case Western Reserve University and Kent State University.

A122 **586.2** Pansteatitis Induced Differential Expression of Inflammatory and Apoptosis Genes in Adipose Tissue: A Glimpse into Pathophysiology of the Condition in the Nile Crocodile. **O.I. Azeez, J. Myburgh, R. Meintjes, A-M. Bosman, J. Featherstone, M. Oosthuizen, J.P. Chamunorwa.** University of Ibadan, Nigeria, University of Pretoria , South Africa, Biotechnology Platform and Agricultural Research Council, South Africa.

A123 **586.3** Intestinal Proteome Response to Salinity Stress in Three Tilapiine Spp. **L. Root, D. Kültz, A. Cnaani, P. Con.** University of California, Davis and Agriculture Research Organization, Israel.

A124 **586.4** Circulating Transcriptome as a Signature for the Diagnosis of Pulmonary Arterial Hypertension. **X. Qi, M.J. Gonzalez-Garay, R. Vanderpool, S. Song, H. Tang, R.J. Ayon, A. Desai, J.X-J. Yuan.** University of Arizona.

A125 **586.5** Impact of Exercise Training and Enalapril, Either Alone or in Combination, on White Adipose Tissue Renin-Angiotensin System in a Diet-Induced Obesity Model. **A.C. Menezes, I.G. Giori, B. Alexandre, M.S. Andrade, F.M. Freitas, M.P. Machado, C. Vieira, C. Conte-Junior, R. Ceddia, A.C. Nobrega, E.D.C. Frantz.** Fluminense Federal University, Brazil and York University, Canada.

A126 **586.6** Modulation Way Classical and Alternatives of Renin Angiotensin System (RAS) in Mesangial Cells After Exposure to Fructose. **R. Yokota, Z.P. Jara, L.E. Matsumoto, D.S. Aragao, D.E. Casarini.** Federal University of Sao Paulo, Brazil and Federal University of São Paulo, Brazil.

A127 **586.7** Co-Regulation of Renal Function Genes by the Circadian Clock Protein PER1 and Aldosterone. **M.L. Gumz, L.G. Douma, M. Holzworth, S. Masten, G. Wu, J.B. Hogenesch, B.D. Cain, C.S. Wingo.** University of Florida and University of Cincinnati.

A128 **586.8** Aerobic Exercise Training and Cardiac ACE2 Overexpression Promotes Beneficial Effects in Circulating Renin Angiotensin System. **C.D.V. Gomes-Gatto, A.C. Silveira, J.L.P. Gomes, T. Fernandes, E. Lazartigues, E.M. Oliveira.** University of São Paulo, Brazil and Louisiana State University Health Sciences Center—New Orleans.

A129 **586.9** The Molecular Mechanisms of Chronic Kidney Disease Induced Hyperphosphatemia in Cerebral Microvasculature. **J. Xu, C-P. Chung, P-T. Lee, L. Ho, K. Lim, T. Lu.** Harvard College, Harvard University, Taipei Veterans General Hospital, Taiwan, Kaohsiung Veterans General Hospital, Taiwan, Brigham and Women's Hospital and Harvard Medical School and Massachusetts General Hospital and Harvard Medical School.

A130 **586.10** Proteomics Reveals Context-Dependent Activation of Rictor Signaling by TGFβ in Vascular Smooth Muscle Cells. **S.J. Parker, A. Stotland, A. Orosco, N.P.D. Wilson, E. MacFarlane, K. Madrid, R. Gottlieb, H.C. Dietz, J. Van Eyk.** Cedars-Sinai Medical Center and Johns Hopkins University.

A131 **586.11** Effect of Endothelin-Related Gene Polymorphisms on Age-Related Arterial Stiffening: A 10-Year Longitudinal Study. **J. Sugawara, T. Tomoto, N. Noda, S. Matsukura, K. Tsukagoshi, S. Maeda.** National Institute of Advanced Industrial Science and Technology, Japan and University of Tsukuba, Japan.

A132 **586.12** Investigating the Effects of Methyl-β-Cyclodextrin on Aortic Function and Structure in a Mouse Model of Marfan Syndrome Using High Frequency Ultrasound Imaging. **E.L. Cameron, B. Hoxha, R.M. Potter, J. Vallejo-Elias, M. Esfandiarei.** Midwestern University.

A133 **586.13** Gene Editing Rat Resource Center (GERRC): Rat Models for Heart, Lung and Blood Studies. **M. Dwinell, R. Schilling, M. Gryzbowski, A. Temple, A. Zappa, L. Lazcares, J. Niebuhr, S. Kalloway, J. Foeckler, A. Takizawa, A. Geurts.** Medical College of Wisconsin.

587. ACUTE EXERCISE RESPONSES

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A134 **587.1** Prolonged Low-Frequency Force Depression Is Underestimated When Assessed with Doublets Compared to Trains. **C.D. Bruce, L. Ruggiero, P.D. Cotton, G.U. Dix, C.J. McNeil.** UBC Okanagan, Canada.

A135 **587.2** Effects of Acute Loaded Wheel Running on BDNF Expression in the Rat Hippocampus. **M.C. Lee, J.E. Cha, T.W. Yoo.** CHA University, Republic of Korea.

A136 **587.3** Acute Effect of Aerobic Exercise on Carotid Strain in Individuals with Multiple Sclerosis. **G. Grigoriadis, A.J. Rosenberg, S.O. Wee, E.C. Schroeder, G. Griffith, T. Baynard.** University of Illinois at Chicago, California State University and San Bernardino.

A137 **587.4** Acute Aerobic Exercise Does Not Alter the Pressor Response to the Cold Pressor Test. **E.A. Gideon, M.M. Ploof, Y. Zhang, M.C. O'Leary, J.R. Sackett, B.D. Johnson.** University at Buffalo and State University of New York

A138 **587.5** Mechanisms of Gender Differences in Exercise Capacity. **M. Oydanich, N. Rynecki, J. Zhang, D. Vatner, S. Vatner.** Rutgers New Jersey Medical School.

A139 **587.6** Influence of Sex and Exercise Intensity on Acute Flow-Mediated Dilation Response to Aerobic Exercise in Healthy Young Adults. **H-K. Kim, C-L. Hwang, J. Lim, J-K. Yoo, H. Perez, E.M. Handberg, D. Christou.** University of Florida.

A140 **587.7** Acute Effects of Aerobic Exercise on Arterial Stiffness and Wave Reflection in Young Men and Young Premenopausal Women. **J. Lim, H-K. Kim, C-L. Hwang, J-K. Yoo, H. Perez, E.M. Handberg, D. Christou.** University of Florida.

A141 **587.8** The Effects of Resistance Exercise on Intracranial Pressure. **J.J. Fischman, R. Cowen, L. Petersen, R. Healey, A. Hargens.** University of California and San Diego.

A142 **587.9** Post-Exercise Intracranial Hypotension. **L.G. Petersen, E. Grace, J. Petersen, A. Hargens.** University of California and San Diego.

A143 **587.10** Dehydration Impairs Executive Function Task in Middle-Age and Older Adults Following Endurance Exercise. **B. Yates, A.R. Orkaby, E. Dadzie; Jr., E. Lee, L.E. Armstrong.** Spaulding Rehabilitation Hopsital, VA Boston Healthcare System and University of Connecticut.

A144 **587.11** Effects of H_1/H_2 Histamine Receptor Blockade on Mitochondrial Function in Rodent Brain Following Prolonged Exercise. **H.E. Wallace, L.R. Davidson, M.C.W. Bell, K. Brebner, D.A. Kane.** St. Francis Xavier University, Canada.

A145 **587.12** Similar Alterations of DNA Oxidation Levels Following Prolonged Exercise in Adolescent Boys and Girls Matched for Aerobic Capacity. **N. Yasuda, T. Tanioka.** International Pacific University, Japan and Showa University, Japan.

A146 **587.13** The Role of the Unfolded Protein Response in Mediating Adaptations to Exercise Responsiveness. **C.R. Hart, J-H. Koh, S. Dasari, A.Z. Lalia, I.R. Lanza.** Mayo Clinic.

A147 **587.14** Pre-Race Inflammatory Cytokines Are Not Consistent Predictive Biomarkers of the Magnitude of Post-Race Core Temperature Elevations at the Falmouth Road Race. **E.C. Dadzie, Y. Hosokawa, S.S. Wright, V. Lopez, A.T. Colburn, J.J. Bivona, S.N. Thorton, W.M. Adams, C. Brown, R.K. Katch, R.A. Huggins, R.L. Stearns, J.F. Jardine, R.J. Davis, D.J. Casa, E.C. Lee.** University of Connecticut, University of Vermont, Cornell University and Falmouth Hospital.

A148 **587.15** Changes in CRP and TNF-A After Runs at Different Intensities in Smokers Following Two Hour Cessation. **V. Dao, B.S. Nickerson, K-S. Park.** Texas A&M International University.

A149 **587.16** Respiratory Muscle Fatigue Limits Upper-Body Exercise Tolerance in Collegiate Cross-Country Skiers. **T.K. Bye, S. Elmer.** Michigan Technological University.

A150 **587.17** Physiological Profiles of French Savate Athletes. **D.L. Alain, D. Emilie, L. François, B. Michele.** Hopital Avicenne, APHP, France, Sorbonne-Paris-Cité and Université Paris 13, France.

588. EXERCISE, HEALTH AND DISEASE

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A151 **588.1** Effects of Exercise and Peripheral Opioid Receptor Stimulation on Anxiety-Like Behaviors in a Rat Model of Chronic Pain. **S. Stocks, A.B. Daniels, C.M. Ford, M. Horton, E.R. Williams, A.K. Leal.** Berry College and Bridgewater College.

A152 **588.2** Stimulation of Peripheral Opioid Receptors During Acute Exercise Decreases Anxiety-Like Behaviors in a Rat Model of Fibromyalgia. **E.R. Williams, A.B. Daniels, C.M. Ford, M. Horton, S. Stocks, A.K. Leal.** Berry College and Bridgewater College.

A153 **588.3** Effects of Previous Exercise Training on Plasma and Tissue Nitrite, and Cardiovascular Parameters in Rats with Parkinsonism Induced by 6-OHDA. **M.C. Martins-Pinge, L. de Jager, E.D.T. Amorim, B.F.C. Lucchetti, F.N.C. Lopes, C.C. Crestani, P. Pinge-Filho.** State University of Londrina, Brazil and São Paulo State University, Brazil.

A154 **588.4** Heart Rate Alters but Does Not Improve Calorie Predictions in Fitbit Activity Monitors. **J.W. Vusich, J. Mitrzyk, M. Wiersma, A.H.K. Montoye.** Alma College.

A155 **588.5** Accuracy of Activity Monitors in Assessing Sleep. **J. Mitrzyk, N. Swalve, B. Harfmann, A.H.K. Montoye.** Alma College.

A156 **588.6** Assessment of Activity Monitor Placement During Free-Living Conditions. **M.J. Molesky, J. Vusich, A.H.K. Montoye.** Alma College.

A157 **588.7** Relationship Between Injury and Spirituality in Pilgrims on the Camino De Santiago. **K.E. Rennyson, M.B. Harris.** College of William and Mary.

A158 **588.8** Effects of Prolonged Exertion on Glucose Management in Type 1 Diabetes: A 500 Mile Hiking Trek on the Camino De Santiago. **W.C. Bevier, J.E. Pinsker, M.M. Church, P.K. Bradley, J. Martinez, K.Y. Chen, D. Kerr.** Sansum Diabetes Research Institute and National Institutes of Health.

A159 **588.9** Interval Walking Training Over 10 Years Protects Against Age-Associated Declines in Physical Fitness. **M. Morikawa, S. Masuki, S. Furuhata, H. Shimodaira, M. Furihata, H. Nose.** Shinshu University Graduate School of Medicine, Japan.

A160 **588.10** Effects of 5-Month Interval Walking Training on Cognitive Function in Elderly People. **M. Furihata, M. Morikawa, R. Hayashi, W. Tomita, S. Masuki, H. Nose.** Shinshu University Graduate School of Medicine, Japan and Department of Health and Welfare, Japan.

A161 **588.11** The Prevention of Cardiometabolic Risk Factors Is Associated with the Improvement in Aerobic Capacity. **B. Vecchiatto, L.F. Martucci, A.L.V. Américo, C.R. Muller, F.S. Evangelista.** University of São Paulo, Brazil, Faculty of Medicine and University of São Paulo, Brazil.

A162 **588.12** Changes in Cardiovascular Autonomic Activity and Reactivity in Essential Hypertensive Patients After Yogic Practices. **R. Khadka, B.H. Paudel, P. Karki.** B. P. Koirala Institute of Health Sciences, Nepal.

A163 **588.13** Molecular Rescue of Low Voluntary Wheel-Running Behavior in Rats Selectively Bred to Run Low Distances. **K. Grigsby, T.J. Kelty, F.W. Booth.** University of Missouri

A164 **588.14** Cessation of Nightly Voluntary Wheel Running Activity Following Exposure to a Mouse Model of Posttraumatic Stress. **C.M. Stroh, E.M. Kinney, S.C. Coste.** Linfield College.

A165 **588.15** Voluntary Exercise Modifies Olfactory Circuits in Control- and Fat-Fed Mice. **B. Chelette, A. Thomas, D. Giachos, D. Gonzalez, M. Vinson, D. Fadool.** Florida State University.

A166 **588.16** Impact of Chronic Free Hemoglobin Infusion on Skeletal Muscle Microvascular PO_2 Dynamics in Rats. **G.E. Harral, N. Irwin, J.W. Harral, D.I. Pak, K. Redinius, K. Stenmark, P.W. Buehler, D.C. Irwin, S.K. Ferguson.** University of Colorado Denver and U.S. Food and Drug Administration.

A167 **588.17** Impaired Oxygen Uptake Kinetics Related to Reduced Peripheral Oxygen Extraction in Heart Failure with Preserved Ejection Fraction. **C.M. Hearon; Jr., S. Sarma, K.A. Dias, M. Hieda, B.D. Levine.** The University of Texas Southwestern Medical Center.

A168 **588.18** Exercise Training Improves Metaboreflex Control of Sympathetic Nerve Activity in Obstructive Sleep Apnea. **R.S. Guerra, T.T. Goya, R.F. Silva, E.R.F. Barbosa, M.F. Lima, G. Lorenzi-Filho, C.E. Negrão, L.M. Ueno-Pardi.** University of Sao Paulo, Brazil.

A169 **588.19** The Exercise Pressor Reflex Is Attenuated and Coronary Exercise Hyperemia Is Improved by Peripheral Revascularization in Peripheral Arterial Disease. **A.J. Miller, J.C. Luck, D-K. Kim, U.A. Leuenberger, F. Aziz, J.F. Radtka III, L.I. Sinoway, M.D. Muller.** Penn State College of Medicine.

A170 **588.20** Training Attenuated Hypertension in Dexamethasone-Treated Wistar Rats and SHR Through Different Mechanisms. **N.A. Herrera, F. Duchatsch, L.P. Tardelli, S.L. Amaral.** São Paulo State University, Brazil.

A171 **588.21** The Impact of Combined Exercise Training on the Development of Cardiovascular and Neuroimmune Complications Induced by Fructose Overload in Hypertensive Rats. **D. Dias, N. Bernardes, F.F. Stoyell-Conti, J. Brito-Monzani, A. Araujo, C. Paixão, M.C. Irigoyen, K. De Angelis.** Universidade Nove de Julho , Brazil, Universidade Federal do Maranhão, Brazil, Federal University of Sao Paulo, Brazil and University of Sao Paulo Medical School, Brazil.

A172 **588.22** Cerebral Oxygenation in Metabolic Syndrome Patients During Mental Task and Muscle Metaboreflex Activation. **S. Roberto, A. Doneddu, V. Pinna, R. Milia, G. Ghiani, R. Lecis, F. Velluzzi, S. Magnani, G. Sainas, M. Guicciardi, A. Crisafulli.** University of Cagliari, Italy.

A173 **588.23** Effects of Yoga Based Cardiac Rehabilitation on Vascular and Endothelial Function in Patients Post Myocardial Infarction—a Randomized Controlled Trial. **E. Christa, A.K. Jaryal, R.K. Yadav, A. Roy, D.S. Chandran, K.K. Deepak.** All India Institute of Medical Sciences, India.

A174 **588.24** Effects of the Insulin-Like Growth Factor Axis and Its Relationship in Nonsurgical Treatments in Patients with Lumbar Spinal Stenosis. **B.J. Martin, M.E. Beckner, G.A. Sowa, M.J. Schneider, S.D. Flanagan, C. Dunn-Lewis, R. Poropatich, B.C. Nindl.** University of Pittsburgh.

A175 **588.25** Biomarkers and Components of the Interactive Physical and Cognitive Exercise System (IPACES™ V2.0) for Mild Cognitive Impairment (MCI): Cortisol, Dehydroepiandrosterone (DHEA-S), and Insulin-Like Growth Factor (IGF1). **K.M. Wall, J. Stark, A. Karla-Lall, A. Schillaci, H. Christian, C. Doty, E. McLaren, T. Saulnier, B.D. Cohen, C. Anderson-Hanley.** Union College and First Playable.

A176 **588.26** Treadmill Exercise Training Protects Against Metabolic Dysfunction and Diaphragm Weakness in Obese Diabetic Rats. **N. Ichinoseki-Sekine, T. Tsuzuki, M.J. Hinkley, T. Yoshihara, H. Kobayashi, S.K. Powers, H. Naito.** The Open University of Japan, Japan, Juntendo University, Japan, University of Florida and Tsukuba University Hospital, Japan.

A177 **588.27** The Association Between Oxidized Low Density Lipoprotein Concentration and Paraoxonase-1 Activity, Total Antioxidant Capacity, and Low Density Lipoprotein Concentration in Highly Trained Individuals. **C.E. Robison, P.G. Davis, A. Goldfarb, P. Mellick.** George Mason University, University of North Carolina at Greensboro and University of St. Thomas.

A178 **588.28** Exercise (In)tolerance in Sickle Cell Disease: Potential Disruptive Role of Free Hemoglobin on Skeletal Muscle Oxygen Delivery/Utilization Matching and Functional Capacity. **S.K. Ferguson, J.W. Harral, D.I. Pak, K. Redinius, K. Stenmark, P.W. Buehler, D.C. Irwin.** University of Colorado Denver and U.S. Food and Drug Administration.

A179 **588.29** Cyrotherapy Reduces Macrophage Infiltration and Inflammatory Mediators Following Muscle Injury. **P. Rafferty, K. McMahon, M. Arrigale, A. Carpenter.** Ursinus College.

A180 **588.30** Effects of Resistance Training on Antioxidant Expression in Type I Muscle from Doxorubicin Treated Rats. **W. Ahn, D.S. Hydock, M. Twaddle, A. Tigner, M. Wagner, E. Bredahl.** University of Northern Colorado and Creighton University.

A181 **588.31** Moderate Exercise Training Under Constant Light Condition Amplifies Inflammatory Signals Through Disruption of Splenic Clock Mechanism in Osteoarthritic Animals. **Y. Hong, M.F. Hossain, Y. Hong.** Graduate School of Inje University, Republic of Korea.

A182 **588.32** Prostate Cancer Cell Viability and Migration in Serum and Prostate Conditioned Media from Moderate-Intensity Exercise Trained Rats. **A.B. Opoku-Acheampong, D.R. Baumfalk, C.K. Ganta, B.J. Behnke.** Kansas State University.

A183 **588.33** Left Ventricular Strain and Strain Rate Responses to Submaximal Exercise in Prostate Cancer Patients Treated with Androgen Deprivation Therapy. **H.K. Post, G.M. Lovoy, H.R. Banister, S.L. Sutterfield, J.T. Caldwell, C.J. Ade.** Kansas State University.

A184 **588.34** Ventricular-Arterial Coupling in Prostate Cancer Patients Treated with Androgen Deprivation Therapy at Rest and During Exercise. **G.M. Lovoy, H.K. Post, H.R. Banister, S.L. Sutterfield, J.T. Caldwell, C.J. Ade.** Kansas State University.

A185 **588.35** VO_{2max} Can Be Accurately Predicted in American Football Athletes from Treadmill Exercise Time. **S.F. Crouse, H. Tolson, S.E. Martin, J.S. Green, J.P. Bramhall, P. Hedrick, J.R. Lytle.** Texas A&M University.

589. METABOLISM AND ENERGETICS OF MUSCLE AND RELATED DISEASE

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A186 **589.1** Influences of a Cold and Warm Environment on Substrate Metabolism in Women During Running and Cycling. **D.D. Gagnon, A. McCue, S.C. Dorman, O. Serresse.** Laurentian University, Canada.

A187 **589.2** Recovery and Fatigability Following Maximal and Submaximal Exercise. **L.C. Wooten, M.I. Aldhahi, D. Murray, L.M.K. Chin, R.E. Keyser.** George Mason University.

A188 **589.3** Reliability and Validity of NIRS Mitochondrial Capacity Protocol in Human Skeletal Muscle. **A.M. La Mantia, L.E. Neidert, H.A. Kluess.** Auburn University

A189 **589.4** Body Weight Influences Genes Related to Energy Metabolism in Human Skeletal Muscle. **H. Wu, S. Dridi, A.A. Ferrando, I-Y. Kim, R.R. Wolfe, J.I. Baum.** University of Arkansas and University of Arkansas for Medical Sciences.

A190 **589.5** Assessment of Skeletal Muscle Nicotinamide Adenine Dinucleotide Concentrations in Rat Strains Exhibiting Different Levels of Play Behavior. **A.C. Salmonsen, J.A. Gentes, S. Siviy, J. Brandauer.** Gettysburg College.

A191 **589.6** Interleukin-15 Reduces Mitochondrial Activity Independent of Biogenesis in Cardiomyocytes. **M.P. Tomac, K.S. Hennigan, M.J. Abbott.** Chapman University.

A192 **589.7** Effect of Chronic Lactate Administration Prior to Training on Mitochondrial Adaptations in Mice Skeletal Muscle. **K. Takahashi, Y. Kitaoka, Y. Matsunaga, H. Hatta.** The University of Tokyo, Japan and Kanagawa University, Japan.

A193 **589.8** AMP Deaminase 3 Knockout Does Not Reduce Mitochondrial Content Loss in Denervation Induced Inactivity. **N.A. Verhoeven, J.J. Brault.** East Carolina University.

A194 **589.9** AMP Deaminase 3 Overexpression Reduces Mitochondrial Content in C2C12 Myotubes by Decreasing PGC-1α Promotor Activation. **S. Miller, J. Brault.** East Carolina University.

A195 **589.10** Skeletal Myofiber VEGF-A-Targeted Gene Deletion Induces Mitochondrial, Structural and Contractile Alterations in Mouse Diaphragm. **D.T. Cannon, L. Rodewohl, V. Adams, E.C. Breen, T.S. Bowen.** San Diego State University, Herzzentrum Leipzig, Germany, University of California, San Diego and University of Leeds, United Kingdom.

A196 **589.11** Effects of a Ketogenic Diet and Chronic Aerobic Exercise on C57BL6 Mice. **S. Fuller, T-Y. Huang, F. Goldsmith, H. Batdorf, M. Scott, J. Brown, N. Essajee, S. Burke, J. Collier, R. Noland.** University of Louisiana at Lafayette and Pennington Biomedical Research Center.

A197 **589.12** IDH2 Deficiency Disrupts Energy Homeostasis and Skeletal Muscle Development by Up-Regulating UCP1 Expression in Mice. **J. Tang, J.H. Pan, J. Zhao, J.K. Kim, Y. Huang.** University of Arkansas.

A198 **589.13** O-GlcNAc Transferase Is Required to Maintain Satellite Cell Viability. **M. Daughtry, H. Geisler, T. Fisher, J. Luo, H. Shi, D. Gerrard.** Virginia Polytechnic Institute and State University.

590. TEMPERATURE REGULATION AND BIOLOGICAL TIMEKEEPING

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A199 **590.1** Circadian Rhythm Does Not Alter the Sweating Response to Exercise in Thermoneutral and Warm Ambient Temperatures. **N. Ravanelli, P. Imbeault, O. Jay.** University of Ottawa, Canada and University of Sydney, Australia.

A200 **590.2** Does Electrodermal Activity Track Capacitance Hygrometry Derived Sweat Rate During Steady-State and Transient Cholinergic-Induced Sweating? **T.E. Wilson, A.S. Jordan, S.C. Narra, B.N. White.** Marian University College of Osteopathic Medicine.

A201 **590.3** Effect of Reflex and Mechanical Decreases in Skin Blood Flow on Exogenous Cholinergic-Induced Eccrine Sweating in Humans. **T.E. Wilson, M.M. Fang, R.P. Dazé, S.C. Narra, K. Metzler-Wilson.** Marian University College of Osteopathic Medicine.

A202 **590.4** Effect of Decreasing Peripheral Skin Blood Flow via Local Axon Reflexes, Decreases in Perfusion Pressure, and Ischemia During Systemic Thermal-Induced Eccrine Sweating in Humans. **T.E. Wilson, J.W. Daggett, K. Alibegovic, M.M. Fang, K. Metzler-Wilson.** Marian University College of Osteopathic Medicine.

A203 **590.5** TRPV1 Receptor Antagonist Blunts Cholinergic-Mediated Sweating. **G.W. Mack, K.R. Kunz.** Brigham Young University.

A204 **590.6** Cutaneous Adrenergic Nerve Blockade Attenuates Sweating Response During Incremental Exercise in Habitually Trained and Untrained Men. **T. Amano, N. Fujii, Y. Inoue, N. Kondo.** Niigata University, Japan, University of Tsukuba, Japan, Osaka International University, Japan and Kobe University, Japan.

A205 **590.7** Do Carotid Chemoreceptors Contribute to Hyperthermia Induced Hyperventilation in Exercising Humans? **N. Fujii, Y. Honda, G. Kenny, T. Nishiyasu.** University of Tsukuba, Japan and University of Ottawa, Canada.

A206 **590.8** Prior Viral Illness Exacerbates the Severity of Lung Injury in a Mice Heat Stroke Model. **M.L. Plamper, S.M. Dineen, M.A. King, L.R. Leon.** U.S. Army Research Institute of Environmental Medicine.

A207 **590.9** Exertional Heat Stroke: Discovering Specific and Sensitive Diagnostic Criteria. **M. King, M. Ward, M. Plamper, L. Leon.** U.S. Army Research Institute of Environmental Medicine.

A208 **590.10** Heart Metabolic Responses to Exertional Heat Stroke Are Dependent Upon Sex. **O. Laitano, C.K. Garcia, B. Ingram, G.P. Robinson, A.J. Mattingly, D.L. Ippolito, L.R. Leon, T.L. Clanton.** University of Florida, Metabolon, Inc. and U.S. Army Research Institute of Environmental Medicine.

A209 **590.11** Heat Stroke Triggers Electrocardiographic (ECG) Abnormalities in a Conscious Rat Model. **T.A. Mayer, L. Leon.** U.S. Army Research Institute of Environmental Medicine.

A210 **590.12** Biomarker Time Course Recovery Profile in Military Exertional Heat Stroke Populations. **M. Ward, M. King, L. Leon.** U.S. Army Research Institute of Environmental Medicine.

A211 **590.13** Ibuprofen Increases Resistance to Exertional Heat Stroke in Female Mice. **C.K. Garcia, J. Alzahrani, A. Mattingly, O. Laitano, G. Robinson, K. Murray, T. Clanton.** University of Florida.

A212 **590.14** Epigenetic Responses to Exertional Heat Stroke in Mice: A Potential Link to Long Term Ca^{2+} Dysregulation in Skeletal Muscle. **K. Murray, O. Laitano, L. Sheikh, J. Iwaniec, G. Robinson, C. Garcia, J. Alzahrani, R. Hammamieh, R. Campbell, R. Yang, T. Clanton.** University of Florida and U.S. Army Center for Environmental Health Research.

A213 **590.15** Critical Environmental Limits for Prolonged Work in the Heat Using a Simulated Burn Injury Model. **M.N. Cramer, G. Moralez, M. Huang, C.G. Crandall.** Texas Health Presbyterian Hospital Dallas and University of Texas Southwestern Medical Center.

A214 **590.16** The Sweating and Core Temperature Response to Compensable and Uncompensable Heat Stress Following Heat Acclimation. **O. Jay, P. Imbeault, N. Ravanelli.** University of Sydney, Australia and University of Ottawa, Canada.

A215 **590.17** Relationships Between Injury Years and Thermoregulatory Responses During Heat Stress in Spinal Cord Injury Persons. **Y-i. Kamijo, M. Shibasaki, T. Kinoshita, T. Moriki, T. Nakamura, K. Kouda, F. Tajima.** Wakayama Medical University, Japan, Nara Women's University, Japan and Yokohama City University, Japan.

A216 **590.18** Perceptual and Cutaneous Vasomotor Reactivity to Sudden Changes in Ambient Temperature in Older Adults. **C. Carden, C.L. Chapman, J.R. Sackett, B.D. Johnson, Z.J. Schlader.** University at Buffalo and State University of New York.

A217 **590.19** Quantification of the Motivation to Behaviorally Thermoregulate During Passive Heat Exposure in Humans. **J.R. Slyer, N.T. Vargas, C.L. Chapman, B.D. Johnson, J.L. Temple, E.G. Mietlicki-Baase, Z.L. Schlader.** University at Buffalo and State University of New York.

A218 **590.20** Sex Differences in Thermal Behavior During Exercise Recovery. **N.T. Vargas, C.L. Chapman, J.R. Sackett, J. Abdul-Rashad, B.D. Johnson, R. Gathercole, Z.J. Schlader.** University at Buffalo, State University of New York and lululemon athletica inc., Canada.

A219 **590.21** Characterizing Heat Stress and Strain in Electric Utility Workers by Means of a Questionnaire. **G.P. Kenny, A.D. Flouris, L. Brosseau, S. Dervis, S.R. Notley.** University of Ottawa, Canada and University of Thessaly, Greece.

A220 **590.22** Do Graduated Compression Garments Enhance Whole-Body Heat Loss During an Extreme Heat Exposure in Older Adults? **A.W. D'Souza, S.R. Notely, R.D. Meade, G.P. Kenny.** University of Ottawa, Canada.

A221 **590.23** Exercise Effects on Thermoregulation in Obese Mexican Young Women. **K. Garcia-Pelagio, N. Ambrosio, B. Espinoza, E. Galicia, J. Mejia, L. Navarro.** Universidad Nacional Autónoma de México, Mexico.

A222 **590.24** A Preliminary Investigation into the Effect of Nauseogenic Vection and Whole-Body Heating on Motion Sickness Severity: A Combined and Individual Stressors Approach. **J.T. Arnold, K. O'Keeffe, G.A. Raccuglia, C. McDaniel, S. Hodder, G. Havenith, A. Lloyd.** Loughborough University, United Kingdom.

591. NCAR SECTION YOUNG INVESTIGATOR POSTER PRESENTATIONS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A223 **591.1** Neurotransmitter Switching in Sympathetic Neurons Coupled to Beta-Adrenergic Signalling in Hypertensive States. **E.N. Bardsley, H. Davis, K.J. Buckler, D.J. Paterson.** University of Oxford, United Kingdom.

A224 **591.2** Hypertensive Actions of Long Chain Fatty Acids Are Paralleled by Toll-Like Receptor 4 Upregulation and Nuclear Factor-KB (NFKB) Activation in the Subfornical Organ. **C. Hurr, B.J. Ritchie, H. Simonyan, C.N. Young.** George Washington University.

A225 **591.3** Role of AT_1 Receptor-Mediated ADAM17 Signaling in Glutamatergic Neurons in Neurogenic Hypertension. **J. Xu, E. Lazartigues.** Louisiana State University Health Sciences Center—New Orleans.

A226 **591.4** Chemosensitive Cardiac Afferent Reflexes in Mice: Are They Altered in Hypertrophic Cardiomyopathy? **R.A. Larson, M.W. Chapleau.** University of Iowa.

592. AUTONOMIC CIRCUITRY IN THERMOREGULATION OR METABOLISM

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A227 **592.1** Neural Circuitry Underlying Thermal Afferent Influences During Thermoregulatory Inversion. **D. Tupone, G. Cano, E.P. Conceição, S.F. Morrison.** Oregon Health & Science University and University of Pittsburgh.

A228 **592.2** Mechanisms of Cross-Talk Between Leptin and Angiotensin Within the Arcuate Nucleus for the Control of Metabolic Rate. **S.A. Sapouckey, G. Deng, K.N. Gibson-Corley, H. Cui, J.A. Sebag, J.L. Grobe.** University of Iowa.

A229 **592.3** Blocking Peripheral Beta-Adrenergic Receptors Reduces Induction of Skeletal Muscle Thermogenesis. **E. Gorrell, S. Mull, C. Novak.** Kent State University.

A230 **592.4** Acute Heat Exposure Results in an Appropriate Initial Decrease in Core Body Temperature in Subjects with Higher Levels of Spinal Cord Injury, but the Thermal Homeostatic Response to More Prolonged Heat Exposure Is Insufficient. **N.S. Kumar, M. Graham, P. Leung, T.D. Tittley, O.F. Tascione, W.A. Bauman, J.P. Handrakis.** James J. Peters VA Medical Center.

A231 **592.5** Neurons in the Ventral Lateral Preoptic (VLPO) Area Inhibit Brown Adipose Tissue (BAT) Thermogenesis. **E.P. Conceição, C.J. Madden, S.F. Morrison.** Oregon Health & Science University.

A232 **592.6** Kappa Opioid Receptor Activation in the Preoptic Area (POA) Contributes to the Impairment of Brown Adipose Tissue Activation in Rats on a High Fat Diet (HFD). **C.J. Madden.** OHSU.

A233 **592.7** Ventral Lateral Preoptic (VLPO) Neurons Inhibit Brown Adipose Tissue Thermogenesis During Warming of the Preoptic Area. **M. Mohammed, C.J. Madden, S.F. Morrison.** Oregon Health & Science University.

593. SYMPATHETIC REGULATION IN HEART FAILURE

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A234 **593.1** TRPA1-Induced Pulmonary Spinal Sympathetic Afferent Activation Is Attenuated in Rats with Chronic Heart Failure. **R.J. Adam, Z. Xia, J.A. Shanks, G.J. Rozanski, S.J. Lisco, I.H. Zucker, H-J. Wang.** University of Nebraska Medical Center.

A235 **593.2** Sex Differences in the Central and Peripheral Manifestations of Heart Failure in Rats. **Y. Yu, S-G. Wei, R.M. Weiss, R.B. Felder.** University of Iowa.

A236 **593.3** Overexpression of Nrf2 Targeting Glutamatergic Neurons in the Rvlm Ameliorates Sympathetic Regulation in Mice with Chronic Heart Failure. **L. Gao, M.B. Lobl, I.H. Zucker.** University of Nebraska Medical Center.

A237 **593.4** Sympathetic Nerve Fibers Within the Cervical Vagus Nerve Do Not Innervate the Heart. **A. Migirov, J. Siano, E.I. Dedkov, Y. Zhang.** New York Institute of Technology College of Osteopathic Medicine and Cooper Medical School of Rowan University.

594. SYMPATHETIC CONTROL OF THE CIRCULATION

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A238 **594.1** Individual Differences in Response to Cold-Pressor Test: Are the Corresponding Blood Pressure, Sympathetic, and Pain Perception Responses Associated to a Family Risk of Hypertension? **M. Huang, J-K. Yoo, A.S. Stickford, J.M. Hendrix, J.P. Moore, C.G. Crandall, Q. Fu.** Institute for Exercise and Environmental Medicine, Texas Health Presbyterian Hospital Dallas and The, Appalachian State University and Bangor University, United Kingdom.

A239 **594.2** Muscle Metaboreflex Control of Left Ventricular Filling Pressure. **D. Senador, M. Gross, M. McNitt, J. Kaur, M. Coutsos, A.C. Krishnan, J.T. Mannozzi, K. Aung, A. Alvarez, H.W. Hanna, A.T. Lovelace, P. Levanovich, M. Dombrowski, B. Lessanework, D.S. O'Leary.** Wayne State University.

A240 **594.3** The Role of the Paravertebral Ganglia in Sympathetic Vasoconstrictor Neural Discharge Patterns. **S.A. Klassen, J.K. Limberg, S.E. Baker, W.T. Nicholson, T.B. Curry, M.J. Joyner, J.K. Shoemaker.** University of Western Ontario, Canada and Mayo Clinic.

A241 **594.4** Sex Differences in the Sympathetic Restraint of Skeletal Muscle Blood Flow in the Human Leg Vasculature. **K. Bunsawat, S.M. Ratchford, H.L. Clifton, J.K. Theisen, Z. Barrett-O'Keefe, R.M. Broxterman, J.R. Gifford, J. Hydren, M.J. Rossman, S.J. Ives, J.D. Trinity, M.A.H. Witman, R.S. Garten, D.E. Morgan, A.D. Nelson, R.S. Richardson, D.W. Wray.** University of Utah and VA Medical Center.

A242 **594.5** Role of Alpha-1 Adrenergic Vasoconstriction in Regulating Skeletal Muscle Blood Flow During Single Leg Knee Extension Exercise with Advancing Age. **J.L. Theisen, S.M. Ratchford, H.L. Clifton, K. Bunsawat, Z. Barret-O'keefe, R.M. Broxterman, J.R. Gifford, J. Hydren, M.J. Rossman, S.J. Ives, M.A.H. Witman, J.D. Trinity, R.J. Garten, D.E. Morgan, A.D. Nelson, R.S. Richardson, D.W. Wray.** University of Utah and VA Medical Center.

595. ARTERIAL BAROREFLEX FUNCTION AND BLOOD PRESSURE REGULATION

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A243 **595.1** Pharmacological Assessment of the Contribution of the Arterial Baroreflex to Sympathetic Discharge Patterns in Healthy Humans. **E.P. Ott, S.E. Baker, W.T. Nicholson, M.J. Joyner, K. Shoemaker, J.K. Limberg.** University of Missouri, Mayo Clinic and Western University, Canada.

A244 **595.2** Spontaneous Baroreflex Analysis Through the Sequence Method Quantifies the Respiratory Influences of Baroreflex. **L.E.V. Silva, D.P.M. Dias, C.A.A. da Silva, H.C. Salgado, R. Fazan Jr.** University of Sao Paulo, Brazil.

A245 **595.3** Greater Beat-to-Beat Resting Blood Pressure Variability in Young Healthy African American Men. **B.E. Young, J.R. Vranish, S.E. Peper, J. Wang, D.M. Keller, P.J. Fadel.** The University of Texas at Arlington.

A246 **595.4** Novel Role of Glycine in Control of Sympathetic Outflow. **G. Hong, W.S. Korim, S.T. Yao, C.M. Heesch, A.V. Derbenev.** Tulane University, University of Melbourne, Australia and University of Missouri.

A247 **595.5** Baroreflex Sensitivity and Mortality in Septic Dysfunction. **F. dos Santos, A.C. Nogueira, P. Biselli, W. Hoshino, C.T. Mostarda, K. De Angelis, F.G. Soriano, M.C. Irigoyen.** Heart Institute, University of São Paulo Medical School, Brazil, University Hospital, Sao Paulo University Medicine School, Brazil and Federal University of Sao Paulo, Brazil.

A248 **595.6** Sympathetic Baroreflex Sensitivity During Mental Stress in Humans with Chronic Anxiety. **S.W. Holwerda, A.L. Gremaud, R.E. Luehrs, J.G. Fiedorowicz, F.M. Abboud, G.L. Pierce.** University of Iowa.

A249 **595.7** Oxytocin Reduction of Nodose Ganglion Neurons Potassium Currents Is Enhanced in Chronic Intermittent Hypoxia (CIH). **H.A. Dantzler, D.D. Kline.** University of Missouri.

A250 **595.8** Spontaneous Baroreflex Control of Muscle Sympathetic Nerve Activity in Humans: Standardizing Analysis Procedures. **S.W. Holwerda, J.R. Carter, H. Yang, G.L. Pierce, P.J. Fadel.** University of Iowa, Michigan Technological University and The University of Texas at Arlington.

596. SYMPATHETIC AND PARASYMPATHETIC REGULATION IN DISEASE

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A251 **596.1** Re-Expression of Rest Promotes Ventricular Arrhythmogenesis via Repressing N-Type Calcium Channel in Ventricular Vagal Neurons in Chronic Heart Failure. **D. Zhang, H. Tu, M.C. Wadman, Y-L. Li.** University of Nebraska Medical Center

A252 **596.2** Autonomic Responses During Atrial Fibrillation Ablation. **J. Cui, M. Gonzalez, C. Blaha, A. Hill, L.I. Sinoway.** Penn State Heart and Vascular Institute.

A253 **596.3** Augmentation of M-Current and Increased Synaptic Efficacy at Intrinsic Cardiac Neurons Contributes to an Enhanced Cardiac Responsiveness to Vagal Nerve Stimulation in the Infarcted Porcine Heart. **J.D. Tompkins, U. Buckley, S. Salavatian, K. Shivkumar, J. Ardell.** University of California and Los Angeles.

A254 **596.4** Identification of Novel mRNA Transcripts in the Sympathetic Stellate Ganglia Using RNA Sequencing. **E.N. Bardsley, H. Davis, O.A. Ajijola, K.J. Buckler, J. Ardell, K. Shivkumar, D.J. Paterson.** University of Oxford, United Kingdom, Cardiac Arrhythmia Center, David Geffen School of Medicine at University of California and Los Angeles.

A255 **596.5** Blunted Autonomic and Cardiovascular Activation During Face Cooling in Symptomatic Concussed Athletes. **B.D. Johnson, M. McBryde, M.C. O'Leary, J.R. Sackett, Z.J. Schlader, J.J. Leddy.** University at Buffalo and State University of New York.

A256 **596.6** Epidural Spinal Cord Stimulation Acutely Reduces Efferent Postganglionic Sympathetic Nerve Activity in Humans. **S.W. Holwerda, M.T. Holland, C.G. Reddy, G.L. Pierce.** University of Iowa.

597. CENTRAL REGULATION OF BODY FLUID HOMEOSTASIS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A257 **597.1** Intrarenal High Salt Administration Causes Tonic Inhibition of Renal Sympathetic Nerve Activity (RSNA) M**. Hindermann, K. Rodionova, A. Dietz, T. Ditting, C. Ott, R. Schmieder, K. Amann, R. Veelken.** University of Erlangen-Nuremberg, Germany.

A258 **597.2** Copeptin Responses to Isotonic and Hypertonic Saline Infusion in Healthy Adults. **H-G. Suh, L.T. Jansen, C. Sprong, J.D. Adams, C.L. Butts, A.D. Seal, D. Scott, O. Melander, G. Lemetais, A. Dolci, T. Vanhaecke, E.T. Perrier, T. Kirkland, S.A. Kavouras.** University of Arkansas, Mayo Clinic, Lund University, Sweden, Danone Research, France and University of Southern California.

A259 **597.3** Increasing Water Intake Reduces High Copeptin in Healthy Adults. **S. Enhörning, L. Brunkwall, I. Tasevska, U. Ericson, M. Persson, G. Lemetais, T. Vanhaecke, A. Dolci, E.T. Perrier, O. Melander.** Lund University , Sweden and Danone Research, France.

A260 **597.4** Hypertonic Saline Infusion Affects Glycemic Responses Following Glucose Load in Healthy Men. **L.T. Jansen, H-G. Suh, C. Sprong, J.D. Adams, C. Butts, A. Seal, D. Scott, O. Melander, G. Lemetais, A. Dolci, T. Vanhaecke, E. Perrier, T. Kirkland, S. Kavouras.** University of Arkansas, Lund University, Sweden and Danone Research, France.

A261 **597.5** High Salt Loading Increases Brain Derived Neurotrophic Factor in Supraoptic Vasopressin Neurons. **K. Balapattabi, J.T. Little, J.T. Cunningham.** University of North Texas Health Science Center.

598. INTERROGATING NEURONAL CIRCUITS MEDIATING BODY FLUID HOMEOSTASIS (POSTERS)

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A262 **598.1** DREADD-Induced Inhibition of the MnPO Affects Drinking Behavior and Neuroendocrine Function in Adult Male Rats. **A.B. Marciante, G. Farmer, L. Wang, J.T. Cunningham.** University of North Texas Health Science Center.

A263 **598.2** Aldosterone-Sensitive HSD2 Neurons in the Nucleus of the Solitary Tract: Gene Expression and Axonal Projections in Mice. **J.C. Geerling, J.M. Resch, B.B. Lowell, L. Peltekian, S.V. Narayan.** University of Iowa and Beth Israel Deaconess Medical Center.

A264 **598.3** AT_{1a} Receptors on Vasopressin-Producing Cells Are Important for Vasopressin Secretion but Not Blood Pressure Responses to Chronic Intracerebroventricular Angiotensin in Mice. **S.Y. Zhang, J.A. Sandgren, D.W. Linggonegoro, A.M. Usachev, N.A. Pearson, J.L. Grobe.** University of Iowa.

A265 **598.4** Does Glucagon-Like Peptide-1 Induce Diuresis and Natriuresis by Modulating Afferent Renal Nerve Activity? **K. Katsurada, N.M. Sharma, H. Zheng, X. Liu, K.P. Patel.** University of Nebraska Medical Center and University of South Dakota.

A266 **598.5** Paraventricular Nucleus over Activation Is a Critical Driver in the Development of Neurogenic Hypertension. **T. Basting, S. Sriramula, J. Epling, E. Lazartigues.** Louisiana State University Health Sciences Center and East Carolina University.

A267 **598.6** Neurons in the Organum Vasculosum of the Lamina Terminalis Sense Both Angiotensin II and Nacl to Regulate Thirst. **B.J. Kinsman, K.N. Browning, S.D. Stocker.** University of Pittsburgh and Pennsylvania State University.

A268 **598.7** Identifying 'Angiotensin Sensitive' Neurons in the Lamina Terminalis That Coordinate Endocrine, Cardiovascular and Behavioral Responses Mediating Body Fluid Homeostasis. **E.G. Krause, A.R. Alleyne, K.M. Cahill, M.D. Smeltzer, E.B. Bruce, Y. Tan, S.W. Harden, C.J. Frazier, A.D. de Kloet.** University of Florida.

A269 **598.8** Synaptic Plasticity in the Dorsal Vagal Complex: Role in Salt Intake and Alteration by Estrogen. **S.L. Toal, K.S. Curtis.** Oklahoma State University Center for Health Sciences.

A270 **598.9** A Novel Oxytocin Expressing Microglia Population in the Brain Subfornical Organ. **K.A. Blackmore, J.K. Jeong, C.N. Young.** The George Washington University School of Medicine and Health Sciences.

A271 **598.10** Differential Effects of Osmotic Stress on Synaptic vs. Paracrine Signaling Mechanisms in Oxytocinergic Magnocellular Neurons. **C.J. Frazier, W. Sheng, S.W. Harden.** University of Florida.

A272 **598.11** Prefrontal Cortical Regulation of Chronic Stress-Induced Cardiovascular Susceptibility. **B. Myers, D. Schaeuble, A.E.B. Packard, J.M. McKlveen, R.L. Morano, S. Fourman, B.L. Smith, J.R. Scheimann, B.A. Packard, S.P. Wilson, J. James, D.Y. Hui, Y.M. Ulrich-Lai, J.P. Herman.** Colorado State University, University of Cincinnati, University of South Carolina and Cincinnati Children's Hospital Medical Center.

A273 **598.12** Chronic Chemogenetic Activation of OVLT Neurons Alters Body Fluid Homeostasis and Sympathetically-Mediated Hypertension. **S.D. Stocker, W.B. Farquhar, M.M. Wenner.** University of Pittsburgh and University of Delaware.

599. CNS: OTHER

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A274 **599.1** Selective Breeding and Exercise Affect Midbrain and Pag Volume. **D.C. Lee, R.Z. Ezzat, Z. Thompson, M.P. Schmill, T. Garland; Jr.** University of California, Riverside and University of Michigan.

A275 **599.2** High Mobility Group Box 1 Neutralization in the Brain Prevents Inflammation, Sympathoexcitation and Hypertension. **S. Sriramula, A.R. Nair, J. Francis.** Brody School of Medicine, East Carolina University, School of Veterinary Medicine and Louisiana State University

A276 **599.3** Intracranial Targeting of Glioblastoma Multiforme with Cold Atmospheric Plasma. **H. Simonyan, Z. Chen, J. Sherman, X. Cheng, M. Keidar, C.N. Young.** George Washington University.

A277 **599.4** Role of Myo-Inositol in Ischemic Stroke Outcome in a Type 2 Diabetic Mouse Model. **H. Villalba, B. Vaidya, T. Abbruscato.** Texas Tech University Health Sciences Center

A278 **599.5** Activation of μ-Opioid Receptors in the Rostral Ventrolateral Medulla Blocks the Sympathetic Counter-Regulatory Response to Glucoprivation. **Z.M. Kakall, M.M.J. Farnham, P.M. Pilowsky.** The Heart Research Institute/ University of Sydney, Australia.

600. NEUROTRANSMISSION AND SIGNALING MOLECULES

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A279 **600.1** Calcium Influx at Hyperpolarized Membrane Potentials Modulates Depolarization-Triggered Exocytosis in Bovine Chromaffin Cells. **A.F. Fomina, L. Yang.** University of California, Davis and Sun Yat-sen University, People's Republic of China.

A280 **600.2** Presynaptic Large-Conductance Calcium-Activated Potassium Channels Modulate GABAergic Inhibitory Synaptic Transmission in the Superficial Dorsal Horn of the Mouse. **T. Fukushima, Y. Hori.** Dokkyo Medical University, Japan.

601. OXYGEN SENSING: THE CAROTID BODIES AND BEYOND

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A281 **601.1** Role of Carotid Body in Doxorubicin-Induced Heart Failure. **A.J.T. Arnold, L. Jensen, L.E. Souza, M.B. Silva, F. Santos, I.C. Moraes-Silva, M-C. Irigoyen.** Heart Institute and University of São Paulo Medical School, Brazil.

A282 **601.2** Properties of Ca^{2+} Oscillations in Rat Carotid Body Chemoreceptor Cells. **D. Kim, J.O. Hogan.** Chicago Medical School/Rosalind Franklin University.

A283 **601.3** Leptin Activates Transient Receptor Potential Melastatin 7 (TRPM7) Channels in Mouse Glomus Cells and Leptin-Receptor Expressing Pheochromocytoma Cells. **Y-P. Mu, C. Caballero-Eraso, X-R. Liu, M-K. Shin, O. Paudel, B. Yeung, W-Y. Tang, M. Shirahata, V. Polotsky, J. Sham.** Johns Hopkins University School of Medicine and Johns Hopkins Bloomberg School of Public Health.

A284 **601.4** Role of the Superior Cervical Ganglion in Response to Hypoxia in Juvenile Rats. **G.A. Coffee, P.M. Getsy, S.J. Lewis.** Case Western Reserve University.

A285 **601.5** Superior Cervical Ganglionectomy Alters Glomus Cell Potassium-Channel Properties in Response to Hypoxia. **P.M. Getsy, G.A. Coffee, S.J. Lewis.** Case Western Reserve University.

A286 **601.6** Dexmedetomidine Modification of the Chemoreflex Response to Severe Arterial Hypoxia in the Rabbit. **A. Quail, B. Ravindran, D. Cottee, J. Johnstone, S. White.** University of Newcastle, Australia.

A287 **601.7** Acute Hypoxia Alters Reflex Micturition Behavior in Urethane-Anesthetized Carotid Sinus Intact and Denervated Adult Female Sprague-Dawley Rat. **P.S. Best, M. Catege, W.F. Collins, I.C. Solomon.** Stony Brook University.

A288 **601.8** The Pattern of Breathing in Young Wild Type and Ts65dn Mice During the Dark and Light Cycle. **C.N. Receno, B.E. Eassa, D.P. Reilly, C. Cunningham, L.R. DeRuisseau.** Le Moyne College.

602. SCHOLANDER TRAINEE HIGHLIGHTS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A289 **602.1** Noradrenergic Tuning, Not Simple Rate Effects, Produces Temperature-Sensitivity of the Respiratory Network in Bullfrogs. **M. Vallejo, J.M. Santin, L.K. Hartzler.** Wright State University and University of Missouri.

A290 **602.2** Incomplete Caspase Signaling During Hibernation in the Golden-Mantled Ground Squirrel, *Spermophilus lateralis.* **M.D. Treat, F. van Breukelen.** University of Nevada and Las Vegas.

A291 **602.3** Relationship Between Dietary Profile and Blood Glucose Concentration in Birds. **A.J. Basile, C.L. Jarrett, K.L. Sweazea.** Arizona State University and University of Utah,

A292 **602.4** Paralytic Hypo-Energetic State Facilitates Anoxia Tolerance Despite Ionic Imbalance in Adult *Drosophila melanogaster*. **J.B. Campbell, M.K. Andersen, J. Overgaard, J.F. Harrison.** Arizona State University and Aarhus University, Denmark.

A293 **602.5** Active NH_4^+ Excretion via $Na^+/NH_4^+(H^+)$ Exchange in the Highly Ammonia Tolerant Hagfish (Epatatretus Stoutii). **A.M. Clifford, M.P. Wilkie, S.L. Edwards, A. Weinrauch, G.G. Goss.** University of Alberta, Canada, Wilfrid Laurier University, Canada and Appalachian State University.

A294 **602.6** Evolutionarily-Conserved Mechanisms of Nutrient Acquisition in the Primordial Vertebrate, the Pacific Hagfish. **A. Weinrauch, C. Glover, T. Blewett, A. Clifford, G. Goss.** University of Alberta, Canada and Athabasca University, Canada.

A295 **602.7** Mimicking Human CMAH Inactivation in Mice Increases Running Endurance and Muscle Respiratory Capacity: Implications for the Evolution of Genus *Homo*. **J. Okerblom, W. Fletes, H. Patel, S. Schenk, A. Varki, E. Breen.** University of California and San Diego.

A296 **602.8** Variation in Atmospheric Oxygen Levels Affects Adult Insect Wing Morphology and Flight Performance. **S.L. Lyn, J. Christensen, J. VandenBrooks, C. Schaefer, G. Parker.** Midwestern University.

A297 **602.9** Allometric and Biphasic Allometric Growth of Major Organs in Hatchling Female Alligators (*Alligator mississippiensis*). **C.J. Cooper, S. Muhtaseb, A. Alvo, S. Rayman, T. Schmoyer, J. Vasquez, R.M. Elsey, J. Eme.** California State University, San Marcos and Louisiana Department of Wildlife and Fisheries.

A298 **602.10** Hypoxia Avoidance Behavior in Two Air-Breathing Fishes. **C. Jew, J.W. Hicks.** University of California and Irvine.

A299 **602.11** Crude Oil Impairs Heart Cell Function in the Mahi-Mahi (*Coryphaena hippurus*). **R.M. Heuer, H.A. Shiels, G.L.J. Galli, G.K. Cox, J.D. Stieglitz, D.D. Benetti, M. Grosell, D.A. Crossley II.** University of Miami, University of Manchester, United Kingdom and University of North Texas.

A300 **602.12** Exploring the Developmental Thermal Biology of an Abundant Native Amphibian in Southern California, the Baja California Chorus Frog. **L. Korito, S. Manzanares, J. Bucsky, C.A. Mueller.** California State University and San Marcos.

A301 **602.13** The Effect of Acute Temperature Change on the Localization of Aquaporin-3 in the Erythrocytes of the Freeze-Tolerant Cope's Gray Treefrog. **B. Stogsdill, J. Frisbie, D. Goldstein.** Wright State University.

603. DIABETES, INSULIN RESISTANCE AND OBESITY I

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A303 **603.1** Caloric Restriction Combined with SGLT2 Inhibitor Improves Glucose Tolerance Independent of Reduced Sbp or Triglycerides in Obese, Insulin Resistant Rats. **M.A. Cornejo, I.D. Montes, S.A. Asghar, B. Escobedo, A. Nishiyama, R.M. Ortiz.** University of California, Merced and Kagawa University, Japan.

A304 **603.2** Effect of Oleanolic Acid on Inflammatory Cytokines on Rats Fed with High Fructose Diet and Metformin. **M.G. Matumba, T. Nyakunda, E. Mukwevho.** North-West University, South Africa and University of Johannesburg, South Africa.

A305 **603.3** Evidence for a Circulating Factor Released by the Brain That Contributes to Chronic Antidiabetic Actions of Leptin. **J.M. do Carmo, A.A. da Silva, J.E. Hall.** University of Mississippi Medical Center.

A306 **603.4** Small Molecule Antagonists of RAGE-DIAPH1: Novel Therapeutic Opportunities in Metabolic and Chronic Disease. **M.B. Manigrasso, N. Quadri, Q. Li, R.J. DeVita, R. Ramasamy, A. Shekhtman, A.M. Schmidt.** New York University Langone Medical Center, RJD Medicinal Chemistry and Drug Discovery Consulting LLC, University at Albany and State University of New York.

A307 **603.5** Bilirubin Induces the Burning of Fat via the Nuclear Receptor PPARα. **D.M. Gordon, K. John, C.J. Trabbic, A. Luniwal, M.W. Hankins, J. Baum, D.E. Stec, T.D. Hinds; Jr.** University of Toledo College of Medicine and Life Sciences, University of Toledo College of Pharmacy and Pharmaceutical Sciences and University of Mississippi Medical Center.

A308 **603.6** Changes in Hepatic Expression of Hyaluronan Synthases (HAS2 and HAS3) After Treatment with Steptozotocin in Channel Catfish. **M. Dougherty, A. Schmidtberger, E. Nevarez, Y. Kobayashi.** Fort Hays State University.

A309 **603.7** Effects of Local Interleukin-6 on Skeletal Muscle Mitochondrial Physiology. **H. Abid, C. Hart, I. Lanza.** Mayo Clinic Graduate School and Mayo Clinic College of Medicine and Science.

A310 **603.8** Urocortin 2 Gene Transfer Reduces Fasting Glucose, Polydipsia, Hyperphagia and Increases Body Weight in Type 1 Diabetes. **R. Bhargava, M.L. Tay, M. Gao, H. Hammond.** University of California, San Diego and Veterans Medical Research Foundation.

A311 **603.9** Altered Body Composition Does Not Fully Account for Impaired Glucose Tolerance in Women with Spinal Cord Injury. **J. Li, G.R. Hunter, Y. Chen, A. McLain, D.L. Smith, C. Yarar-Fisher.** University of Alabama at Birmingham.

A312 **603.10** Uncoupling Protein 3 Deficiency Impairs Cardiac Energetics and Contractile Recovery After Ischemia/Reperfusion. **K.S. Edwards, S. Ashraf, T.M. Lomax, J.M. Wiseman, F.N. Gava, J.E. Hall, J.P. Hosler, R. Harmancey.** University of Mississippi Medical Center.

A313 **603.11** Comprehensive Lipidome and Proteome Analyses to Identify the Inflammatory and Cardiometabolic Fingerprints of Metabolically *Healthy* Versus *Unhealthy* Obese Subjects. **M.R. Rajan, M. Sotak, F. Barrenäs, S. Tong, K. Borkowski, M. Clark, O. Fiehn, J. Newman, V. Wallenius, S. Lange, E. Börgeson.** Institute of Medicine, University of Gothenburg, Sweden, Department of Cell and Molecular Biology, Uppsala University, Sweden, National Institutes of Health West Coast Metabolomics Center, University of California, United States Department of Agriculture, Agricultural Research Service, Western Human Nutrition Rese, Institute of Clinical Sciences, Sahlgrenska Academy, University of Gothenburg, Sweden, University of California and San Diego.

A314 **603.12** Effect of Long-Term Administration of Heat-Processed Onion (*Allium cepa* L.) Extract on Body Weight, Visceral Fat Accumulation, and Plasma Lipid Profile in C57BL/6 Mice Fed High-Fat Diets. **H. Kang, T-Y. Kim, Y-R. Kang, J-Y. Lee, J-W. Lee, Y-I. Kwon.** Hannam University, Republic of Korea and Kunpoong Bio, Republic of Korea.

A315 **603.13** Chronic Fractalkine Administration Improves Glucose Tolerance with Improved Pancreatic Hormonal Profile in Obese Mice. **Y.S. Lee.** University of California and San Diego.

A316 **603.14** Immune Responses and Insulin Signaling in 5th Instar *Manduca sexta.* **L.D. Cambron, K.J. Greenlee.** North Dakota State University.

A317 **603.15** Omega-3-Fatty Acids Prevent Mechanical Hypersensitivity but Do Not Alter Nerve Fiber Density in a High Fat-Fed Murine Model of Prediabetic Neuropathy. **J.K. Nimmer, J.C. Maciejewski, D.S. Umbaugh, M.L. Schaller, M.P. Harris, K.E. Sandoval, K.A. Witt, J.S. Wooten, B.L. Guilford.** Southern Illinois University Edwardsville and University of Iowa.

A318 **603.16** Early Neuronal Inflammation May Be a Contributing Factor to Changes in Epidermal Innervation Associated with Neuropathy in Prediabetic Mice. **A.M. Reller, D.S. Umbaugh, M.L. Schaller, J.C. Maciejewski, J.S. Wooten, B.L. Guilford.** Southern Illinios University Edwardsville.

A319 **603.17** Treatment with Streptozotocin (STZ) Increases Expression of Macrophage Migration Inhibitory Factor (MIF) but Not Metalloproteinase-13 (MMP-13) mRNA in the Liver of Channel Catfish. **E. Nevarez, R. Spainhour, Y. Kobayashi.** Fort Hays State University

A320 **603.18** Increases in Insulin Signaling Following Electrical Pulse Stimulation Are Blunted in Myotubes Derived from Severely Obese Individuals with or Without Type 2 Diabetes. **S. Lim, A. Chaves, D. Zheng, J. Houmard.** Human Performance Lab, East Carolina Diabetes & Obesity Institute and East Carolina University.

A321 **603.19** Functional Impairment in the Corpus Cavernosum Related to a High Fat Diet Is Prevented in Toll-Like Receptor 9 Mutant Mice. **F. Priviero, F.B. Calmasini, C. McCarthy, C.F. Wenceslau, E. Antunes, R.C. Webb.** Augusta University and UNICAMP, Brazil.

A322 **603.20** The Influence of Sugar and Artificial Sweeteners on Vascular Health During the Onset and Progression of Diabetes. **B.R. Hoffmann, G. Ronan, D. Haspula.** Medical College of Wisconsin.

604. OBESITY AND SATIETY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A323 **604.1** Intermittent Fasting Suppresses Activity-Associated Energy Expenditure and Enhances Weight Loss in Obesity-Prone Rats. **A.R. Titus, A.E. Davis, S.L. Britton, L.G. Koch, C.M. Novak.** Kent State University, University of Michigan Medical School and University of Toledo.

A324 **604.2** Frequency of Breakfast Consumption, Obesity and Weight Gain. **K.L. Smith, A.R. Boeve, V.K. Somers, J. Bukartyk, P. Singh, N. Covassin.** Mayo Clinic.

A325 **604.3** Cats Increase Lean Body Mass with Carnitine or Carnosine but Not with the Combination. **D.E. Jewell, K.S. Panickar.** Hill's Pet Nutrition and Inc.

A326 **604.4** Estrogen Regulates Daily Metabolic Rhythms in Female Mice. **J.S. Pendergast, E.G. McGann, O.B. Omotola.** University of Kentucky.

A327 **604.5** In Utero Exposure to Cigarette Smoke Promotes Cardiac Dysfunction in High-Fat Fed Mice. **H. Xia, S. Lima Rodrigues, M.J. Ronis, A. Noel, A. Penn, C. Pullium, J. Gardner, K.J. Varner.** Louisiana State University Health Sciences Center and Louisiana State University School of Veterinary Medicine.

A328 **604.6** Sexually Dimorphic Ano2 Expression in Nodose Neurons Determines CCK-Mediated Satiation and Obesity in Heterozygote Male Mice. **Y. Lu, R. Wang, M.Z. Cicha, M.W. Chapleau, F.M. Abboud.** University of Iowa.

A329 **604.7** A Novel Role for Hindbrain Astrocytes in Leptin-Mediated Energy Balance and the Development of Obesity. **L. Stein, R. Lhamo, A. Corini, A. Cao, J. Chen, M. Hayes.** University of Pennsylvania.

A330 **604.8** Propensity for Excess Gestational Weight Gain in African-American Women May Be Explained by Hypometabolic Factors in Early Pregnancy. **J. Most, L.A. Gilmore, A.D. Altazan, M. St. Amant, R.A. Beyl, E. Ravussin, L.M. Redman.** Pennington Biomedical Research Center and Woman's Hospital.

605. ADIPOCYTE FUNCTION AND METABOLISM

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A331 **605.1** ER Stress Dictates Inflammatory, but Not Hormonal, Lipolytic Triggers in Adipocytes. **J.D. Schertzer, K. Foley, B. Duggan, M. Heal, W. Chi, N. Barra.** McMaster University, Canada.

A332 **605.2** Thermoregulation Deficiencies in Mice with a Deletion in the Muscle Protein Titin. **C.A. Miyano, C.L. Buck, K. Nishikawa.** Northern Arizona University.

A333 **605.3** Perivascular Adipocytes Store Norepinephrine by Vesicular Transport. **M. Ahmad, E.S. Darios, N. Ayala-Lopez, R. Burnett, S.W. Watts.** Michigan State University and Yale University.

A334 **605.4** A Feedback Control of Insulin Signaling by Transcription Factor HMG Box-Containing Protein 1 (HBP1) in Adipocytes. **Z-H. Chen, C-Y. Chan, M-F. Lee, C-Y. Huang.** China Medical University, Taiwan and Chang Jung Christian University, Taiwan.

A335 **605.5** Deletion of MicroRNA-22 Enhances Thermogenic Gene Expression in White Adipose Tissue of Obese Mice. **V.M. Lima, R.I. Fonseca, D-Z. Wang, G.P. Diniz.** University of Sao Paulo, Brazil and Harvard Medical School.

A336 **605.6** Bilirubin, a Novel Endocrine Hormone with Fat Burning Properties. **T.D. Hinds, D.M. Gordon, S.D. Combs, D.E. Stec.** University of Toledo Health Science Campus and University of Mississippi Medical College.

A337 **605.7** Maternal Dietary Fish Oil Influences the Adipose Transcriptome in Offspring. **R. Mihelic, R. Beckford, M. Huff, M. Staton, S. Das, J. Wilson, B. Voy.** University of Tennessee and University of Georgia.

A338 **605.8** Hydroxylated Metabolites of Common Airborne Polychlorinated Biphenyls and Their Potential for Disrupting Estrogen Homeostasis and Adipogenesis. **V.S. Parker, E. Squirewell, H. Joachim-Lehmler, L.W. Robertson, A. Klingelhutz, M.W. Duffel.** University of Iowa.

A339 **605.9** The Role of ACE2/Ang 1-7/Mas Axis in the White Adipose Tissue for the Prevention of Obesity and Insulin Resistance Through Aerobic Exercise Training. **A.L.V. Américo, C.R. Muller, M.H. Fonseca-Alaniz, F.S. Evangelista.** University of Sao Paulo, Brazil and Heart institute, Brazil.

A340 **605.10** The TLQP-21 Neuropeptide and the Complement 3a Receptor (C3aR1) Regulate a Novel Pro-Lipolytic Pathway. **B.S. Sahu, C. Cero, R. Han, M. Razzoli, S.O. Grady, A. Bartolomucci.** University of Minnesota.

606. PANCREATIC HORMONES AND DIABETES

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A341 **606.1** Coupling of Mdia1-Dependent Fast Endocytosis to Exocytosis in Pancreatic Beta Cells Helps to Maintain Normal Glucose Tolerance in Mice. **L. Wei, W. Du, S. Zhao, L. Chen.** Peking University, People's Republic of China and Chinese Academy of Sciences, People's Republic of China.

A342 **606.2** MafB Overexpression Enhances Functional Beta Cell Mass. **A.H. Leifer, J.S. Tessem.** Brigham Young University.

A343 **606.3** Effect of 24 Hour Pre-Incubation with Variable Oxygen on Human Islets of Langerhans Function. **C. Weber, N.D. Price, K.E. Smith, K.K. Papas, R. Lynch.** University of Arizona.

A344 **606.4** C-Peptide and Insulin Work in Concert to Mitigate Hyperglycemia-Induced Oxidative Stress and Facilitate Cellular Recovery. **J.L. Rossiter, G.L.C. Yosten, G.R. Kolar.** Saint Louis University.

607. PANCREATIC PHYSIOLOGY AND PATHOPHYSIOLOGY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A345 **607.1** Chemotherapy Induces Pancreatic Cancer Organoid Immune Evasion by Upregulating Programmed Death Ligand 1. **L. Holokai, J. Chakrabarti, J. Chang, M. Perusina Lanfranca, J. Wang, T. Frankel, S. Ahmad, Y. Zavros.** University of Cincinnati and University of Michigan.

A346 **607.2** Longitudinal Study of Rhesus Monkeys Determines That Amylase and Lipase Levels Are Significant Risk Factors for Type 2 Diabetes Mellitus. **B.C. Hansen, J.D. Newcomb, U.K. Chaudhari.** University of South Florida.

608. LIVER PHYSIOLOGY AND PATHOPHYSIOLOGY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A347 **608.1** Apple Pomace Supplementation Favorably Alters Hepatic Lipid Metabolism in Young Female Sprague-Dawley Rats Fed a Western Diet. **R.C. Skinner, D.C. Warren, S.N. Lateef, V.A. Benedito, R.W. Bryner, J.C. Tou.** West Virginia University.

A348 **608.2** Alterations in Hepatic Protein Synthetic Signaling During the Progression of Cancer Cachexia. **M. Rosa-Caldwell, J.L. Brown, D.E. Lee, R.A. Perry, W.A. Haynie, A.R. Caldwell, T.A. Washington, M.P. Wiggs, N.P. Greene.** University of Arkansas and The University of Texas at Tyler.

A349 **608.3** Melatonin or Dark Therapy Reduce Biliary Damage, Inflammation and Liver Fibrosis in a Murine Model of Early Stage Primary Biliary Cholangitis. **L. Kennedy, N. Wu, H. Francis, J. Venter, F. Meng, K. Kyritsi, T. Zhou, E. Gaudio, S. Glaser, G. Alpini.** Texas A&M Health Science Center/College of Medicine, Baylor Scott & White Health and University Sapienza, Italy.

A350 **608.4** Negative Energy Balance Up-Regulate the Levels of Hepatokines in Dairy Cows During the Peripartum Period. **J. Wang, L. Liu, B. Zhao.** Northwest A&F University, People's Republic of China and Hunan Agricultural University, People's Republic of China.

A351 **608.5** Ibuprofen Cases Proteasome Dysfunction in Mice Liver. **A. Gomes, S. Tiwari, R. Sule.** University of California and Davis.

609. EFFECTS OF DIET AND METABOLITES ON MUCOSAL IMMUNOLOGY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A352 **609.1** The Pregnane X Receptor (PXR) Modulates NLRP3 Inflammasome Activation—Linking the Environment with Innate Immune Signaling. **G.M. Hudson, L. Alston, S. Mani, S. Hirota.** University of Calgary, Canada and Albert Einstein College of Medicine.

A353 **609.2** The Role of Butyrate in Ethanol-Induced Intestinal Immune Responses and Associated Gut-Liver Injury. **G.A. Cresci, B. Glueck.** Cleveland Clinic.

610. GASTROINTESTINAL CANCER AND METASTASIS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A354 **610.1** Hedgehog Signaling Induces PDL-1 Expression and Subsequently Inactivates Effector T Cell Function and Promotes Gastric Cancer Cell Proliferation. **J. Chakrabarti, L. Syu, L. Holokai, N. Steel, J. Chang, A. Dlugosz, Y. Zavros.** University of Cincinnati and University of Michigan.

A355 **610.2** T-Cell Protein Tyrosine Phosphatase Restricts Intestinal Epithelial Cell Expression of the Oncogene Annexin A4. **M. Krishnan, M. Aftabizadeh, H. Yu, D.F. McCole.** University of California, Riverside and City of Hope.

A356 **610.3** Targeting the Prolactin Receptor Signaling Using an Antipsychotic Drug to Suppress Pancreatic Cancer. **P. Dandawate, G. Kaushik, D. Subramaniam, P. Ramamoorthy, C. Ghosh, S. Choudhury, D. Standing, A. Dhar, S.M. Thomas, S. Santimukul, S. Padhye, O. Tawfik, S. Weir, R.A. Jensen, S. Anant.** University of Kansas Medical Center, Pittsburg State University and Abeda Inamdar Senior College, India.

A357 **610.4** Silencing of Matrix Metalloproteinase MMP9 Nurtures Tumor Microenvironment in Chronic Inflammation Driven Colon Cancer. **L. Walter, A. Pujada, T.A. Bui, B.A. Canup, H. Laroui, T.L. Denning, P. Garg.** Institute for Biomedical Sciences and Georgia State University.

A358 **610.5** Inactivation of the Pyruvate Dehydrogenase Complex Results in a Decrease in Butyrate Oxidation and Enhancement of Cellular Proliferation. **E. Simon, B. Park, K. Spilman, D.R. Donohoe.** University of Tennessee.

A359 **610.6** Activation of Hippo Signaling by rhBMP-2 Suppresses the Proliferation of Human Colorectal Cancer Cell. **Y.C. Liu, S.M. Kim.** Institute for Medical Sciences and Chonbuk National University Medical School, Republic of Korea.

A360 **610.7** Ursolic Acid Potentiates Paclitaxel Induced Antitumor Effects on Esophageal Squamous Cell Carcinoma Cell Through the Akt Signaling Pathway. **R.Y. Meng, S.M. Kim.** Institute for Medical Sciences and Chonbuk National University Medical School, Republic of Korea.

A361 **610.8** Inactivation of Wnt/β-Catenin Signaling Pathway by SIRT6 Inhibits Tumor Growth and Proliferation in Hepatocellular Carcinoma. **H. Jin, S.M. Kim.** Institute for Medical Science and Chonbuk National University Medical School, Republic of Korea.

A362 **610.9** Activation of Lipogenesis by Hematopoietic- and Neurologic-Expressed Sequence1 Stimulates Hepatocellular Carcinoma Cell Proliferation and Metastasis. **H. Jin, S.M. Kim.** Institute for Medical Sciences and Chonbuk National University Medical School, Republic of Korea.

611. NUCLEAR RECEPTORS IN THE LIVER AND GI TRACT

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A363 **611.1** Prematurity and Postnatal Development Regulate the Expression of the FXR-FGF19 Axis in Neonatal Pigs. **V.A. Smith, Y. Jiang, T. Thymann, P. Sangild, R. Manjarin, D. Burrin.** California Polytechnic State University, United States Department of Agriculture, Agricultural Research Service, Children's Nutrition Researc and University of Copenhagen, Denmark.

612. CELL PLASTICITY AND REPAIR AND DISEASE MECHANISMS IN THE STOMACH, LIVER AND INTESTINE

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A364 **612.1** Deletion of Claudin-7 Disrupts Epithelial Cell Self-Renewal in Mouse Colon. **T. Xing, L.J. Benderman, S. Sabu, Y. Chen.** Brody School of Medicine, East Carolina University and East Carolina University.

A365 **612.2** Rapid Crypt Cell Remodeling Regenerates the Intestinal Stem Cell Niche After Stem Cell Loss Induced by Notch Inhibition. **N. Bohin, T.M. Keeley, A.J. Carulli, E.A. Carlson, J. Gao, I. Aifantis, M.W. Rajala, M.G. Myers, J.C. Jones, C.D. Brindley, P.J. Dempsey, L.C. Samuelson.** University of Michigan, New York University School of Medicine and University of Colorado School of Medicine.

A366 **612.3** Effect of eGFR on Calcium Mobilization and Epithelial Repair in Gastric Organoids. **K. Engevik, E. Aihara, A. Matthis, M. Montrose.** University of Cincinnati.

A367 **612.4** Microvillus Inclusion Formation in Myosin VB Knockout Mice Occurs Through Apical Bulk Endocytosis and Requires Syndapin 2. **A.C. Engevik, J. Faust, M. Tyska, J.R. Goldenring.** Vanderbilt University School of Medicine and Vanderbilt University.

A368 **612.5** Determining the Mechanism by Which PRDM16 Maintains the Adult Small Intestinal Epithelium. **R. Stine, P. Seale.** University of Pennsylvania.

613. IMMUNOLOGY AND MICROBIOLOGY OF THE GUT

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A369 **613.1** Live Cell Fluorescence Imaging Reveals Intercellular Calcium Waves and Chloride Channel Activation During Rotavirus Infection. **A. Chang-Graham, J. Perry, M. Engevik, H. Danhof, J. Hyser.** Baylor College of Medicine.

A370 **613.2** Gene Expression Analysis of the Effect of Microbial Tryptophan Metabolites on T-Cell Differentiation. **C. Cheng, S. Steinmeyer, A. Jayaraman, R. Alaniz.** Texas A&M University.

A371 **613.3** Seroreactivity to Microbial Antigens and Gut-Homing Immune Responses in Functional Dyspepsia Patients with Postprandial Distress Syndrome. **G. Burns, E. Shanahan, A. Do, J. Bruce, K. Minahan, J. Horvat, P. Foster, G. Holtmann, M. Morrison, M.M. Walker, N.J. Talley, S. Keely.** School of Biomedical Sciences and Pharmacy, University of Newcastle, Australia, Translational Research Institute, University of Queensland, Australia, Priority Research Centre for Digestive Health and Neurogastroenterology and University of Newcastle, Australia.

A372 **613.4** The ELMO1, a Microbial Sensor Regulates Bacterial Clearance and Endo-Lysosomal Signaling. **J. Tam, M. Lau, R. Pranadinata, S-R. Ibeawuchi, C. Tindle, S. Das.** University of California and San Diego.

614. CELL AND MOLECULAR PROCESSES IN CANCER METASTASIS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A373 **614.1** Distinct Effect of Invasive and Non-Invasive Breast Cancer Cells on Vasculogenic Capacity of Endothelial Progenitors. **H. Lee, S. Shah, E-S. Kim, A. Moon, K-T. Kang.** Duksung Women's University, Republic of Korea.

A374 **614.2** Calreticulin Stabilizes Vascular Endothelial Growth Factor-A mRNA via Interaction with AU-Rich Element at 3'-UTR. **C-Y. Chen, Y-C. Chien, H. Lee.** National Taiwan University, Taiwan.

A375 **614.3** High Throughput Phenotypic Analysis of Circulating Tumor Cells from Pancreatic Adenocarcinoma Patients via Dielectrophoresis and Image Flow Cytometry. **A.A. Marra, D. Kim, C. Carpenter, G. Varadhachary, M. Katz, P. Greyscone, H. Alvarez, A. Maitra.** Universidad de Puerto Rico, Rio Piedras Campus and The University of Texas MD Anderson Cancer Center.

615. STEM CELLS, CELL GROWTH, DEVELOPMENT, DIFFERENTIATION, AND AUTOPHAGY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A376 **615.1** ULK2 Regulates p62- and NBR1-Dependent Selective Autophagy in Skeletal Muscle. **J. Fuqua, C. Mere, J. Bloome, V. Melo, E. Scudese, D. Bae, K. Turner, A. Kronemberger, V. Lira.** University of Iowa.

A377 **615.2** The First Characterization of a Novel Stem Cell Population and the Temporal Relationship with Satellite Cells in Human Skeletal Muscle. **N.I. Saddler, J. Nederveen, T. Snijders, S. Joanisse, J. Baker, B. Mckay, D. Kumbhare, G. Parise.** McMaster University, Canada, Maastricht University, Netherlands and University of Toronto, Canada.

A378 **615.3** Dietary Butyrate, an HDAC Inhibitor, Primes Muscle Satellite Cells for Differentiation by Altering the Epigenetic Landscape. **R.L. Murray, W. Zhang, J. Cooper, A. Mitchell, C.H. Stahl.** University of Maryland College Park.

A379 **615.4** Probiotic Metabolites Promote Stem Cell Proliferation and Differentiation. **D. Wu, R. Fu, J. Scoffield, R. Kannappan.** Indian Springs School, Vestavia High School and University of Alabama at Birmingham.

A380 **615.5** Characterization of Human Neural Progenitor Cells and Neurons Differentiated from Induced Pluripotent Stem Cells. **Á. Apáti, T. Berecz, E. Szabó, T.I. Orbán, L. Homolya, B. Sarkadi, J. Réthelyi.** Research Centre for Natural Sciences—Hungarian Academy of Sciences, Hungary and National Brain Research Project (NAP) Molecular Psychiatry Research Group—HAS, Hungary.

A381 **615.6** Optimized Induction of Neurospheres from Porcine Mesenchymal Stem Cells. **D.T. Schomberg, A. Wood, H. Singh, J.J. Meudt, D. Shanmuganayagam.** University of Wisconsin—Madison.

A382 **615.7** Identification of Senescence-Associated Genes in Rhesus Monkey Bone Marrow-Derived Mesenchymal Stem Cells Cultured in a Defined Serum-Free Media. **Y. Li, F. Liu, J. Zhang, Y. Lu, J. Cheng.** West China Hospital and Sichuan University, People's Republic of China.

A383 **615.8** Immunomodulatory Effects of Rhesus Monkey Bone Marrow-Derived Mesenchymal Stem Cells in Serum-Free Conditions. **F. Liu, Y. Li, J. Zhang, Y. Lu, J. Cheng.** West China Hospital and Sichuan University, People's Republic of China.

A384 **615.9** Investigating the Function of the Histone Methyltransferase PRMT1 During Post-Embryonic Development in *Xenopus Tropicalis*. **Y. Shibata, Y-B. Shi.** National Institutes of Health.

A385 **615.10** Standardizing the Isolation, Culture-Expansion, and Cryopreservation of Canine Umbilical-Cord Derived Mesenchymal Stromal Cells. **A. Cromer, J. Lillich, M. Weiss.** Kansas State University.

A386 **615.11** Comparison of Isolation, Characterization and Differentiation of Human Umbilical Cord Mesenchymal Stromal Cells in a Traditional 2D Culture Versus a 3D Culture. **T. Jirakittisonthon, J. Murnane, L. Snyder, A. Cromer, M. Weiss.** Kansas State University.

A387 **615.12** Exposure to a Reduced Ambient Temperature Induces Browning of Bone Marrow Derived Adipocytes in Vitro. **M. Symonds, K. Velickovic, H.A. Lugo-Leija, I. Bloor, J. Law, H. Sacks, V. Sottile.** The University of Nottingham, United Kingdom and University of California.

A388 **615.13** WW Domain-Containing Oxidoreductase Regulates Keratinocyte Growth for Maintaining Epidermal Homeostasis. **Y-T. Chou, L-J. Hsu.** National Cheng Kung University, Taiwan.

A389 **615.14** Understanding Phenotypic Plasticity Induced by Environmental Factors Using Computational Markov Modeling. **N.S. Jagannathan, M.O. Ihsan, X.X. Kin, M-V. Clement, L. Tucker-Kellogg.** National University of Singapore, Singapore.

616. APOPTOSIS, CELL STRESS, AND CELL DEATH

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A390 **616.1** Searching for a New Anti-Cancer Drug: Investigation of KY Hemp-Induced Apoptosis in Ovarian Cancer Cells. **W.K. Sumanasekera, C. Johnson, A-T. Pham, B. Patel, A. Sivamohan, A. Cox.** Sullivan University College of Pharmacy and Washington University in St. Louis.

A391 **616.2** Novel Endoperoxides Increase Apoptosis Only in Cancer Cells by Inducing Oxidative Stress. **E.S. Gornick, Y. Kim, M. Haq, U. Dinsmonaite, T.R. Vavrek, H. Malik, M. Poch, D.M. Rubush, J. Sarathy.** Benedictine University.

A392 **616.3** Doxorubicin-Induced Fetal Glomerular Mesangial Cell Apoptosis Involves NADPH Oxidase-Dependent Reactive Oxygen Species Generation. **A.T. Matthews, H. Soni, R.K. Buddington, A. Adebiyi.** University of Tennessee Health Science Center and University of Memphis.

A393 **616.4** The Effect of Albumin on Podocyte Apoptosis: The Role of PKC δ, p38 MAPK and Endoplasmic Reticulum Stress. **G.L. Gonçalves, M. Oliveira-Souza.** University of Sao Paulo, Brazil.

A394 **616.5** Blockade of 20-HETE Synthesis Confers Resistance to Stress-Induced Apoptosis in Renal Tubular Cells. **L.D. Alexander.** Meharry Medical College School of Medicine.

A395 **616.6** Excessive βeta-Adrenergic Receptor Stimulation Induces Cardiomyocyte Necroptosis via a RIP3-Dependent Pathway. **P. Wu, Y. Wang, X. Wang.** University of South Dakota and University of California.

A396 **616.7** Protective Role of UCP2 Against Oxidative Stress Through Survival Signaling Pathway in Acute Epilepsy Induced by Pilocarpine in Rats. **M.R.H. Dutra, R.S. Feliciano, E.T. Santana, K.R. Jacinto, T.R. Gouveia, A.J. Serra, M.G. Naffah-Mazzacoratti, J.A. Silva; Jr.** Universidade Nove de Julho, Brazil, UNINOVE, Brazil and Federal University of São Paulo, Brazil.

A397 **616.8** Nicotine Attenuates Acetate-Induced Increase of Cytosolic Reactive Oxygen Species in Dopaminergic-Like Pc12 Cells. **J.E. Behnke, A.D. Chapp, Z. Shan, Q-H. Chen.** Michigan Technological University.

A398 **616.9** Different Effects of Photobiomodulation Therapy on Cultured Human Chondrocytes. **J. Zhang, S. Guffey, S.D. Motts, K.J. Stroup.** Arkansas State University.

617. CELLULAR RESPONSES TO INFLAMMATION

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A399 **617.1** Chronic Inflammatory Exposure Changes the Phenotype of Human Skeletal Muscle Cells. **C. McManus, C. Richardson.** Alabama College of Osteopathic Medicine.

A400 **617.2** Contribution of Myositis Autoantibodies to Compromised Skeletal Muscle Membrane Repair. **A.F. Capati, K.F. McElhanon, T.F. Bodnar, B.F. Paleo, A.F. Rose, E.X. Beck, N.F. Weisleder.** The Ohio State University.

A401 **617.3** Epstein Barr Virus and Multiple Sclerosis. **J.A. Rodriguez-Pérez, V. Pérez-Vallín, A. Mirabal-Viel, A.A. Padrón-González, W. Castillo-González, C. González-Losada, A.J. Dorta-Contreras.** LABCEL, Cuba.

A402 **617.4** Dopamine D2 Receptor Decreases the Toxic Effects of Aristolochic Acid in Human Renal Proximal Tubule Cells. **M. Kumar, N. Ayvazian, J. Gildea, R.A. Felder, P.A. Jose, I. Armando.** George Washington University and University of Virginia.

A403 **617.5** Isoprenoid Depletion Increases Cytokine mRNA Levels in Primary Human Monocytes. **T.A. Frey.** Dickinson College.

A404 **617.6** Autophagy Enhances Protective Immunity of Macrophages Against *Mycobacterium tuberculosis.* **J. Lv, C. Wei, F. Fang, Y. Zhang, G. Kelly, T. Wang, Z. Qian.** Bengbu Medical College, People's Republic of China and The University of Arizona.

A405 **617.7** Impact of Monocyte Age on Influenza A Virus-Induced Lung Injury. **B. Coates, M. Turner, M. Ciesielski, Y. Cheng, K. Ridge.** Northwestern University.

A406 **617.8** The Effects of *Astragalus* Treatment on *Caenorhabditis elegans* Stress and Antimicrobial Response Pathways and Longevity. **A. Knudson, C. Cozine.** Coe College.

618. OXIDATIVE STRESS, MITOCHONDRIAL METABOLISM AND REDOX CHANGES IN HEALTH AND DISEASE

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A407 **618.1** The Effects of Fluid Resuscitation on Renal and Cardiac Mitochondrial Function in a Severely Burned Swine Model. **T. Chao, B.I. Gomez, T. Heard, J.S. Little, M.A. Dubick, D.M. Burmeister.** U.S. Army Institute of Surgical Research.

A408 **618.2** Antioxidant Supplementation (AOXs) Prevents the Renal Damage Induced by the Continue Exposure to Mild Heat Stress and Rehydration with a Fructose-Containing Beverage (FCB). **F.E. Garcia-Arroyo, G. Gonzaga, M.G. Blas-Marron, I. Muñoz, E. Tapia, L.G. Sanchez-Lozada.** Instituto Nacional de Cardiologia Ignacio Chavez, Mexico.

A409 **618.3** C26-Induced Cancer Cachexia Impairs Skeletal Muscle Mitochondrial Function. **D. Neyroud, R.L. Nosacka, A.R. Judge, R.T. Hepple.** University of Florida.

A410 **618.4** Inhibition of Pathological Mitochondrial Fission Restores DSS Associated Respiratory Impairments in an Intestinal Epithelial Cell Line. **L.J.L. Goudie, N. Mancini, K.R. Blote, A. Wang, D.M. McKay, J. Shearer.** University of Calgary, Canada.

A411 **618.5** Dissociation of Hexokinase II Binding to Vdac Increases State 3 Respiration and Reduces Membrane Potential Repolarization Time in Mitochondria Isolated from Brain and Heart. **Y. Xu, M. Yang, K. Li, D.F. Stowe, W-M. Kwok, A.K.S. Camara.** Medical College of Wisconsin.

A412 **618.6** Comparison of Different Mathematical Approaches to Assess Calcium Retention Capacity in Cardiac Isolated Mitochondria Following Ischemia Reperfusion Injury. **H.S. Lahil, M.M. Salzman, C. Balzer, W.J. Cleveland, M.L. Riess.** Vanderbilt University Medical Center and Tennessee Valley Healthcare System VA Medical Center.

A413 **618.7** Modeling Calcium-Induced Inhibition of Oxidative Phosphorylation. **S. Malyala, Y. Zhang, J.N. Bazil.** Michigan State University.

A414 **618.8** Measurement and Analysis of the Mitochondrial Calcium Sequestration and Effects on the Buffering System. **J.O. Strubbe, Y. Zhang, H. Truong, J.N. Bazil.** Michigan State University.

A415 **618.9** Effects of Buffer Composition and Substrates on Calcium-Stimulated Mitochondrial Respiration and Free Radical Emission. **Q. Duong, K. Zhong, Y. Zhang, J. Bazil.** Michigan State University.

A416 **618.10** Sanglifehrin A Has No Protective Effects in Non-Reperfused Myocardial Infarction: The Role of Mitochondria. **R.M. Parodi-Rullán, J. Soto-Prado, S.I. Diaz-Cordero, J. Vega-Lugo, X. Chapa-Dubocq, S. Javadov.** University of Puerto Rico School of Medicine, Puerto Rico.

A417 **618.11** H_1/H_2 Histamine Receptor Blockade Lowers Substrate-Dependent Mitochondrial H_2O_2 Emission in Deep Gastrocnemius Muscle Following a Bout of Prolonged Exercise. **L.R. Davidson, H.E. Wallace, M.C.W. Bell, K. Brebner, D.A. Kane.** St. Francis Xavier University, Canada.

A418 **618.12** Effects of HIV-1 GP120 and Tat on Endothelial Microparticle Release and Oxidative Stress. **L.M. Brewster, J.G. Hijmans, T.D. Bammert, K.A. Stockelman, M.A.V. Levy, J.J. Greiner, C.A. DeSouza.** University of Colorado Boulder.

A419 **618.13** Hydrogen Peroxide Causes Iron Dysregulation in C_2C_{12} Skeletal Muscle Cells. **J.G. Anderson, R.C. Hans, D.D. Symkins, C.R. Hancock.** Brigham Young University.

A420 **618.14** Curcumin Alters Iron Regulation in C_2C_{12} Skeletal Muscle Cells and Prevents Iron Accumulation in a Model of Elevated Oxidative Stress. **J.G. Anderson, D.D. Symkins, R.C. Hans, C.R. Hancock.** Brigham Young University.

A421 **618.15** Restoration of SERCA ATPase as an Intervention to Muscle Impairment Associated with Oxidative Stress. **R. Qaisar, S. Bhaskaran, R. Ranjit, P. Premkumar, K. Huseman, K. Sataranatarajan, H. Van Remmen.** Oklahoma Medical Research Foundation.

A422 **618.16** Muscle Specific MnSOD Deficiency Leads to Complex II-Specific Inactivity of ETC and Contractile Dysfunction, but Increases Muscle Mass. **B. Ahn, R. Ranjit, G. Pharaoh, K. Piekarz, S. Matsuzaki, P. Premkumar, K. Riddle, K. Humphries, A. Richardson, H. Van Remmen.** Oklahoma Medical Research Foundation, University of Oklahoma and Veterans Affair Hospitals.

A423 **618.17** Organismal Sex Is a Major Determinant of Phenotypic and Molecular Changes Caused by Genetic Inactivation of the Mitochondria-Specific Deacetylase SIRT3. **C.M. Roos, M.A. Hagler, B. Zhang, H. Fujimoto, J.D. Miller.** Mayo Clinic.

A424 **618.18** Multiphoton Imaging Reveals Differences in Metabolic Auto-Fluorescence Signals Between Early and Late Proximal Tubule Segments of the Kidney. **M. Bugarski, J.R.D. Martins, D. Haenni, A.M. Hall.** University of Zurich, Switzerland.

A425 **618.19** Cancer-Induced Metabolic Cardiotoxicity Characterized Through Optical Metabolic Imaging. **D.E. Lee, J.L. Brown, M.E. Rosa-Caldwell, R.A. Perry, W.A. Haynie, T.A. Washington, M.P. Wiggs, N. Rajaram, N.P. Greene.** University of Arkansas and The University of Texas at Tyler.

A426 **618.20** The Mitochondrial-Targeted Antioxidant MitoQ Attenuates LV Dysfunction and Gene Expression Related to Oxidative Stress in Cardiomyocyte-Specific GPER KO Female Mice. **L. Groban, X. Sun, C.M. Ferrario, H. Wang.** Wake Forest School of Medicine.

A427 **618.21** Cardiolipin Remodeling by ALCAT1 Links Oxidative Stress and Mitochondrial Dysfunction to Cellular Senescence. **K.S. Mdaki, Y. Shi.** Barshop Institute for Longevity and Aging Studies.

A428 **618.22** Chronic Alcohol Misuse Induces Alveolar Macrophage Oxidative Stress and Mitochondrial Dysfunction via Upregulation of microRNA-130a. **S.M. Yeligar.** Emory University and Atlanta VA Medical Center.

A429 **618.23** The Effect of the K_{ATP} Channel Opener Nicorandil in Lipid-Peroxidation in Skeletal Muscle Atrophy. **P. Padilla-Maldonado, E. Sanchez-Duarte, M. Gómez-Barroso, A. Sanchez-Perez, C. Cortes-Rojo, A. Saavedra-Molina, R. Montoya-Perez.** Universidad Michoacana de San Nicolás de Hidalgo, Mexico and Universidad de Guanajuato, Mexico.

A430 **618.24** Prolonged Low- to Moderate-Intensity Exercise Improves Metabolic and Oxidative Profiles in Healthy Adults. **D.D. Gagnon, S.C. Dorman, S. Ritchie, S.J. Mutt, V. Stenbäck, J. Walkowiak, K-H. Herzig.** Laurentian University, Canada, University of Oulu, Finland and Poznan University, Poland.

A431 **618.25** Aging and Spaceflight: Catalase Targeted to Mitochondria Alters Skeletal Structure and Responses to Musculoskeletal Disuse. **R.K. Globus, C. Tahimic, A-S. Schreurs.** NASA Ames Research Center.

A432 **618.26** Patterns of Suppressed Mitochondrial Respiration in Isolated Muscle Fibers from Type 2 Diabetics. **K.D. Turner, M.P. Harris, A. Kronemberger, K. Ueda, A.J. Feider, H. Kenny, E.J. Anderson, E.D. Abel, D.P. Casey, V.A. Lira.** University of Iowa.

A433 **618.27** Ascorbate Rescues Peroxide Induced Insulin Resistance in Skeletal Muscle. **A. Eccardt, L. Mattathil, T. Bell, R. Patel, M. Mannino, J. Fisher.** Saint Louis University.

619. RENAL EFFECTS OF HORMONES, AUTACOIDS AND OXIDATIVE STRESS

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A434 **619.1** ANP Antibody Attenuates Rihp Amplification During Acute Saline Volume Expansion in Rats. **M.E.S. Briones, J.F. Lopez-Rodríguez, M.Z. Calvo-Turrubiartes, M. Rodríguez-Martínez.** Autonomous University of San Luis Potosí, Mexico.

A435 **619.2** The Protective Effects of Atrial Natriuretic Peptide Infusion in Salt-Sensitive Hypertension. **D. Ilatovskaya, V. Levchenko, A. Zietara, K. Winsor, D.R. Spires, A. Staruschenko.** Medical College of Wisconsin.

A436 **619.3** EHD4 Regulates Prostaglandin E2 Synthesis in Renal Collecting Duct Principal Cells: Potential Implications for AQP2. **E.I. Boesen, S.S. Rahman, H. Band.** University of Nebraska Medical Center.

A437 **619.4** Intrarenal Bradykinin (BK) Is Decreased in Mice with Prorenin Receptor (PRR) Deficiency in the Collecting Duct. **B. Visniauskas, J. Mourain, J.R. Chagas, M.C. Prieto.** Tulane University and Universidade Federal de Sao Paulo, Brazil.

A438 **619.5** Characterizing Novel Olfactory Receptors Expressed in the Renal Cortex. **V.L. Halperin Kuhns, D.C. Sarver, P. Rajkumar, Z. Khalil, J.L. Pluznick.** Johns Hopkins University School of Medicine

A439 **619.6** Renal Expression of Adhesion GPCR GPR116 (ADGRF5) Plays a Role in Urinary Concentration in Mice. **N. Zaidman, J. Pluznick.** Johns Hopkins University.

A440 **619.7** KIR4.1 Is Involved in Bradykinin-Induced Inhibition of NCC and Natriuresis. **P. Wu, Z-X. Gao, D-D. Zhang, C.P. Vio, R. Gu, W-H. Wang.** New York Medical College, Harbin Medical University, People's Republic of China and Pontificia Universidad Católica de Chile, Chile.

A441 **619.8** Activation of G Protein-Coupled Estrogen Receptor Promotes Endothelin-Dependent Natriuresis in Female Rats. **E.Y. Gohar, I.E. Obi, E.M. Daugherty, C. De Miguel, M. Kasztan, J.S. Pollock, D.M. Pollock.** University of Alabama at Birmingham.

A442 **619.9** Deep Proteomic Quantification of Inner Medullary Collecting Duct Protein Phosphorylation: Response to Vasopressin. **V. Deshpande, C-L. Chou, M. Knepper.** National Heart, Lung, and Blood Institute and National Institutes of Health.

A443 **619.10** A Novel Mitochondria-Targeted Hydrogen Sulfide Delivery Molecule Prevents Uraemia and Diabetes-Induced Renal Cell Oxidative Stress. **M. Stevens, M. Payne, E. Innes, R.O. Torregrossa, M. Wood, M.K.O. Stevens, M.O. Whiteman, S.O. Oltean.** University of Exeter, United Kingdom.

A444 **619.11** Low Sodium Intake Causes Kidney Cortical Hypoxia and Proteinuria in Rats. **C. Carvalho, D. Patinha, A. Fasching, M. Friederich-Persson, P. Hansell, F. Palm.** Uppsala University, Sweden and University of Bristol, United Kingdom.

A445 **619.12** Renal Protective Effects of the Flavonoid (-)-Epicatechin in a Chronic Kidney Disease (Nephrectomy 5/6) Model. **O. Montes, I. Ramirez-Sanchez, F. Villarreal, E. Meaney, N. Najera, M. Arellano, G. Ceballos.** Escuela Superior de Medicina, Instituto Politecnico Nacional, Mexico, University of California and San Diego.

620. RENAL ION TRANSPORT, TRANSPORTER REGULATION AND TRAFFICKING

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A446 **620.1** Investigating Hypotheses Through Discovery of Relevant Models of Epithelial Transport. **D. Sarwar, T. Yu, K. Atalag, B. Carlson, J. Gennari, P.J. Hunter, M. Neal, D.P. Nickerson.** University of Auckland, New Zealand, University of Michigan, University of Washington and Center for Infectious Disease Research.

A447 **620.2** Hydrogen Peroxide Increases Intracellular Sodium Concentration in the Medullary Thick Ascending Limb Isolated from *Sprague-Dawley* Rats. **N.N. Zheleznova, A.W. Cowley; Jr.** Medical College of Wisconsin.

A448 **620.3** KCNJ10 (Kir 4.1) Knockout in Dahl SS Rats Determines the Expression of KCNJ10 and KCNJ16 Proteins in Brain and Kidney. **O. Palygin, A. Manis, V. Levchenko, D. Zaika, N. Burgraff, A. Geurts, M. Hodges, A. Staruschenko.** Medical College of Wisconsin.

A449 **620.4** Promoting Ubiquitination-Mediated Degradation of ORAI1 Protein by High Glucose in Glomerular Mesangial Cells. **S. Chaudhari, J. Hui, S. Zou, L. Huang, R. Ma.** University of North Texas Health Science Center.

A450 **620.5** TRPV4 Inhibition Protects Against Hypokalemia During Low K^+ Intake. **V.N. Tomilin, O. Zaika, M. Mamenko, O.M. Pochynyuk.** The University of Texas Health Science Center at Houston, Augusta University and Medical College of Georgia.

A451 **620.6** KIR4.1 Activity Is Essential for Dietary Na^+ Intake Induced Modulation of Na-Cl Cotransporter (NCC). **X-T. Su, P. Wu, Z. Gao, W-H. Wang, D-H. Lin.** New York Medical College.

A452 **620.7** Sodium vs. Potassium: Renal Excretion and Extracellular Fluid Clearance in Saluresis. **D. Golosova, Y. Natochin.** Institute of Evolutionary Physiology and Biochemistry of the Russian Academy of Sciences, Russian Federation.

A453 **620.8** Furosemide Reduces BK-$\alpha\beta$4-Mediated K+ Secretion in Mice on an Alkaline High K Diet. **B. Wang, S. Sansom.** University of Nebraska Medical Center.

A454 **620.9** SPAK (*STK39*) Is Involved in NKCC2 Phosphorylation and Salt-Sensitive Hypertension in Dahl Salt-Sensitive Rats. **J.A. Garcia-Pedraza, P.A. Ortiz.** Henry Ford Hospital.

A455 **620.10** Collecting Duct Principal, but Not Intercalated, Cell (Pro)renin Receptor Modulates Sodium and Water Transport. **N. Ramkumar, D. Stuart, E. Mironova, J. Lakshmipathi, J.D. Stockand, D.E. Kohan.** University of Utah Health and The University of Texas Health Science Center at San Antonio.

A456 **620.11** Intravital Imaging of the Mouse Kidney Reveals Axial Differences in Calcium Signaling Along the Nephron. **J.R.D. Martins, D. Haenni, M. Bugarski, A.M. Hall.** University of Zurich, Switzerland.

A457 **620.12** Regulated Dephosphorylation of NCC Shapes the Renal Potassium Switch Pathway. **P.R. Grimm, D. Li, E. Delpire, P.A. Welling.** University of Maryland School of Medicine, Maryland Kidney Discovery Center and Vanderbilt University Medical Center.

A458 **620.13** Potassium Can Regulate Its Own Excretion in Collecting Duct Cells: Role of mTORC2, SGK1 and ENaC. **B. Saha, P. Wu, C.E. Gleason, W. Wang, D. Pearce.** University of California, San Francisco and State University of New York.

A459 **620.14** The Effects of Alamandine on the NHE3 Exchanger in *in Vivo* Proximal Tubule of Spontaneously Hypertensive Rats. **R.C. Castelo-Branco, R.O. Crajoinas, G. Malnic.** University of São Paulo, Brazil.

A460 **620.15** Impact of Vasopressin on Cell-Autonomous Expression of Membrane Transport Proteins in Rat Distal Nephron. **A. Smorodchenko, K. Mutig, S. Bachmann.** Institute for Vegetative Anatomy, Department of Anatomy and Charité Universitätsmedizin Ber, Germany.

A461 **620.16** Spak Disruption Increases the Glomerular Filtration Rate. **D.E. Yilmaz, T. Saritas, J. McCormick, M. Thomson, S. Bachmann, K. Mutig.** Charité-Universitätsmedizin Berlin, Germany and Oregon Health & Science University.

A462 **620.17** Tubular NHE3 Is a Determinant of the Acute Natriuretic and Chronic Blood Pressure Lowering Effect of the SGLT2 Inhibitor Empagliflozin. **W. Huang, R. Patel, A. Onishi, M. Crespo Masip, M. Soleimani, B. Freeman, V. Vallon.** University of California, San Diego and VA San Diego Healthcare System, University of Lleida, Spain and University of Cincinnati.

A463 **620.18** AT1R-Associated Protein (ATRAP) Inhibits Angiotensin II-Mediated Downregulation of ROMK Channels in Collecting Duct Cells. **J.Z. Polidoro, N.A. Reboucas, A.C.C. Girardi.** Heart Institute, Brazil and Institute of Biomedical Sciences, Brazil.

A464 **620.19** Role of Myosins II and VI in Mediating Hormonal Regulation of NHE3 Activity in the Rat Renal Proximal Tubule. **R.O. Crajoinas, R.C. Castelo-Branco, J.Z. Polidoro, D.L. Ralph, G. Malnic, A.A. McDonough, A.C.C. Girardi.** University of Sao Paulo, Brazil and University of Southern California.

A465 **620.20** cGMP Stimulates K48-Linked Poly-Ubiquitination of NKCC2 in Rats Thick Ascending Limb. **G. Ares.** Henry Ford Health System.

A466 **620.21** Expression of Long Non-Coding RNAs Is Regulated by Aldosterone in Kidney Distal Nephron Epithelia. **M.B. Butterworth, N. Ozbaki Yagan, X. Liu.** University of Pittsburgh.

A467 **620.22** KS-WNK1 Expands the Dynamic Range of NCC Regulation by Dietary Potassium. **C.R. Boyd-Shiwarski, L.J. Nkashama, K.A. Connolly, C-L. Huang, A.R. Subramanya.** University of Pittsburgh and University of Iowa.

A468 **620.23** Chronic High Potassium Diet Decreases Thiazide-Sensitive Sodium Excretion in High Fat-Fed Mice. **J. Nizar, V. Vo, V. Bhalla.** Stanford University.

A469 **620.24** Chronic Potassium Adaptation Decreases Thiazide-Sensitive Sodium Excretion with Preserved Potassium Excretion Independent of NCC Phosphorylation. **J. Nizar, V. Vo, V. Bhalla.** Stanford University.

621. WATER, UREA AND SOLUTE TRANSPORT

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A470 **621.1** Bile Acid Membrane Receptor TGR5 Regulates Renal AQP2 and Improves Lithium-Induced NDI. **S. Li, M. Qiu, Y. Kong, Q. Liu, S. Hu, X. Zhao, M. Han, H. Xie, M. Levi, C. Li, W. Wang.** Sun Yat-sen University, People's Republic of China and Georgetown University.

A471 **621.2** Sorting Nexin 27 Regulates the Lysosomal Degradation of AQP2 Protein in Kidney Collecting Duct. **H-J. Choi, E-J. Park, H-J. Jang, J-I. Cho, H-J. Park, H.J. Jung, T-H. Kwon.** Kyungpook National University, Republic of Korea, National Heart, Lung, and Blood Institute and National Institutes of Health.

A472 **621.3** α-Actinin 4 Knockdown Reduced Vasopressin-Induced Aquaporin-2 Expression in the Kidney Collecting Duct Cells. **C.H. Ho, M-J. Yu.** Biochemistry and Molecular Biology and National Taiwan University College of Medicine, Taiwan.

A473 **621.4** Genetic Deletion of P2Y2 Receptor Suppresses Lithium-Induced Medullary Collecting Duct Remodeling in Mice. **B.K. Kishore, J. Peti-Peterdi, T. Liu, A. Riquier-Brison, N.G. Carlson, Y. Zhang.** University of Utah and VA Medical Center and University of Southern California.

A474 **621.5** SGLT2 Inhibition Decreases Oxygen Consumption and Increases Oxygen Tension in Diabetic Rats. **Z. Liu, E. Hall, P. Singh.** University of California and San Diego and VA San Diego Healthcare System.

A475 **621.6** Dynamic Changes in Sodium Handling in the Distal Nephron During Sympathetic Stimulation in Healthy Males. **J.C.G. Petersen, N-H. Holstein-Rathlou, C.M. Sørensen, L.G. Petersen, T. Jonassen.** University of Copenhagen, Denmark, University of California and San Diego.

A476 **621.7** Quantitative Cellular Anatomy of the Rat Kidney. **T. Reece, M. Knepper.** National Heart, Lung, and Blood Institute and National Institutes of Health.

A477 **621.8** A Sympathetically Mediated α1-Adrenoceptor Dependent Pathway Promotes Renal Sodium Chloride Cotransporter Activity in Age-Related Hypertension. **A.A. Frame, R.D. Wainford.** Boston University School of Medicine.

A478 **621.9** Renal Medullary Oxygenation Decreases in a Dose-Dependent Manner with Graded Lower Body Negative Pressure in Healthy Young Adults. **D-K. Kim, R.C. Drew, C.T. Sica, Q. Yang, A. Miller, J. Cui, L.I. Sinoway.** Pennsylvania State University and University of Massachusetts Boston.

A479 **621.10** Osmotic Diuresis and Impaired Urinary Concentrating Ability in EPAC Knockouts. **A. Cherezova, V. Tomilin, V. Buncha, O. Zaika, F. Mei, X. Cheng, M. Mamenko, O. Pochynyuk.** Augusta University and The University of Texas Health Science Center at Houston.

A480 **621.11** Radiofrequency Renal Denervation Decreases Fibrosis in Kidney Cortex and Medulla in Spontaneously Hypertensive Rats (SHR). **J. Gao, I.B. Denys, L. Del Valle, D.R. Kapusta.** Louisiana State University Health Sciences Center—New Orleans.

622. CELL VOLUME, OSMOREGULATION, AND WATER TRANSPORT

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A481 **622.1** Derivation and Characterization of a California Grunion *(Leuresthes tenuis)* Embryonic Cell Line. **J. Li, J.C. Hamar, K.A. Dickson, D. Kültz.** University of California, Davis, California State University and Fullerton.

A482 **622.2** Effectiveness of Total Water Intake Guidelines in Maintaining Lowered Urine Osmolality. **A. Seal, E. Johnson, F. Pérronet, L. Jansen, L. Summers, J.D. Adams, E. Perrier, I. Guelinckx, S. Kavouras.** University of Arkansas, University of Wyoming, University of Montreal , Canada, Mayo Clinic and Danone Research, France.

A483 **622.3** Urine, Body Mass, and Thirst During Fluid Restriction and Subsequent Rehydration. **C.L. Butts, A.R. Caldwell, M.S. Ganio, B.P. McDermott.** University of Arkansas.

623. PH HOMEOSTASIS AND ACID-BASE TRANSPORT

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A484 **623.1** Vasopressin V1a Receptor of Renal Collecting Duct Intercalated Cells Mediates Urinary Acidification. **T. Giesecke, N. Himmerkus, J. Leipziger, J. Isermann, N. Ayasse, T-A. Koshimizu, K. Kawahara, N. Gimber, J. Schmoranzer, M. Bleich, M. Fähling, A. Smorodchenko, S. Bachmann, K. Mutig.** Charité-Universitätsmedizin Berlin, Germany, Christian-Albrechts-University of Kiel, Germany, Aarhus University, Denmark, Jichi Medical University, Japan and Kitasato University, Japan.

A485 **623.2** Responses to Short-Term Acid Loading in Proximal-Tubule-Select Insulin/Insulin-Like Growth Factor Receptor Dual Knockout Mice. **C.M. Ecelbarger, L. Li, S. Tiwari, M.B. Fluitt.** Georgetown University and Sanjay Gandhi Post-Graduate Institute of Medical Sciences, India.

A486 **623.3** Insulin Receptor-Related Receptor as an Extracellular pH Sensor Regulating Bicarbonate Excretion. **A.G. Petrenko, A. Mozhaev, O. Serova, I. Deyev.** Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Russian Federation.

624. EPITHELIAL TRANSPORT GROUP I

Poster

SUN. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 10:00 AM–12:00 PM

A487 **624.1** Chip Regulates Aquaporin-2 Quality Control and Body Water Homeostasis. **Q. Wu, H.B. Moeller, D.A. Stevens, R. Sanchez-Hodge, G. Childers, M.L.A. Kortenoeven, L. Cheng, L.L. Rosenbaek, C. Rubel, C. Patterson, T. Pisitkun, J.C. Schisler, R.A. Fenton.** Aarhus University, Denmark, University of North Carolina at Chapel Hill and Presbyterian Hospital.

A488 **624.2** Identification of Vasopressin-Responsive Regulators of *AQP2* Gene Transcription. **H.J. Jung, M. Knepper.** National Heart, Lung, and Blood Institute and National Institutes of Health.

A489 **624.3** Aquaporin-3 Deficiency Slows Renal Cyst Growth by Impairment of Glucose Metabolism via AMPK/ERK/mTOR Signaling. **B. Yang, W. Wang.** Peking University, People's Republic of China.

A490 **624.4** Purinergic Receptors Profile in the ARPKD Cystic Epithelia. **O. Palygin, D.V. Ilatovskaya, V. Levchenko, T. Pavlov, A. Staruschenko.** Medical College of Wisconsin and Henry Ford Hospital.

A491 **624.5** Characterization of P2RX7 Knockout in PCK (Polycystic Kidney) Rats. **S.N. Arkhipov, D. Potter, A.M. Geurts, T.S. Pavlov.** Henry Ford Health System and Medical College of Wisconsin.

A492 **624.6** ANK3 Knockout Reduces ENaC Activity and Slows Adaptation to a Na^+ Free Diet. **J.M. Berman, E. Mironova, J. Stockand.** The University of Texas Health Science Center at San Antonio.

A493 **624.7** Regulation of ENaC by Casein Kinase II. **J.M. Berman, E. Mironova, J. Stockand.** The University of Texas Health Science Center at San Antonio.

A494 **624.8** Annexin II Light Chain p11 Interacts with ENaC to Increase Functional Activity at the Membrane. **F.J. McDonald Cowles, T.T. Cheung, N.A. Ismail, R. Moir, N. Arora, S. Condliffe.** University of Otago, New Zealand and University Kebangsaan Malaysia, Malaysia.

A495 **624.9** Targeted Activation of Excitatory hM3Dq DREADD Conditionally Expressed in Principal Cells Decreases ENaC Activity to Promote Na Excretion. **E. Mironova, F. Suliman, J.M. Berman, J. Stockand.** The University of Texas Health Science Center at San Antonio.

A496 **624.10** The β- and γ Epithelial Na^+ Channel (ENaC) Subunits Modulate the Shear Force Activation. **J-P.M. Baldin, M. Fronius.** University of Otago, New Zealand.

A497 **624.11** Subunit Composition Critically Determines pH Sensitivity of Epithelial Sodium Channels in *Xenopus laevis*. **L. Wichmann, S. Gettings, J.S. Dulai, I. Manzini, M. Althaus.** Justus-Liebig-University of Giessen, Germany and Newcastle University, United Kingdom.

A498 **624.12** The Epithelial Na^+ Channel Is Regulated by Biliary Components. **X. Wang, S. Janice Im, E.C. Ray, O.B. Kashlan.** University of Pittsburgh.

A499 **624.13** Diversity of ENaC Expression in Different Tissues and Different Gender. **Y. Zhai, L. Zou, V. Linck, G. Chen, H-P. Ma.** Emory University School of Medicine.

A500 **624.14** Novel Loss-of-Function Variants in the Epithelial Na^+ Channel Extracellular Domain. **S. Sheng, J. Chen, X. Wang, T.R. Kleyman.** University of Pittsburgh.

A501 **624.15** Distinct Effects of Glutathione Disulfide on δ- and α- Epithelial Sodium Channel Subunits. **C. Coca, C. Downs, W. Wu, M. Helms.** University of Utah, University of Arizona, University of California and San Diego.

A502 **624.16** Cleavage of ENaC α and γ Subunits Evolved with the Terrestrial Migration. **O.B. Kashlan, D.M. Balchak, C. Gentilcore, N.L. Clark.** University of Pittsburgh.

A503 **624.17** WNK3 and WNK4 Exhibit Opposite Sensibility for Cell Volume and Intracellular Chloride Concentration. **D. Pacheco-Alvarez, D.L. Carrillo-Pérez, A. Mercado, K. Leyva-Ríos, E. Moreno, N. Vazquez, G. Gamba.** Universidad Panamericana, Mexico, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico, Instituto Nacional de Cardiología Ignacio Chávez, Mexico and Instituto de Investigaciones Biomédicas—UNAM, Mexico.

A504 **624.18** Control of Intracellular Chloride Signaling by IRBIT-Mediated Recruitment of Multiple Kinase and Phosphatase Pathways. **L. Vachel, N. Shcheynikov, O. Yamazaki, M. Fremder, E. Ohana, A. Yamazaki Nakazawa, D.M. Shin, A. Son, C-R. Yang, M. Knepper, S. Muallen.** National Institute of Dental and Craniofacial Research, National Institutes of Health, Keio University, Japan, Ben Gurion University of the Negev, Israel, Ben Gurion University of the Negev, Yonsei University College of Dentistry, Republic of Korea and National Institutes of Health.

A505 **624.19** IL-6 Activates the Mineralocorticoid Receptor via the JAK2/STAT3 Pathway. **H.C. Moyer, A. Krishnamurthy, R. Mallick, R.S. Hoover, B.M. Wynne.** Emory University.

A506 **624.20** Interleukin-6 Activates the Sodium Chloride Cotransporter via the Janus Kinase (JAK)/Signal Transducer and Activator of Signaling (STAT). **B.M. Wynne, H.C. Moyer, G.G. Hecht, A. Krishnamurthy, B. Ko, R.S. Hoover.** Emory University and University of Chicago.

A507 **624.21** Kir5.1 Is Associated with NEDD4-2 and Is Required for High K^+ Intake Induced Inhibition of KIR4.1 and NCC. **D-H. Lin, P. Wu, Z-X. Gao, X-T. Su.** New York Medical College.

A508 **624.22** Role of NHE3 in Renal Calcium Handling. **S.B. Poulsen, J.D. Rieg, T. Rieg, R.A. Fenton.** Aarhus University, Denmark and University of South Florida.

A509 **624.23** The β-Adrenergic Stimulation of the Renal NaCl Cotransporter Is Mediated via a cAMP-Dependent Activation of Protein Phosphatase 1 Inhibitor 1. **D. Penton Ribas, S. Moser, A. Wengi, J. Czogalla, L.L. Rosenbaek, N. Faresse, R. Fenton, D. Loffing-Cueni, J. Loffing.** University of Zurich, Switzerland and Aarhus University, Denmark.

A510 **624.24** P2Y Receptor Regulation of Apical K2P Channels Involved in K Secretion by Human Mammary Epithelial Cells. **Y. Srisomboon, N.A. Zaidman, P.J. Maniak, C. Deachapunya, S.M. O'Grady.** University of Minnesota and Srinakharinwirot University, Thailand.

A511 **624.25** Response of Intercalated Cell BKα Knock-Out Mice to a High K Diet. **E.C. Ray, R. Carrisoza-Gaytan, A.L. Marciszyn, P. Wu, L.C. Liu, A.R. Subramanya, W. Wang, D. Flores, D.E. Kohan, T.R. Kleyman, L.M. Satlin.** University of Pittsburgh, Icahn School of Medicine at Mount Sinai, New York Medical College, McGill University, Canada and University of Utah.

A512 **624.26** Collecting-Duct-Principal-Cell-Select Knockout (KO) of the Mechanistic-Target-of-Rapamycin (mTOR) Alters Sodium and Acid/base Homeostasis. **M.B. Fluitt, A.L. Brown, S. Tiwari, L. Li, C.M. Ecelbarger.** Georgetown University and Sanjay Gandhi Post-Graduate Institute of Medical Sciences, India.

A513 **624.27** Stabilization of Hypoxia Inducible Factor by Cobalt Chloride Can Alter Renal Epithelial Transport. **S. Nag, A. Resnick.** Cleveland State University.

A514 **624.28** Farnesoid X Receptor (FXR) Activation Induces Up-Regulation of Multidrug and Toxin Extrusion Proteins (MATEs) in Human Renal Proximal Tubular Cells. **S. Soodvilai, T. Wongwan, V. Chatsudthipong.** Mahidol University, Thailand.

A515 **624.29** Activation of Farnesoid X Receptor Stimulates OCT2 Function in Human Renal Proximal Tubular Cells. **T. Wongwan, V. Chatsudthipong, S. Soodvilai.** Mahidol University, Thailand.

A516 **624.30** Role of the Occluding Septate Junction Protein Mesh in Epithelial Integrity and Ion Transport in the *Drosophila* Renal Tubules. **S. Jonusaite, A. Rodan.** University of Utah.

A517 **624.31** Transepithelial Na and Urea Transport Pathways in Rat Inner Medullary Thin Limbs of Henle's Loop. **K.K. Evans, A.S.L. Yu, T. Pannabecker.** University of Arizona and University of Kansas.

A518 **624.32** Paracellular Transport in the Mouse Kidney Cortical Collecting Duct Epithelial Monolayers Can Be Monitored by Measuring Transepithelial Resistance. **S. Nag, A. Resnick.** Cleveland State University.

A519 **624.33** Interpretation of Whole-Kidney RNA-Seq Data. **J. Clark, K. Neijman, C-L. Chou, P. Deen, L. Chen, M. Knepper.** National Heart, Lung, and Blood Institute, National Institutes of Health and Radboud University, Netherlands.

A520 **624.34** Sex Differences in Urinary Exosomes from Salt-Sensitive 129sv Mice. **L. Liu, K. Tuna, K. Chacko, V. Sanchez, W. Schramm, H. Ahmed, A. Alli.** University of Florida.

A521 **624.35** Characterization of Urinary Exosomes from Diabetic Hypertensive db/db Mice. **W. Schramm, K. Tuna, K. Chacko, V. Sanchez, H. Ahmed, L. Liu, A. Alli.** University of Florida.

A522 **624.36** Analysis of ZO-1, ARHGEF11 and Actin Cytoskeleton at the Apical Junctional Complex. **A.R. White, G.G. Mudekunye, J.M. King.** Trinity University.

A523 **624.37** Calibration of Intracellular Ion Probes. **P.S. Rana, Y. Lu, V.E. Yurinskaya, A.A. Vereninov, M.A. Model.** Kent State University, Northeast Ohio Medical University and Institute of Cytology, Russian Federation.

625. CONTROL OF BREATHING: RESPIRATORY PLASTICITY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A524 **625.1** Plasiticity in Normoxic Ventilation and Apnea Frequency in Neonatal Rats Exposed to Chronic Hyperoxia. **J.B. Kavanagh, A.E. Pratt, R.M. Lewallen, R.W. Bavis.** Bates College.

A525 **625.2** Does Shipping Late-Gestation Rats Alter Respiratory Control in Their Offspring? **E.S. Benevides, J.B. Kavanagh, J.A. Wallace, R.W. Bavis.** Bates College.

A526 **625.3** Mild Intermittent Hypoxia Significantly Reduces the Critical Closing Pressure and Continuous Positive Airway Pressure. **G.S. Panza, R.M. Alex, L. Ho-Sheng, J.H. Mateika.** Wayne State University and John D. Dingell VA Medical Center.

A527 **625.4** Acute Hypoxia Induces Long-Term Plasticity of the Motor Command for Lung Ventilation in Pre-Metamorphic Tadpole Brainstem Preparations. **T.A. Janes, R. Kinkead.** Université Laval/Institut Universitaire de Cardiologie et de Pneumologie de Québec, Canada.

A528 **625.5** Diaphragm Muscle Function Following Mid-Cervical Contusion Injury in Rats. **O.U.H. Khurram, M.J. Fogarty, S. Rana, P. Vang, G.C. Sieck, C.B. Mantilla.** Mayo Clinic.

A529 **625.6** Serotonergic Immunoreactivity in the Brainstem and Spinal Cord of *mdx* Mice. **L.B. Wollman, M.D. Sunshine, D.P. Burns, K.D. O'Halloran, D.D. Fuller.** University of Florida and University College Cork, Ireland.

A530 **625.7** Offspring of Obese Dams Present Changes in Respiratory and Sympathetic Activities. **M. Karlen-Amarante, D.B. Zoccal, J.V. Menani, E. Colombari, D.S.A. Colombari.** School of Dentistry of Araraquara and São Paulo State University, Brazil.

A531 **625.8** Phrenic Afferent Stimulation Modulates Cardiorespiratory Output in the Adult Rat. **K. Streeter, M. Sunshine, D. Fuller.** University of Florida.

A532 **625.9** Cervical Spinal Cord Injury in a Transgenic Mouse Expressing Fluorophores in Neurons, Microglia, Astrocytes, and Oligodendrocytes. **M.D. Sunshine, K.A. Streeter, J. Gaire, K.J. Otto, D.D. Fuller.** University of Florida.

A533 **625.10** Phrenic Afferent Projections to the Cervical Spinal Cord in Spinal Intact and Spinal Injured Rats. **S. Turner, C. Schuster, A. Fusco, A. Cotto, M. Pignataro, M. Sunshine, D. Fuller.** University of Florida.

A534 **625.11** Long-Term Delivery of *Low Dose* Repetitive Intermittent Hypoxia Is Not Associated with Detectable Pathology. **E.J. Gonzalez-Rothi, L.A. Allen, J. Santiago-Moreno, M.C. Ciesla, Z.A. Asa, K.N. Smith, A. Tadjalli, R. Perim, J.V. Santiago, A.E. Holland, K.A. Stefan, A. Ross, I. Satriotomo, M.N. Kelly, A.K. Simon, A.E. Poirier, Y.B. Seven, J.F. Yarrow, G.S. Mitchell.** University of Florida and Malcolm Randall VA Medical Center.

A535 **625.12** Prenatal Nicotinic Exposure Prolongs the Apneic Response to Activation of Bronchopulmonary C-Fiber 5-HT3 Receptor with Upregulation of C-Neural 5-HT3B Expression in Rat Pups. **L. Zhao, X. Gao, J. Zhuang, Y. Shi, F. Xu.** Lovelace Respiratory Research Institute and Beijing University of Chinese Medicine, People's Republic of China.

A536 **625.13** Neonatal Inflammation Impairs Multiple Pathways to Adult Respiratory Plasticity. **A.D. Hocker, A.G. Huxtable.** University of Oregon.

A537 **625.14** Astrocyte-Specific Deletion of KIR4.1 Increases Normoxic Ventilation After Acclimatization to Chronic Sustained Hypoxia. **E.A. Moya, V.E. Hawkins, G. Yip, D.K. Mulkey, F.L. Powell.** University of California, San Diego and University of Connecticut.

A538 **625.15** Learning to Breathe: Cholinergic Modulation of Plasticity Associated with the Gating of Pulmonary Stretch Receptor Input in the Nucleus of the Solitary Tract. **W.I. Furuya, R. Dhingra, T. Dick, D. Colombari, M. Dutschmann.** Florey Institute of Neuroscience and Mental Health, Australia, Case Western Reserve University and Sao Paulo State University, Brazil.

A539 **625.16** Is Regulation of Microglial Functions by T3 Dependent on the Micro-Environment?: Insights from the Brainstem Respiratory Control Network of Newborn Mice. **J-P. Rousseau, K. Kitazono, Y. Yoshioka, M. Noda, R. Kinkead.** Université Laval, Canada and Kyushu University, Japan.

A540 **625.17** Inflammation Differentially Impacts Phrenic Long-Term Facilitation in Rats with Motor Neuron Death Induced by Intrapleural CTB-Saporin Injections. **N.L. Nichols, M.A. Tanner.** University of Missouri.

A541 **625.18** Gestational Intermittent Hypoxia Induces Neuroinflammation and Impairs Compensatory Respiratory Plasticity in Adult Offspring. **A. Meza, M. Gumnit, A. Ewald, K. Braegelmann, E.A. Kiernan, J.N. Ouellette, S.M. Johnson, J.J. Watters, T. Baker.** University of Wisconsin—Madison.

A542 **625.19** Hypoxia-Induced Pulmonary Hypertension in CX3CR1-Deficient Mice Correlates with Decreased Microglia Activation. **A.C. Oliveira, V. Aquino, R.K. Sharma, G. Lobaton, J.K. Harrison, E.M. Richards, M.K. Raizada.** University of Florida.

A543 **625.20** Maternal Breathing Dysfunction During Pregnancy Alters Microglial Activities and Increases Risk for Psychiatric Disorders in Her Offspring. **M.E. Cahill, A. Vanderplow, E. Kiernan, S. Johnson, T. Baker, J. Watters.** University of Wisconsin—Madison.

626. LUNG PHYSIOLOGY: AIRWAY RESPONSIVENESS AND SMOOTH MUSCLE CELL BIOLOGY

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A544 **626.1** Pro-Inflammatory Cytokine TNFα Induces Endoplasmic Reticulum Stress Through Reactive Oxygen Species Generation in Human Airway Smooth Muscle Cells. **J. Yap, N. Mathieu Marin, O. Javed Baqal, P. Delmotte, Y.S. Prakash, G.C. Sieck.** Mayo Clinic.

A545 **626.2** Activation of Airway Afferent Vagal C-Fibers by Sphingosine-1-Phosphate. **M.J. Patil, S. Meeker, B. Undem.** Johns Hopkins University.

A546 **626.3** Assessing Sex-Specific Effects of Ozone Exposure on Pulmonary Function and Lung Mechanics. **N. Fuentes, M. Nicoleau, N. Cabello, P. Silveyra.** Pennsylvania State University.

627. LUNG PHYSIOLOGY: BIOMECHANICS, SURFACTANT AND GAS EXCHANGE

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A547 **627.1** Transpulmonary Pressure-Dependent Regulation of Air Leaks After Peripheral Lung Injury. **A.B. Servais, C. Valenzuela, A. Ysasi, W. Wagner, A. Kienzle, S. Loring, A. Tsuda, M. Ackermann, S. Mentzer.** Brigham and Women's Hospital and Harvard Medical School, University Medical Center of the Johannes Gutenberg University, Germany, Beth Israel Deaconess Medical Center and Harvard T.H. Chan School of Public Health.

A548 **627.2** A Mathematical Approach for Gas Exchange in the Lungs; Balance Between Ventilation and Perfusion. **A. Pizano, P. Calvachi, F. Girón, J.M. Cordovez.** Universidad de los Andes, Colombia.

A549 **627.3** A New, Noninvasive Method of Measuring Pulmonary Gas Exchange: Results in Normal Subjects and Patients with Lung Disease. **D.L. Wang, K. Prisk, J.B. West.** University of California and San Diego.

A550 **627.4** Effect of Maternal Protein Restriction on the Surfactant System During Early Postnatal Life. **R. Khazaee, L. McCaig, J. Huang, D. Hardy, C. Yamashita, R. Veldhuizen.** University of Western Ontario, Canada.

A551 **627.5** Developing a Novel Therapy for Bacterial Pneumonia. **B. Baer, C. Arsenault, L. McCaig, C. Yamashita, R. Veldhuizen.** University of Western, Canada.

A552 **627.6** Lower Diffusing Capacity of the Lungs for Carbon Monoxide in Women with a Patent Foramen Ovale. **A. Lovering, A. Schallerer, T. Olson, J. Davis.** University of Oregon and Indiana State University.

628. LUNG PHYSIOLOGY: VASCULAR SMOOTH MUSCLE REGULATION

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A553 **628.1** Calcium Oscillations in Human Pulmonary Artery Smooth Muscle Cells: Developing a Hierarchical Clustering Method for Analysis and the Effects of IL-1b. **E.H. Kim, K.G. Griffis, M. Sheppard, S. Alamro, D. Tabari, A. Garfinkel, H.D. Jones.** Cedars-Sinai Medical Center, University of California and Los Angeles.

A554 **628.2** TGFβ Decreases Soluble Guanylate Cyclase Subunit mRNA Expression in Pulmonary Artery Smooth Muscle Cells via MEK/ERK Signaling. **L. Du, J. Roberts.** Massachusetts General Hospital.

A555 **628.3** NADPH Oxidase 2 and Reactive Oxygen Species Mediate Pulmonary Arterial Smooth Muscle Cell Phenotypic Modulation Following Chronic Hypoxia. **L. Weise Cross, M.A. Vigil, N.L. Jernigan, T.C. Resta.** University of New Mexico Health Sciences Center.

A556 **628.4** Differential Ubiquitination of Profilin-1 in Hypoxia-Induced Pulmonary Hypertension. **J. Zhao, B. Wade, J. Ma, C.M. Hart, R. Sutliff.** Emory University.

A557 **628.5** Developmental Differences in the Contribution of PKCβ Signaling to Chronic Hypoxia-Induced Pulmonary Arterial Tone. **S. Yan, J.R. Sheak, N.L. Jernigan, B.R. Walker, T.C. Resta.** University of New Mexico Health Sciences Center.

A558 **628.6** Transient Receptor Potential Melastatin 8 (TRPM8) Induced Relaxation of Pulmonary Artery Is Mediated Through Inhibition of Store-Operated Ca^{2+} Entry in Normoxic and Chronic Hypoxic Rats. **Y-P. Mu, H-X. Jiao, D-C. Lin, S-Y. Zheng, J. Sham, M-J. Lin.** Fujian Medical University, People's Republic of China and Johns Hopkins University School of Medicine.

A559 **628.7** Fast, Transient Relaxation of Rat Pulmonary Artery by Angiotensin II via AT1R-eNOS Signaling Pathways. **H.J. Kim.** Seoul National University, Republic of Korea.

629. INNOVATIONS IN PHYSIOLOGY EDUCATION I

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

Posters are on display Sunday and Monday.

T1 **629.1** Increasing Community College Stem Student Success and Persistence Through Engaged Communities of Support. **J. McFarland, D. Leoni, M.T. Fleming, N. Goodman.** Edmonds Community College.

T2 **629.2** Implementation of a Place-Based, Interdisciplinary, and Research-Oriented Teaching Model to Increase Retention in Stem. **M. Frederich, U. Roese, L. Bymers, S. Zeeman.** University of New England.

T3 **629.3** Teaching New Words in New Ways: Phun Week Outcomes in Elementary Students. **C.M. Dickens, A.R. Crecelius.** University of Dayton.

T4 **629.4** Phun in the Snow: 3rd Graders Learn About Exercise Physiology. **P.A. Halpin.** University of New Hampshire at Manchester.

T5 **629.5** Middle School Females Have More Efficient Multitasking Abilities Than Males. **J. Rascon, F.J. Pena, J.A. Ramirez, M. Pena, E. Trujillo, G. Melendez, C. Lazcano, F.J. Morales Acuna, B. Gurovich, C. Valencia, A.N. Gurovich.** The University of Texas at El Paso and Dr. Hornedo Middle School.

T6 **629.6** Emg Comparison Between Sixth Grade Students. **J. Rascon, F.J. Pena, J.A. Ramirez, M. Pena, E. Trujillo, G. Melendez, C. Lazcano, F.J. Morales Acuna, B. Gurovich, C. Valencia, A.N. Gurovich.** The University of Texas at El Paso and Dr. Hornedo Middle School.

T7 **629.7** Introducing Physiology of Diabetes to Middle School and High School Students. **J.L. Zuercher, C. Gopalan.** Southern Illinois University Edwardsville.

T8 **629.8** Innovations in High School Physiology: The Arduino Heart Rate L.E.D Monitor. **S. Anjur.** Illinois Mathematics and Science Academy.

T9 **629.9** Phun Week 101: New Institution, New Partners, New Hope. **A.N. Gurovich, J. Rascon, F.J. Morales Acuna, C. Shelton.** The University of Texas at El Paso and Dr. Hornedo Middle School.

T10 **629.10** Collaborative Phun Week Program Engages Elementary School Children in Physiology Learning and Jumpstarts Year-Long Physiology Curriculum. **R. Altman, K. Whited.** California State University, Sacramento and Sacramento Country Day School.

T11 **629.11** Building a Pedigree: Utilization of Patient Encounters to Strengthen Genetics Foundation. **K.A. Morrow, R.F. Carter.** Alabama College of Osteopathic Medicine.

T12 **629.12** Experiential Learning: Integrating Simulation in Teaching Undergraduate Medical Physiology. **G.L. Brower, T.A. Pressley, V.H. Lee.** Texas Tech University Health Sciences Center.

T13 **629.13** Current State of Physiology Undergraduate Degree Programs and Curricula: Survey Results from the Physiology Majors Interest Group Inaugural Meeting. **C. Stanescu, V. VanRyn, J. Rogers, J. Osborn, E. Wehrwein.** University of Arizona, Michigan State University, University of Iowa and University of Kentucky.

T14 **629.14** *It's Complex:* Student Preconceptions About the Difficulty of Physiology Courses. **K.L.W. Walton.** Missouri Western State University.

T15 **629.15** Participation in a High Fidelity Patient Simulation Prevents Knowledge Loss After One Week in Undergraduate Students. **D. Harris, L. Fragapane, Z. Cheng.** University of Central Florida.

T16 **629.16** Multi-Facet Application of High Impact Practice—Personal, School, and Community. **T.R. Chakraborty.** Adelphi University.

T17 **629.17** The Formula 1 Heart of the Etruscan Shrew *Suncus etruscus*: Using the Extreme to Exemplify Basic Principals in Cardiovascular Physiology. **M.B. Harris, P.H. Flores, R. Francis.** California State University, Long Beach and University College London, United Kingdom.

T18 **629.18** The Fickle Cheerleader Hysteresis: Explaining Haemoglobin-Oxygen Equilibrium Through Non-Traditional Case-Based Instruction in Physiology. **M.B. Harris.** California State University and Long Beach.

T19 **629.19** A *Drosophila* Based Teaching Laboratory Used to Investigate Potential Obesogens. **M.A.F. Daggett.** Missouri Western State University.

T20 **629.20** Development and Implementation of a Classroom-Based Authentic Research Experience, Physiological Models for Human Disease. **C.L. McGinnis.** Quinnipiac University.

T21 **629.21** You Had Me at CRISPR: Exploring Gene Knockout Techniques in an Undergraduate Laboratory Course. **M. Poch, J. Sarathy.** Benedictine University.

T22 **629.22** Modelling Record Keeping in an Undergraduate Physiology and Pharmacology Lab. **A. Beye, T. Stavraky, A. Woods.** Western University, Canada.

T23 **629.23** Impact of Student's Prior Experience on the Design of Virtual Labs for Biomedical Courses. **R.A. Pena Silva, J.O. Mantilla Rivas, D.F. Santamaria Rodriguez, S.M. Gomez Montero, V. Akle.** Universidad de los Andes, Colombia.

630. INNOVATIONS IN PHYSIOLOGY EDUCATION II

Poster

Sun. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

See Session 773.

Posters presented Monday.

MONDAY, APRIL 23

Anatomy

631. ANATOMY EDUCATION: OUTREACH

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E1 **631.1** The Effect of a Limbic System and Emotions Educational Program on Elementary and Middle School Learning. **S. Bhatnagar, S. Phan, B. Puder.** Touro University—California.

E2 **631.2** Neuroscience Drug and Alcohol Education Has Impact on Students. **R. Yim, S. Esperanza, B. Puder.** Touro University.

E3 **631.3** Concussion Prevention Education for Maintenance of a Healthy Brain. **N. Nguyen, R. Guiterrez, B. Puder.** Touro University.

E4 **631.4** Human Cadaver Observational Anatomy Outreach Activity for Twu Undergraduates. **M. Gonzalez Sola, M.G. Rosario.** Texas Woman's University.

E5 **631.5** Using Brains to Inspire Minds: A Unique Outreach Collaboration with the Boston Museum of Science. **K.J. Babcock, E. Kong, A.C. Zumwalt.** Boston University School of Medicine, Museum of Science and Boston.

E6 **631.6** The Public's Knowledge of Anatomy as a Primer for Medical Education. **A.M. Taylor, P. Diggle, Q. Wessels.** Lancaster University, United Kingdom and University of Namibia, Namibia.

E7 **631.7** Utilizing Social Networking Sites and Educational Videos in Public Outreach and the Classroom. **A. Pena, K.M. Brown, K.M. Deveau.** The George Washington University.

E8 **631.8** Building Bridges in Anatomical Sciences and Medical Education: Brazil and Us, One Step Closer. **D.F. Curcio, J.T. Laitman.** Icahn School of Medicine at Mount Sinai.

E9 **631.9** Internationalization of Medical Education: Collaborations Initiated Through the American Association of Anatomists (AAA) and the Anatomical Society (AS) Meetings Lead to Successful International Educational Partnerships. **A. Wu, H. Kielstein, T. Sakurai, G. Noel, S. Viranta-Kovanen, T-K. Li, L. Kuikka, K. Roth, P. Bernd.** Columbia University, Martin Luther University Halle-Wittenberg, Germany, Kyoto University Graduate School of Medicine, Japan, McGill University, Canada, University of Helsinki, Finland and National Taiwan University College of Medicine, Taiwan.

632. ANATOMY EDUCATION: PRESERVATION TECHNIQUES AND BODY DONATION

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E10 **632.1** An Ethically Sustainable Model for Anatomic Gifting at a Non-Medical School. **J.M. Cope, C.C. Bennett, G. Balilionis, D.M. Person.** Elon University.

E11 **632.2** Who Donates the Body to Science? The Profile of the Donor in Southern Brazil. **A.O. da Rocha, J.L. Maues, M.B. Macedo, G.D.G.R. Thomaz, C.S.M. Okabayashi, J.M.A. Picanço, M.P.O. de Moraes.** Federal University of Health Sciences of Porto Alegre, Brazil.

E12 **632.3** Why Do People Donate Their Bodies to Science? **A.O. da Rocha, G.D.G.R. Thomaz, C.S.M. Okabayashi, J.M.A. Picanço, J.L. Maues, M.B. Macedo.** Federal University of Health Sciences of Porto Alegre, Brazil.

E13 **632.4** A Statistical and Social Study of the Cadaveric Population of the Estácio de Sá University, João Uchoa Campus, in the State of Rio de Janeiro: A Correlation with International Databases. **M.S.D.B. Junior, B.A.B. Fonseca, R.C.D.F.E.S. Cordeiro, L.L. de Almeida, L.L. Ferreira, T.D.H.D.S. Sirqueira.** Universidade Estácio de Sá—João Uchôa, Brazil.

E14 **632.5** Meeting the Medical Students: Transformation and Closure for Donor Families. **M.B. Moon, D.L. O'Donoghue, N. Halliday.** University of Oklahoma

E15 **632.6** Quantitative and Qualitative Comparison of Thiel and Phenol-Based Soft-Embalmed Skin for Surgical Training. **G. Venne, L. Welte, G. Noel.** McGill University , Canada and Queen's University, Canada.

E16 **632.7** Trends in Cadavers Preservation in Brazilian Medical and Biomedical Schools. **T.S. Masuko, P.L.F. DeMoura, M.F. DosSantos, D. Uziel.** Universidade Federal da Bahia, Brazil and Universidade Federal do Rio de Janeiro, Brazil.

E17 **632.8** A Minimalistic Technique for Neural Tissue Preservation and Neuroanatomical Education: A Quantitative Study of the Elnady Technique on Human Specimens. **S.J. Reihl, R. Rodriguez Rubio, D. Harmon.** University of California, San Francisco.

E18 **632.9** A Novel Contrast Media Whole Cadaver Perfusion Protocol. **B. Wainman, S. Echols, J. Rockarts, A. Palombella.** McMaster University, Canada, Scarlet Imaging and LLC.

E19 **632.10** Development of an Experimental Model for the Study of Nasosinusal and Skull Base Arterial System Using Iodinated Contrast and Latex in Specimens's Vessels. **M.D. Barros, L.M. Burchianti, R.D.L.L. Dolci, C.J.L. Mendes, H.B. Zuppani, L.A. Mendes, L.C. Santos, P.R. Lazarini.** Santa Casa de São Paulo School of Medical Sciences, Brazil.

E20 **632.11** Polyester Resin Based Corrosion Casting: Experimental Mechanical Characterization of Rigid and Flexible Polymers for Anatomical Purposes. **R.J. Rueda-Esteban, J.S. Lopez-McCormick, J.G. Vargas, D. Bigio, J.C. Briceño.** Universidad de los Andes, Colombia.

633. ANATOMY EDUCATION: LAB TEACHING STRATEGIES

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E21 **633.1** "An Ethical Dilemma?: How Anatomy Education Impacts Healthcare Students' Ethics". **G.C. Stephens, S. Paynter, C. Rees, M. Lazarus.** Monash University , Australia.

E22 **633.2** Design of a Multi-Use New Anatomy Facility: Prioritizing Medical Student Education in a Patient-Based Learning Curriculum. **L.E. Johnson, K.A. Aldridge, C.M. Holliday, K.M. Middleton, R.J. Sherwood, C.V. Ward.** University of Missouri.

E23 **633.3** Incorporation of Student Peer-Teaching in a 1st Semester Medical Gross Anatomy Course. **K.E. Rarey, V. Nonabur, A. Maxey, A. Wright, M. Hagen.** University of Florida.

E24 **633.4** Analyzing the Knowing-Doing Gap of Pedagogy Implementation by Near-Peer Pre-Professional Anatomy Lab Teachers. **L.E. Malmgren, D.T. Smith, C.C. Read, S.E. Nguyen, D.D. Arrington, T.A. Brennan, J.A. Sullivan, D.D. Dawson, D.C. Day, C.A. Foulk, E.M. Gamble, P.R. Jenkins, E.J. Myers, A. Nielson, R.O. Stout, H.A. Tenney, A. Wayment, J.J. Wisco.** Brigham Young University.

E25 **633.5** Expert—Exercise for Peer Led Review and Teaching. **M.A. Pizzimenti.** University of Iowa Carver College of Medicine.

E26 **633.6** Anatomy Laboratory Learning Correlations: Contact Hours and Recitations with Course Completion and Increased Grades. **N.R. Olivieri, A. Oh, L.A. Georger, J.D. Holz, Y.E.T. Shimanovich, M.I. Hurley, F. Stephen, M.P. Olivieri.** University at Buffalo, State University of New York and D'Youville College.

E27 **633.7** Andragogical Integration of Wet and Dry Simulation in the Modern Anatomy Lab. **W. Chen, B.L. Benninger.** Medical Anatomy Center and Western University of Health Sciences COMP—Northwest.

E28 **633.8** Developing a Dissection-Based Human Anatomy Laboratory Manual to Target Course and Laboratory Learning Objectives at the University of Guelph. **K.M. Marrelli, V.N. Forster, J. Valencia, E. Danielli, N. Robson, L.C. Jadeski.** University of Guelph, Canada.

E29 **633.9** The Best of Two Worlds: Combined Prosection and Dissection in a Clinical-Anatomy Enhanced Medical Anatomy Lab. **N.S. Viscomi, C-S. Li, D. Sarko, A. Huang, R.W. Clough.** Southern Illinois University School of Medicine Carbondale.

E30 **633.10** Implementing a Dissection-Based Human Anatomy Laboratory Manual: An Assessment of Students' Use, Perceived Usefulness, and Resulting Laboratory Preparedness. **V.N. Forster, K.M. Marrelli, L.C. Jadeski.** University of Guelph, Canada.

E31 **633.11** The Effectiveness of a First Patient Discoveries Project in Promoting Observational Medicine and Diagnostic Decision-Making. **K. Jennings, C. Nichols, A. Hryniuk, A. Edmondson.** Medical College of Georgia at Augusta University.

E32 **633.12** A Rapid Histology Station in the Gross Laboratory Can Assist Students in Understanding the Value of Microanatomy. **G. Rae.** Louisiana State University Health Sciences Center.

E33 **633.13** Creation of Anatomy R & R Boot Camps. **K.E. Rarey, V. Nonabur, A. Maxey, A. Wright, M. Hagen.** University of Florida.

634. ANATOMY EDUCATION: LEARNING MODULES

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00–14:00

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E34 **634.1** When Traditional Teaching Leaves Your Head Spinning: A New Interactive Online Learning Module on the Vestibular System. **A. Rheaume, M. Leong, T. Inglis, C. Krebs.** University of British Columbia, Canada.

E35 **634.2** Dissection-Based Audiovisual Modules to Supplement Laboratory-Based Human Anatomy Education. **W. Albabish, G.S. Newton, L. Jadeski.** University of Guelph, Canada.

E36 **634.3** Self-Directed Learning Modules Enhance Mastery of Diagnostic Imaging in a Dissection-Based Anatomy Course for Physician Assistant Students. **G. Zhang, B.A. Fenderson, X. Zuo.** Thomas Jefferson University and Columbia University.

E37 **634.4** One Does Not Simply Integrate: Assessing Integrated vs. "Silo-ed" Anatomical Sciences Presentation in Online Learning Module. **C.A. Buenting, J. Corral, T. Buenting, L.M.J. Lee.** University of Colorado Anschutz Medical Campus and Cobham Life Systems.

E38 **634.5** Using Digital Multimedia to Enhance the Learning of Gross Anatomy and Integrating with Clinical Science. **M. Doroudi, K. Johnson, R. Shuckett, M. Fejtek.** University of British Columbia, Canada.

635. ANATOMY EDUCATION: TECHNOLOGY-ASSISTED LEARNING

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E39 **635.1** Virtual Reality to Teach Human Anatomy—an Interactive Live Demonstration. **W. Albabish, L. Jadeski.** University of Guelph, Canada.

E40 **635.2** Virtual Dissection Adds Educational Value to a Traditional Medical Undergraduate Cadaveric Anatomy Course. **K. Darras, R. Spouge, A. Arnold, A. de Bruin, S. Nicolaou, C. Krebs, C. Krebs, R. Hatala, B. Forster.** University of British Columbia, Canada and Maastricht University, Netherlands.

E41 **635.3** Can Virtual Dissection Be Effectively Performed Remotely? Pilot Study from a Second-Year Neuroanatomy Laboratory at a Large Distributed Medical School. **K. Darras, R. Spouge, A. de Bruin, C. Krebs, S. Nicolaou, B. Forster.** University of British Columbia, Canada and Maastricht University, Canada.

E42 **635.4** Using Augmented Reality Glasses in Central Venous Line Placement Simulations. **J. Thomas, C.Y. Huang, A. Alismail, A. Cohen, W. Almutairi, N. Daher, M. Terry, L. Tan.** La Sierra University, Loma Linda University and Loma Linda University School of Allied Health Professions.

E43 **635.5** Immersive Technologies to Augment Anatomy Education. **E.R. Malone, M. Pine, J.H. Seo, B. Smith, M. Brunner, M. Cook, S. Leal, Z. Bai.** Texas A&M University.

E44 **635.6** Cadaver vs. Microsoft Hololens: A Comparison of Educational Outcomes of a Breast Anatomy Module. **V. Yong, P. Sridharan, S. Ahmad Ali, G. Tingle, R. Enterline, L. Ulrey, L. Tan, H. Eastman, R. Gotschall, E. Henninger, M. Griswold, S. Wish-Baratz.** Case Western Reserve University School of Medicine and Case Western Reserve University.

E45 **635.7** X-Reality and the Microsoft Hololens: A Hollow Tool for Anatomical Education. **L.K. Wolak, G.A. Pukas, J. Mitchell, J. Lamb, M. Romaniuk, G. Norman, S. Monteiro, B. Wainman.** McMaster University, Canada.

E46 **635.8** X-Reality and the Htc Vive: Virtually No Match for the Physical Model in Anatomical Education. **G. Pukas, L. Wolak, S. Mohanraj, J. Lamb, G. Norman, B. Wainman.** McMaster University, Canada.

E47 **635.9** Augmented Reality Presentation of Anatomical Variations. **T. Hong, K. Tamura, J. Thompson, B. Lozanoff, S. Labrash, T. Matsui, J. King, S. Lozanoff.** Department of Anatomy, Biochemistry and Physiology, University of Hawaii School of Medicine, Department of Kinesiology and Rehabilitation Sciences, University of Hawaii, Department of Pediatrics and University of Hawaii School of Medicine.

E48 **635.10** A Virtual Learning Modality for Neuroanatomical Education. **N. Heise, H.A. Hall, B.A. Garbe, C.M. Eitel, T.R. Clapp.** Colorado State University.

E49 **635.11** If a Picture Is Worth a Thousand Words, Is a 3D Picture Worth Two Thousand Words? Assessing Educational Value of 2D vs. 3D Figures in Embryology Education. **A.N. Duenas, L.M.J. Lee.** University of Colorado Anschutz Medical Campus.

E50 **635.12** Anatomy E-Learning and Virtual Dissection as Aids to Achieving Learning Outcomes in a Self-Directed-Learning Focused Graduate Entry Medical School in Ireland. **K.W. McDermott, J.M. Allardyce, M.M. Goggin.** University of Limerick, Ireland.

E51 **635.13** Ask an Anatomist: Identifying Global Trends, Topics and Themes of Academic Anatomists Using Twitter. **M. Lazarus, M. Marsland.** Monash University, Australia.

E52 **635.14** An Impact of Images on Multiple-Choice Questions in Anatomy Examination Score in Nursing Students. **R. Narnaware.** MacEwan University, Canada.

E53 **635.15** Innovation for Computerized Anatomy Educational Tools. **V. Nyamse.** Glasgow Caledonian University, United Kingdom.

E54 **635.16** Development of an Inexpensive, Recordable, DIY Digital Ultrasound-Coupled Stethoscope for Medical Education. **D. Resuehr, J.B. Barger.** UAB School of Medicine and University of Alabama at Birmingham.

E55 **635.17** Virtual 3D Brain Slices: Improving Learning of Cross-Sectional Neuroanatomy by Expanding Access to Human Brain Cross-Sections Through Photogrammetric 3D Scanning. **R.W. Sikes, C.M. Sniezek, B.T. Clancey, C.J. Johnson.** Northeastern University.

E56 **635.18** Use of Expert Opinions as a Guide to Develop a Tool to Assess a Virtual 3D Pelvis Model for Medical Training. **E.R. Meyer, A.M. James, E. Dehon, C.R. Pound, S. Warren, D. Cui.** The University of Mississippi Medical Center.

E57 **635.19** The Construction of an Instrument for Evaluating the Accuracy and Utility of Virtual 3D Middle and Inner Ear Models in Students' Short- and Long-Term Retention. **E.R. Meyer, E. Dehon, A. Notebaert, T.L. Eby, D. Cui.** The University of Mississippi Medical Center.

E58 **635.20** Netlab: A Platform for Crowdsourcing Virtual Microscopy Knowledge. **M.D. Doyle, K.R. Harrod.** Buonacorsi Foundation.

E59 **635.21** "I Have a Tear Down There?": Implementing a Three-Dimensional Anatomical Education Tool Into Post-Partum Perineal Laceration Care. **H. Koury, J. Corral, K.J. Hurt, T.M. Muffly.** University of Colorado Anschutz Medical Campus and Denver Health Hospital and Authority

E60 **635.22** Using Three-Dimensional Cranial Scans to Teach Anatomical Variation. **M.R. Ganoe, H.L. Lynch, A.W. Koons, H.W. Lambert, M.J. Zdilla.** West Liberty University and West Virginia School of Medicine.

E61 **635.23** Positive Impact of an Interactive 3D Neuroanatomy E-Learning Resource on Students' Spatial Neuroanatomical Knowledge. **L. Allen, T. Wright, R. Eagleson, S. de Ribaupierre.** Western University, Canada.

E62 **635.24** The Use of a 3 Dimensional Anatomy Application to Enhance Engagement and Satisfaction of Graduate Students Enrolled in Anatomy Courses in a Physical and Occupational Therapy Program. **K.A. Leyva, A. Burke-Doe.** University of St. Augustine for Health Sciences and West Coast University.

E63 **635.25** Social Media for Education: A Histology Quiz Tool with Global Reach. **N. Swailes.** University of Iowa.

E64 **635.26** How Students Choose E-Learning Resources—The Importance of Convenience and Familiarity. **M. Hortsch.** University of Michigan.

E65 **635.27** A Visual Guide to Foregut Anatomy: Using Digital Multimedia to Enhance the Learning of Human Gross Anatomy. **F. Hosseini, V. Oberoi, M. Doroudi, L. Vo.** University of British Columbia, Canada.

E66 **635.28** Visualizing Temporal Relationships of Body Cavity Partitioning with an Interactive Timeline. **N. Yoshioka, J. Daugherty, L. Lebowicz, A. Doubleday, D. Cotanche.** University of Illinois at Chicago.

E67 **635.29** Evaluating Three-Dimensional (3D) Digital Models of Anatomical Variations as Assessment Tools for Undergraduate and Graduate Anatomy Education. **C.W. Moore, T.D. Wilson, C.L. Rice.** University of Western Ontario, Canada.

E68 **635.30** Combination of a Variety of Technological Tools in the Anatomy Classroom. **V. Stashenko, C. Walker.** Palm Beach State College.

E69 **635.31** Surface Models and Gradually Peeled Volume Model to Explore the Hand Muscles. **B.S. Chung, M.S. Chung.** Ajou University School of Medicine, Republic of Korea.

E70 **635.32** Obesity, It's More Than Appearance: An Innovative Use of Anatomical Dissections to Teach About Obesity and Nutrition. **B.J. Thompson, V. Uhley.** Lincoln Memorial University DeBusk College of Osteopathic Medicine and Oakland University William Beaumont School of Medicine.

E71 **635.33** Implementation of a Claymation Video to Explain Heart Septation. **K. Van Winkle, J. Krimsier, C. Elzie.** EVMS.

E72 **635.34** Anatomy in a New Curriculum: Using Digital Media to Facilitate the Learning of Anatomy in the Medical Curriculum. **V. Oberoi, F. Hosseini, M. Doroudi, L. Vo.** University of British Columbia, Canada.

E73 **635.35** Near-Peer Created Videos: A Valuable Tool in Focusing Student Learning in the Gross Anatomy Laboratory. **C. Brutocao, M. Ireson, A. Sahoo, D. Soukup, S. Warring, N. Lachman, W. Pawlina.** Mayo Clinic

E74 **635.36** Efficacy of Gross Anatomy Cadaver Online Video Learning Modules in First-Year Physical Therapy Students. **M. Poletti, J. Rihm, C. Egan, L. Day.** Northeastern University.

E75 **635.37** Pelvic Anatomy Dissection Video for Women's Health Physical Therapists. **M.A. Carroll, J. Luciani, E.A. Clements, K. Snowden.** DeSales University and Lehigh Valley Health Network.

E76 **635.38** Monkey-See, Monkey-Do: An Eye-Tracking Study Assessing the Efficacy of Feed-Forward Training in Histology Visual Literacy Development. **H. Koury, C.J. Leonard, P.M. Carry, L.M.J. Lee.** University of Colorado Anschutz Medical Campus, University of Colorado Denver and Children's Hospital Colorado.

636. ANATOMY EDUCATION: RADIOLOGY

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E77 **636.1** Osteology and Radiology of the Back and Upper Extremity: An Integrated Exercise for a Large Medical School Class. **A.J. Winkler, B. Botterman, J. Prange-Kiel, J. Champine, D. Moore.** The University of Texas Southwestern Medical Center.

E78 **636.2** Impact of a Radiological Anatomy-Based Intervention on Students in a Medical Gross Anatomy Course. **R.J. Larsen, D.L. Engle.** Duke University School of Medicine.

E79 **636.3** Cadaveric Versus Radiology Anatomy: Do We Have the Right Balance to Prepare Medical Students to Be Physicians? **K. Darras, J. Lee, A. de Bruin, S. Nicolaou, B.E. Forster.** University of British Columbia, Canada and Maastricht University, Netherlands.

E80 **636.4** An Overview of the First Year Undergraduate Medical Students Feedback on the Point of Care Ultrasound Curriculum. **V. Mohialdin, B. Wainman, A. Shali.** McMaster University, Canada.

E81 **636.5** Incorporation of Clinically-Based Ultrasound Workshops in a 1st Year Medical Anatomy Course. **R. Nydam, A. Patel, C. Finch.** Arizona College of Osteopathic Medicine and Midwestern University.

E82 **636.6** Personal Handheld Ultrasound Devices in the Hands of First Year Medical Students. **S. Warring, M. Ireson, M. O'Malley, W. Pawlina, N. Lachman, A. Bhagra.** Mayo Clinic.

E83 **636.7** Using Real-Time Ultrasound Imaging to Enhance Students' Learning of Anatomical Knowledge in Physical Therapy Education. **L. Day, A. Markowski, M. Watkins.** Northeastern University.

637. ANATOMY EDUCATION: SPATIAL ABILITIES

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E84 **637.1** Student Perception and Preference in Learning of Sensorimotor Tracts in Neuroanatomy: Evidence for Gender Differences. **V. Akle, J.A. Gutierrez-Herrera, F.M. Vela-Salazar, M.A. Blanco-Alvarado, R.A. Pena-Silva.** Universidad de los Andes, Colombia.

E85 **637.2** Neural Basis of Spatial Ability and Anatomical Concepts: An fMRI Pilot Study. **T.C. Smith, V. O'Loughlin, S. Newman.** Indiana University School of Medicine—Bloomington and Indiana University Bloomington.

E86 **637.3** Effect of Interventions on Spatial Abilities in Anatomy Education: A Systematic Review and Meta-Analysis. **J. Langlois, C. Bellemare, J. Toulouse, G.A. Wells.** CIUSSS de l'Estrie—CHUS, Canada, Université de Sherbrooke, Canada and University of Ottawa, Canada.

E87 **637.4** Spatial Abilities and Effect of Working Memory on Pictures of Objects Recognized from Haptic Perception. **J. Langlois, Y. Dagenais, M. Martin, R. Lemieux, M. Lecourtois, J. Bernick, C. Bellemare, E. Yetisir, G. Bergeron, S.J. Hamstra, G.A. Wells.** CIUSSS de l'Estrie—CHUS, Canada, Université de Sherbrooke, Canada and University of Ottawa, Canada.

E88 **637.5** Analysis of Student Growth in Both Spatial Ability and Study Skills in Gross Anatomy. **D.C. Peterson, R. Hamel, C. Carriker.** High Point University.

638. BONES, CARTILAGE & TEETH

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E89 **638.1** The Influence of Specific Growth Factors on the Jaw Development in Anodontia Patients—Porcine Model. **J. Wolinski, P. Wychowański, M. Słupecka-Ziemilska, K. Goncharova, S.G. Pierzynowski, A. Wojtowicz.** The Kielanowski Institute of Animal Physiology and Nutrition, Polish Academy of Sciences, Poland, Medical University of Warsaw, Poland and Lund University, Sweden.

E90 **638.2** Histological Changes of Fetal Lower Limb Musculoskeletal Layout After Clearing with Dawson´s Technique. **A.F. Gomez-Samper, M.A. Latiff-Maldonado, D.M. Heidebroek-Soto, J.D. Peña-Grunwaldt, R.J. Rueda-Esteban.** Universidad de los Andes , Colombia.

E91 **638.3** PDGFRA Regulates Chondrocytes Progenitor Formation During Embryo Development. **G. Bartolletti, W. Xiong, F. He.** Tulane University.

E92 **638.4** Ephb Kinases Expressed in Osteoblastic Stem Cell Niches Regulate Bone Growth. **R.A.D. Kamath, M.D. Benson.** Texas A&M College of Dentistry.

639. BONES, CARTILAGE & TEETH: CRANIOFACIAL

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E93 **639.1** Trabecular Bone Morphology in Hunter/Gatherer and Agricultural Populations. **J.E. Palmer, H. Chirchir.** Marshall University.

E94 **639.2** Longitudinal Changes in Facial and Basicranial Integration in the Mediolateral Axis. **S.F. Miller, A. Welling, N.E. Holton.** Midwestern University and University of Iowa.

E95 **639.3** Distribution of Bony Groove for the Greater and Lesser Palatine Vessels in Maxilla. **Y. Miwa, R. Asaumi, T. Kawai, I. Sato.** Nippon Dental University, Japan.

E96 **639.4** The Relationship Between the Marginal Tubercle and the Sphenozygomatic Suture: Implications for Neurosurgery. **J.P. Pancake, M.L. Russell, M.J. Zdilla.** West Liberty University.

E97 **639.5** The Infraorbital Foramen Is Located Between Nasospinale and Jugale. **M.L. Russell, A.W. Koons, K.N. Bliss, K.R. Mangus, M.J. Zdilla.** West Liberty University.

E98 **639.6** How Much Do You Change? An Evaluation of the Anatomical Consequences of Maxillomandibular Advancement Surgery. **C. Ong Ly, B.D. Rubin, A.D. Tassi, T.D. Wilson.** University of Western Ontario, Canada.

E99 **639.7** Sexual Differences in Costal Cartilage Size: Implications for Facial Reconstruction. **R.C. Andrews, T.J. Celuck, P. Pacurari, H.L. Lynch, M.R. Ganoe, A.N. Bender-Heine, M.J. Zdilla, H.W. Lambert.** West Virginia University and West Liberty University.

E100 **639.8** The Contour of the Mandibular Fossa in the Sagittal Plane. **N.J. Teaff, A.W. Koons, H.L. Lynch, M.R. Ganoe, H.W. Lambert, M.J. Zdilla.** West Liberty University and West Virginia School of Medicine.

E101 **639.9** Unknown Foramen in the Middle Cranial Fossa. **J.A. Bonatto-Costa, A.J.D.M. Coutinho, C.E. Araújo, A.A. Busatto, J.O. Renner, A.O. Da Rocha, D. De Campos, L.P. de Oliveira Júnior.** Universidade Federal de Ciências da Saúde de Porto Alegre, Brazil, Universidade de Santa Cruz do Sul, Brazil and Universidade do Vale do Rio dos Sinos, Brazil.

E102 **639.10** Climatic Adaptation in Human Inferior Nasal Turbinate Morphology: A Preliminary Investigation in Arctic and Equatorial Populations. **T.N. Marks, L.N. Butaric, S.D. Maddux, R.G. Franciscus.** University of Iowa, Des Moines University and University of North Texas Health Science Center.

E103 **639.11** Identifying the Location of the Foramen Ovale via the Articular Eminences, Molars, and Occipital Condyles. **M.R. Daubenspeck, M.J. Zdilla.** West Liberty University.

E104 **639.12** Three-Dimensional Infraorbital Foramen Location Relative to Facial Landmarks: Preliminary Results. **L.E. Hartnell, A.W. Koons, H.L. Lynch, M.R. Ganoe, H.W. Lambert, M.J. Zdilla.** West Liberty University and West Virginia School of Medicine.

E105 **639.13** The Relationship of the Articular Eminence with the Mandibular Fossa: Implications for Temporomandibular Joint Mechanics. **S.E. Bodnar, M.J. Zdilla.** West Liberty University.

E106 **639.14** Long-Period Biorhythm Variation in Enamel Microstructure of Pre-Columbian South Americans. **R. Hogg, T. Bromage.** Florida Gulf Coast University and New York University College of Dentistry.

640. BONES, CARTILAGE & TEETH: BONE DISEASE AND REPAIR

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E107 **640.1** A New Link Between Arthritis and Alzheimer's Disease? M**. Squire, M.F. Alkhouli, M. Anderson, M. Castro, L. Al-Nakkash, T.L. Broderick, J.H. Plochocki.** Midwestern University.

E108 **640.2** n-3 Fatty Acids Prevent Trabecular Bone Loss. **D. Sanchez, D. Mendez, G. Fernandes, J. Banu.** The University of Texas Rio Grande Valley and The University of Texas Health Science Center at San Antonio.

E109 **640.3** Extracellular Matrix Protection Factor-1, a Novel Osteoarthritis Therapeutic, Decreases Expression of Interleukin-1 Beta by Primary Cultures of Human Osteoarthritic Chondrocytes. **D. Belogorodsky, A.L. Buckley, L. Milton, H.R. Popper, P. Mattioli, L. Miller, K. Behling, A. Selim, M. D'Angelo.** Philadelphia College of Osteopathic Medicine, Cooper University Hospital and Cooper Medical School of Rowan University.

E110 **640.4** Use of Contralateral Knee as Control in the Destabilization of Medial Meniscus Osteoarthritis Rat Model. **M. Hintz, T.L. Ernest, P. Kondrashov.** Kirksville College of Osteopathic Medicine and A.T. Still University.

E111 **640.5** Extracellular Matrix Protection Factor-2 Reduces Collagen Degradation in Primary Serum-Free Cultures of Inflamed Human Gingival Fibroblasts. **S. Chmielewski, P. Mattioli, T. Isaac, A.L. Buckley, S. Seutter, E. Gambardella, K. Green, S. Shamseddin, R. Borghaei, A. Selim, M. D'Angelo.** Philadelphia College of Osteopathic Medicine, Temple University and Kennett Family Periodontics.

E112 **640.6** Optimizing a Novel, Serum-Free, Three-Dimensional Culture System of Primary Human Osteoarthritic Chondrocytes: A Clinically Relevant Platform to Test and Develop Osteoarthritis Therapeutics. **H.R. Popper, A.L. Buckley, P. Mattioli, L. Milton, F. Alsaid, L. Miller, T-W. Kim, M. Pollard, K. Behling, A. Selim, M. D'Angelo.** Philadelphia College of Osteopathic Medicine, Cooper University Hospital and Cooper Medical School of Rowan University.

E113 **640.7** Effects of Treadmill Training and Evoo Enriched Diet on Cartilage Degeneration in Rats with ACLT. **G. Musumeci, M.A. Szychlinska, M. Di Rosa, F. Borzì, R. Imbesi, R. Reitano, P. Castrrogiovanni, F.M. Trovato.** University of Catania, Italy.

E114 **640.8** Experimental Model of Rheumatoid Arthritis in Temporomandibular Joint: An Update. **H.F.D. Silveira, L.M.D. Sousa, J.M.D.S. Alves, R.D.M. Nunes, C.D.S. Martins, P. Goes, D.V. Gondim.** Federal University of Ceará, Brazil.

E115 **640.9** Age- and Occupation-Based Public Health Considerations Related to Osteoarthritis of the Knee Joint: A Cadaveric Study. **J. Immonen, C. Siefring.** Rocky Mountain University of Health Professions.

E116 **640.10** Obesity and Diabetes Affects Growth Plate Cartilage Histomorphometry. **J. Hung, M. Castro, L. Al-Nakkash, T.L. Broderick, J.H. Plochocki.** Midwestern University.

E117 **640.11** Treatment with Resveratrol Reduces Bone Fracture Risk Associated with Neurodegenerative Disease. **M.F. Alkhouli, J. Hung, M. Squire, M. Anderson, M. Castro, L. Al-Nakkash, T.L. Broderick, J.H. Plochocki.** Midwestern University.

641. IMAGING

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E118 **641.1** Facial Canal Dehiscence: Radiological Incidence and Surgical/Clinical Relevance. **S. Guzman-Lopez, A.F. Hernandez-Trejo, A. Quiroga-Garza, R.E. Elizondo-Omaña.** Universidad Autonoma de Nuevo Leon, Mexico.

E119 **641.2** Investigating the Triceps Surae in Chronic Inflammatory Demyelinating Polyneuropathy Patients Using Magnetic Resonance Imaging. **J. Fanous, K.J. Gilmore, K. Kimpinski, C.L. Rice.** University of Western Ontario, Canada.

E120 **641.3** Fibrosis and Scarring of the Brachial and Sacral Plexus as Displayed by MRI/MRA/MRV. **J.D. Collins, E.H. Saxton, H.A. Gelabert, A. Carnes.** University of California and Los Angeles.

E121 **641.4** Creating a 3D Histological Atlas of Subcortical Nuclei Using Ultra-High Field MRI Registration: A Model for DBS Surgical Planning. **J.P. Demarco, J.C. Lau, A.R. Khan.** Western University, Canada and Robarts Research Institute, Canada.

E122 **641.5** A Novel Idea in the Use of Ultrasound to Guide Nasolabial Hyaluronic Acid (HA) Dermal Filler Injections to Prevent Alar Nasal Necrosis. **D.M. Klubowicz, D. Vissa, M. Johnson, M. Barbeau, A. Khalil, C. Martin, P. Merrifield, H. Perinpanayagam, K. Galil.** Western University, Canada and London Health Sciences Centre, Canada.

E123 **641.6** Comparison of 3D Ultrasound Imaging to Computed Tomography in Knee Osteophyte Depiction. **V. Vendries, T. Ungi, M. Kunz, L.W. MacKenzie, G. Venne.** Queen's University, Canada and McGill University , Canada.

E124 **641.7** Advantages of Using Magnetic Resonance Arteriogram Images to Create 3D Virtual Anatomic Vasculature Models. **G. Yang, J. Storrs, J.C. Lynch, M.N. Lehman, D. Cui.** University of Mississippi Medical Center.

642. IMAGING: TECHNOLOGY & METHODS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E125 **642.1** 3D Histological Evaluation of Growth Plate Cartilage Using Confocal Laser Scanning Microscopy. **M. Castro, J. Hung, L. Al-Nakkash, J.H. Plochocki.** Midwestern University.

E126 **642.2** Comparison of Different Clearing Protocols for *in Toto* Three-Dimensional Microscopic Imaging of the Intestinal Wall. **G.D.P. Bossolani, J.R. Detrez, J.N. Zanoni, D. Adriaensen, W.H. De Vos, R. Buckinx, J-P. Timmermans.** State University of Maringa, Brazil and University of Antwerp, Belgium.

E127 **642.3** 3D Contrast Techniques for Visualizing Anatomy and Their Application for Human Education, Vertebrate Biomechanics and Paleobiology. **C.M. Holliday, F. McGetchie, L. Johnson, C. Hill, K. Sellers, K. Middleton, S. Sullivan, J. Schiffbauer.** University of Missouri.

E128 **642.4** 3D Visualization of Vertebrate Soft Tissues Using Spicect (Selectively Perfusable Iodine-Based Contrast-Enhanced CT) as a Rapid Alternative to DiceCT. **L. Witmer, W.M.R. Porter, D. Cerio, J. Nassif, E.G. Caggiano, C. Griffin, R.C. Ridgely.** Ohio University.

E129 **642.5** Informative Three-Dimensional Survey of Cell/Tissue Architectures in Thick Paraffin Sections by Simple Low-Vacuum Scanning Electron Microscopy. **A. Sawaguchi, T. Kamimura, A. Yamashita, N. Takahashi, K. Ichikawa, F. Aoyama, Y. Asada.** University of Miyazaki, Japan and Hitachi High-Technologies Corporation, Japan.

E130 **642.6** Color Quantification and Comparison of Multiple Recovery Methods in Different Bovine and Porcine Tissues. **R.J. Rueda-Esteban, J.D. Pedraza Rodriguez, S.D.J. Palma, J.G. Vargas.** Universidad de los Andes, Colombia.

E131 **642.7** Automated/Quantitative Assessment of Anatomical Specimen Preservation Techniques Using Machine Learning. **G.A. Cuellar Alturo, J.E. Cascante, R.J. Rueda-Esteban, P. Arbeláez.** Universidad de los Andes, Colombia.

643. MUSCLE

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E132 **643.1** Effects of Tail Prosthesis Mass and Length on the Kinematics and Activity of an American Alligator. **M.A. Biggs, K.R. Manfredi, J.A. Georgi.** Midwestern University.

E133 **643.2** Understanding the Development, Variations, and Defects of the Muscular System in Normal Human Embryos, Fetuses, and Newborns. **M.A. Alghamdi, J.M. Ziermann, R. Diogo.** Howard University.

E134 **643.3** Variation in Gantzer Muscle Origin, Insertion, and Innervation. **T.J. Celuck, R.C. Andrews, P. Pacurari, M.L. Russell, M.J. Zdilla, H.W. Lambert.** West Virginia University and West Liberty University.

E135 **643.4** Limb Strength and Efficacy of Strength Rehabilitation on an American Alligator. **L.Y. Wu, K.R. Manfredi, J.A. Georgi.** Midwestern University at Glendale.

E136 **643.5** Spatial and Temporal Processes Involved in the Naturally Occurring Sarcomere Disassembly During Electric Organ Regeneration in the Teleost *Sternopygus macrurus*. **G.A. Unguez.** New Mexico State University.

644. ANATOMY: MUSCULOSKELETAL

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00–14:00

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E137 **644.1** Histology and 3D Modeling of the Connective Tissue Skeleton in the Trunk of a Lamprey (*Petromyzon marinus*) B**.M. Wood, M. Gudo, D.G. Homberger.** Louisiana State University and Morphisto Evolutionsforschung und Anwendung GmbH, Germany.

E138 **644.2** Pathological Alterations of the Lumbar Facet Joint Subchondral Bone and Synovial Fold During Hypomobility Induced Cartilage Degeneration. **J.M. Allison, A.D. Martin, J.A. McDowell, J.A. Merlo, C. Lawson, G.D. Cramer, J.W. Little.** Saint Louis University School of Medicine and National University of Health Sciences.

E139 **644.3** Alligator Osteoderm Development Resembles the Pathogenesis of Heterotopic Ossification. **B.H. Dubansky, B.D. Dubansky.** Tarleton State University and University of North Texas.

E140 **644.4** Morphological Variants of the Pes Anserinus of Tibia in South Indian Population. **G.K. Chettiar, B. Murlimanju.** Kasturba Medical College, India.

E141 **644.5** The Peridural Membrane of the Lumbar Spine Has Characteristics of Synovium. **H. Bosscher, M. Day.** Texas Tech University Health Sciences Center

E142 **644.6** Aaa Anatomy: Musculoskeletal Variations in the Skull Shape of the *Eidolon helvum* (African Fruit Bat) Based on Geographical Location: Implications in Maxillo-Facial Forensics and Anaesthesiology. **O.O. Igado, J.S. Joannis.** University of Ibadan, Nigeria.

E143 **644.7** Subvastus Lateralis Approach to Total Knee Arthroplasty—a Cadaveric Evaluation. **J.A. Legault, T.S. Beveridge, M.I. Johnson, B.A. Lanting.** University of Western Ontario, Canada and University Hospital, Canada.

E144 **644.8** Myofascial Plantar Pain and the Relationship Between the Innervation of Abductor Hallucis Muscle. New Physiopathological Approach. **J. Wada, F.E. Akamatsu, A.M. Itezerote, F. Hojaij, M. Andrade, A.L. Jacomo.** University of São Paulo, Brazil.

E145 **644.9** Palisade Endings in Cat Extraocular Muscles Develop Postnatally Following Different Time Courses. **J. Streicher, M.A. Davis-Lopez De Carrizosa, R.M. Rodriguez de la Cruz, A.M. Pastor, R. Blumer.** Karl Landsteiner University of Health Sciences, Austria, Universidad de Sevilla, Facultad de Biologia, Spain and Medical University of Vienna, Austria.

E146 **644.10** A Role for Resistance Exercise in Cancer: Destruction of Circulating Tumor Cells in Contracting Muscle. **T.W. Findley, E.Z. Anderson, T. Stitik, R. Singhal, J. Burch, C. Diaz, V. Shah, Z. Ruben, S. Dhar, H. Chaudhry.** Rutgers New Jersey Medical School, Rutgers University, College of New Jersey, Patoximed Consultants and New Jersey Institute of Technology.

E147 **644.11** An Anatomical Exploration of the Structures Associated with Low Back Pain Caused by Maigne's Syndrome. **L.J. Georgetti, A.C. Sims, A.H. Amabile.** Thomas Jefferson University.

E148 **644.12** Quantitative Characterization of Cadaveric Pronator Muscles Using 3D Modeling. **C. Salmon, J. Anderson, C. Lewis.** Samuel Merritt University.

E149 **644.13** Characterization and Quantification of Osteoarthritis in Cadaveric Elbow and Wrist Joints Using 3D Modeling. **J.L. Anderson, C. Salmon, C. Lewis.** Samuel Merritt University.

E150 **644.14** Morphological Changes to the Cruciate Ligaments and Menisci in Relation to Ageing. **L. Hirtler, I-P. Toader, S. Röhrich, F. Kainberger.** Medical University of Vienna, Austria.

E151 **644.15** Changes of the Intercondylar Notch and Their Impact on the Morphology of the Cruciate Ligaments in Osteoarthritis. **L. Hirtler, M. Schreiner, S. Röhrich, A. Hirtler, F. Kainberger.** Medical University of Vienna, Austria.

E152 **644.16** Mylohyoid Variations and Their Clinical Implications. **L.S. Hartnell, A.N. Bender-Heine, H.W. Lambert, M.J. Zdilla.** West Liberty University and West Virginia School of Medicine.

E153 **644.17** Hind Limb Myology of the Kinkajou (*Potos flavus*). **A.M. Walker, H.E. Ahrens.** High Point University.

E154 **644.18** Effects of the Organophosphate Pesticide Chlorpyrifos on Muscle Architecture in 72 Hour Zebrafish Embryos. **R.C. Willrich, T.H. Watanabe, E.A. Fradinger.** Whittier College.

E155 **644.19** Forelimb Myology of the Kinkajou (*Potos flavus*). **H.E. Ahrens, A.M. Walker.** High Point University.

E156 **644.20** Effects of MEK1/2 and MEK5 Pathway Disruption on Skeletal Phenotypes in Intact Female SCID Mice. **S.J. Peacock, K.M. Middleton, J. Cavanaugh, T. Wright, M. Burow, V. Barnes, F. Munmun, P. Witt-Enderby.** University of Missouri, Duquesne University and Tulane University School of Medicine.

E157 **644.21** Muscle-Intensive and High-Impact Exercises Differentially Influence Whole Bone 3D Morphology in Young Outbred Male Mice. **A.N. Smolinsky, K. Aldridge, K.M. Middleton.** University of Missouri School of Medicine.

E158 **644.22** Surface Projection of Cubital Tunnel: Cadaver Study. **M.A. Khan, T.A. Khan, M.I. Khan, K. Kanwar, H. Liu, R.S. Lovely.** University of North Texas Health Science Center, The University of Texas at Arlington and Texas Woman's University.

645. STEM CELLS, TISSUE ENGINEERING & REGENERATION

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E159 **645.1** Characterization and Culture of Spermatogonial Stem Cells of the Gray Short-Tailed Opossum (*Monodelphis domestica*). **J.A. Maier, J.A. Piekos, K.E. Sears.** University of California and Los Angeles.

E160 **645.2** Low Level Laser Therapy Increases Mesenchymal Cell Proliferation and Collagen II After Experimental Injury. **F.E. Akamatsu, W.R. Teodoro, A.M. Itezerote, S. Saleh, C.A.R. Martinez, M.L. Ribeiro, J.A. Pereira, F. Hojaij, M. Andrade, A.L. Jacomo.** University of São Paulo, Brazil and São Francisco University, Brazil.

E161 **645.3** Type IV Collagenase Inhibitor, BiPS, Alters Matrix Metalloproteinase 9 Expression in Sulfur Mustard Exposed Mouse Skin. **Y-C. Chang, R.A. Hahn, K.K. Svoboda, M.K. Gordon, D.R. Gerecke.** Rutgers University and Texas A&M College of Dentistry.

E162 **645.4** Gene Editing with CRISPR/Cas9 Technology Before Cell Transplantation Using a Mouse Model of Hirschsprung's Disease. **Y. Li, W.Y. Chan, H. Zhao, B. Feng.** The Chinese University of Hong Kong, Hong Kong.

E163 **645.5** Investigation of Blood Cell Populations in the Development and Regeneration of a Colonial Ascidian. **M. Boyd, E. Balde, E. Keeling.** California Polytechnic State University

E164 **645.6** Wnt Pathway Involvement in Whole Body Regeneration in *Botrylloides violaceus*. **E. Medina, J. Blackmer, I. Roldan, J. Sumner, E. Keeling.** California Polytechnic State University.

E165 **645.7** Three-Dimensional Visualization of the Extracellular Matrix During Murine Development. **S. Calve, A. Acuna, M. Drakopoulos, C. Goergen.** Purdue University.

E166 **645.8** Characterizing the Adult Hematopoietic Stem Cell (Hsc) Niche in a Zebrafish Model for Fetal Bone Marrow. **S. Agarwala, K-Y. Kim, E.A. Bushong, M.H. Ellisman, J.E. Henninger, L.I. Zon, O.J. Tamplin.** University of Illinois at Chicago, University of California, San Diego, Harvard University and Boston Children's Hospital.

E167 **645.9** ARHGAP29 Expression and Localization in Cutaneous Wound Healing. **T. Reeb, M. Dunnwald.** University of Iowa

Biochemistry and Molecular Biology

646. DNA POLYMERASES, REPLICASES AND REPLISOMES

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B1 **646.1** Multisubunit Multiactive Site DNA Polymerase Complexes with Coordinated Activities. **M.A. Trakselis, M. Cranford, A.M. Chu.** Baylor University.

B2 **646.2** Error-Prone DNA Polymerase IV Preserves the Memory of Its Interaction with RecA. **T.F. Tashjian, I. Lin, B.H. Nguyen, V.G. Godoy.** Northeastern University.

B3 **646.3** Probing the Role of Distal Residues in Dinb and Pol Kappa in the Extension Step of DNA Damage Bypass. **H.R. Stern, C.L. Mills, M.J. Ondrechen, P. Beuning.** Northeastern University.

B4 **646.4** Exploration of Conformational Selection During Translesion Synthesis: *in Silico* Studies of DinB. **T. Tauro, B. Sampoli Benitez.** Marymount Manhattan College.

B5 **646.5** Molecular Dynamics Studies of DNA Polymerase Kappa, a Human Protein Involved in Translesion Synthesis. **E.R. Leong, B. Sampoli Benitez, B. Sampoli Benitez.** Marymount Manhattan College.

B6 **646.6** Investigating the Role of DNA Polymerase IV in the Resolution of R-Loops. **B. Nguyen, T. Tashjian, V. Godoy.** Northeastern University.

B7 **646.7** Structure of Eukaryotic CMG Helicase at a Replication Fork and Implications for Replisome Architecture and Origin Initiation. **Z. Yuan, R. Georgescu, B. Lin, R.d.L.A. Santos, D. Zhang, O. Yurieva, M. O'Donnell, H. Li.** Van Andel Institute and Rockefeller University.

647. DNA DAMAGE

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B8 **647.1** Ataxia Telangiectasia and Rad3-Related Kinase (ATR) May Prevent Replication Stress in Planarian During Regeneration. **R. Tirgar, U. Shamoon, L. Akpati, N. Sawyer, L. Nguyen, E. Nam.** University of St. Thomas.

B9 **647.2** Structural Basis for Proficient Nucleotide Incorporation Across a Major Cisplatin-DNA Lesion by Human DNA Polymerase Kappa (Pol κ). **V. Jha, H. Ling.** University of Western Ontario, Canada.

B10 **647.3** High-Resolution Maps of Genome-Wide Human Damage and Repair. **O. Adebali, J. Hu, A. Sancar.** University of North Carolina at Chapel Hill.

B11 **647.4** Investigating Intracellular RecA Concentrations in the Emerging Pathogen *Acinetobacter baumannii.* **M.J. Downs, C. Ching, T.F. Tashjian, V.G. Godoy.** Northeastern University.

B12 **647.5** Insights into the Molecular Mechanism of Alkylation-Induced Mutagenesis. **S. Lee.** The University of Texas at Austin.

B13 **647.6** The LexA-Regulated Gene *ybfE* Plays a Role in DNA Metabolism in *E. coli.* **A.B. Hotchkiss, C. Kramer, P. Beuning.** Northeastern University

B14 **647.7** Targeting the G-Triplex Intermediate in G-Quadruplex DNA Folding for Potential Chemoprevention Applications. **H.E. Bracey, N. Navapan, K. Tippayasak, D. Lee, C. Blanton, B. Corona, I.M.A. del Mundo, K.M. Vasquez, B. Tuesuwan, S.M. Kerwin.** Texas State University, Chulalongkorn University, Thailand and Dell Pediatric Research Institute.

B15 **647.8** Resveratrol-Induced DNA Damage on MCF-7 Breast Cancer Cells Through Ner Pathway. **L.A. Padilla, R.A. Vergne, C. Ortiz, L. Godoy, J. Encarnacion, J. Matta.** University of Puerto Rico at Ponce, Puerto Rico and Ponce Health Sciences University, Puerto Rico.

648. TRANSCRIPTIONAL MECHANISMS AND REGULATION

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B16 **648.1** Wavelength of Light Impacts Circadian Regulation in *Rdl* Mutant *Drosophila melanogaster.* **B.P. Walters, S.P. MacDonald, R.P. Rogers.** Wentworth Institute of Technology.

B17 **648.2** Characterizing PTGER4 as a Target Gene of Autism Protein E6AP. **C. Amadei, M. Alessandri, Z. Nawaz.** University of Miami, Miller School of Medicine and University of Miami.

B18 **648.3** New Insights into the Assembly Mechanism of an RNA Polymerase III-Specific Transcription Complex on a *Drosophila* u6 snRNA Gene Promoter. **A.M. Hurlburt, N. Verma, P. Phan, A. Wolfe, W. Stumph.** San Diego State University.

B19 **648.4** Regulation of Opn Expression in MDA-MB-435: Role of Genistein. **B. Das, K. Khongsti.** North Eastern Hill University, India.

B20 **648.5** Characterization of Sp1 and Sp3 Occupation of the Distal Manganese-Superoxide Dismutase Promoter in the Presence of HIV-1 Tat. **T. Manes, A. Cota-Gomez.** University of Colorado Anschutz Medical Campus.

B21 **648.6** FOXC1 Is Over-Expressed and Is More Stable in Triple Negative/basal-Like Breast Cancer. **F.A. Elian, T.P.W. McMullen, D.N. Brindley, M.A. Walter.** University of Alberta, Canada.

B22 **648.7** Investigating a Novel Regulation on a Checkpoint Protein Sda That Is Essential for Biofilm Formation and Sporulation in *Bacillus subtilis*. **Y. He, K. Gozzi, Y. Qin, Y. Chai.** Northeastern University and Massachusetts Institute of Technology.

B23 **648.8** Regulation of an Evolutionarily Conserved RNA Polymerase II-Associated Factor 1 (PAF1) Involved in Pancreatic Oncogenesis. **P. Barman, J. Ferdoush, A. Kaja, S. Karmakar, B. Uprety, S.K. Batra, S.R. Bhaumik.** Southern Illinois University School of Medicine and University of Nebraska Medical Center.

B24 **648.9** A Role for the Transcription Factor Snail in Alternative Splicing. **S. Rudraraju, J. Kumar, S. Krueger, H. Qureshi, A. Scheidegger, A. Dhasarathy.** University of North Dakota.

B25 **648.10** Inhibition of Epstein-Barr Virus by an Atypical Antipsychotic. **A. Anderson, J. Weseli, K. Gorres.** University of Wisconsin—La Crosse.

B26 **648.11** The Tumor Suppressor Phosphatase PHLPP1 Suppresses Inflammatory Signaling by Regulating the Phosphorylation State and Activity of STAT1. **K. Cohen Katsenelson, J.D. Stender, S. Uchiyama, V. Nizet, C.K. Glass, A.C. Newton.** University of California, San Diego, Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California and San Diego.

B27 **648.12** Characterization of Female Sexual Development-1 (*FSD-1*) Transcript Structure, Expression, and Localization in the Fungus *Neurospora crassa*. **T. Hurysz, B. Gebhardt, M. Pyatt, K. Emmens, C. Toufexis, E. Hutchison.** State University of New York College at Geneseo.

B28 **648.13** Systematic Screening for Transcriptional Regulators of Adult Myogenesis in Drosophila by RNAi. **T. Soudachanh, S. Oas, T. Mendes, A. Byrantsev, R. Cripps.** University of New Mexico, The Ohio State University and Kennesaw State University.

B29 **648.14** Investigating the Interaction Between MED5 and CDK8 in *Arabidopsis*. **X. Mao, V.M. Weake, C.C.S. Chapple.** Purdue University.

B30 **648.15** Interaction of Positive Coactivator 4 with Histone 3.3 Protein Is Essential for Transcriptional Activation of the Luteinizing Hormone Receptor Gene. **R. Kavarthapu, P. Zhao, M. Liao, M. Dufau.** National Institutes of Health and GeneDx.

B31 **648.16** Direct Pharmacologic Regulation of the ETS Transcription Factor PU.1. **S. Lee, G.M.K. Poon.** Georgia State University.

B32 **648.17** Molecular Mechanism of Transcriptional Regulation by Chromatin Reader Transcription Factor 19 (TCF19) During Metabolic Stress. **S. Sen, C. Das.** Saha Institute of Nuclear Physics, India.

B33 **648.18** Pathogenesis Related Protein 1 Expression Is Induced by 1,4-Dimethylnaphthalene Treatment of Potato Meristems. **M. Pirritano, M. Campbell.** Penn State Behrend.

B34 **648.19** High Fat Diet Blunts the Activation of Canonical Wnt Signaling Pathway Induced by Radiation Therapy in Mouse Colon Epithelia. **G. Xu, R. Emmons, M. De Lisio, Y-X. Pan, H. Chen.** University of Illinois at Urbana-Champaign and University of Ottawa , Canada.

B35 **648.20** Epigenetic Regulations of Genes Related to Lipid Metabolism by MicroRNA in Mice Fed High Fat Diet. **X. Tang, G. Xu, Y-X. Pan, H. Chen.** University of Illinois at Urbana-Champaign.

B36 **648.21** Defining Molecular Calipers: Affinity and Exchange of Auxin Response Activators and Repressors. **M.C. Carroll, J.P. Ellis.** Ithaca College.

B37 **648.22** Challenges and Insights in Regulation of p53 and NF-kappaB Transcription Factors: Making the Case for Cancer Prevention from the Environmental-Physiological Paradigm. **H.T. Nguyen, M.C. Mulero, D. Huang, A.S. Ethayathulla, A. Ramos, H. Viadiu, G. Ghosh.** University of California, San Diego, Texas Tech University Health Sciences Center, Research Institute of Molecular Pathology, Austria and Universidad Nacional Autónoma de México, Mexico.

B38 **648.23** Hepatic Autophagy Gene Expression Is Induced by Post-Weaning Diets in Sprague-Dawley Rats Fed with a Low-Protein Diet During Lactation. **M. Cai, H. Wang, H. Chen, Y-X. Pan.** University of Illinois at Urbana-Champaign.

B39 **648.24** Fine-Tuning of an Evolutionarily Conserved Histone Chaperone, Fact, by Ubiquitin-Proteasome System, and Its Targeting to the Active Gene by mRNA Capping Machinery to Regulate Transcriptional Elongation. **A. Kaja, R. Sen, J. Ferdoush, S. Lahudkar, P. Barman, S.R. Bhaumik.** Southern Illinois University School of Medicine.

B40 **648.25** Elucidating the Regulatory Mechanism of the Transcription Factor Krüppel Homolog 1 in Mosquito Reproduction. **T.H. Ahmed, J. Zhu.** Virginia Polytechnic Institute and State University.

B41 **648.26** Isolation, Purification, Modeling, and Binding Site Analysis of the Salmonella Bacteriophage ε^{34} Repressor for Subsequent Crystallization and Structure-Function Studies. **D. Jackson.** Huntingdon College.

649. CRISPR: METHODS AND APPLICATIONS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B42 **649.1** A Rapid, Simple, High-Throughput Compatible Approach to Generating CRISPR/Cas9 Knock-Out Cell Lines. **M. Wu, S. Okino, G. Uy, D. Woo, M. Shulewitz, Y. Wang.** Bio-Rad Laboratories and Inc.

B43 **649.2** Receptor-Mediated Delivery of CRISPR-Cas9 Endonuclease for Cell Type Specific Gene Editing. **M. Roy, R. Rouet, B. Thuma, N. Lintner, D. Rubitski, J. Finley, H. Wisniewska, R. Mendonsa, L. de Oñate, A. Hirsh, J. Compte Barrón, T. McLellan, J. Bellenger, X. Feng, A. Varghese, B. Chrunyk, K. Borzilleri, K. Hesp, K. Zhou, N. Ma, M. Tu, R. Wilson, R. Dullea, K. McClure, S. Liras, V. Mascitti, J. Doudna.** Pfizer Inc. and University of California.

B44 **649.3** Characterization of Human iPSC RET Reporter Cell Line Differentiation to Kidney and Neural Crest Lineages. **R.J. Salamon, B. Gong, S. Jain.** Fort Lewis College and Washington University in St. Louis.

B45 **649.4** Chemically-Controlled Orthogonal Regulation of Multiple Endogenous Genes. **W. Nomura, D. Matsumoto, T. Sugii, T. Kobayakawa, H. Tamamura.** Institute of Biomaterials and Bioengineering and Tokyo Medical and Dental University, Japan.

B46 **649.5** Construction of Genome-Engineered Mesenchymal Stem Cells Secreting Angiogenic or Anti-Inflammatory Factors for the Treatment of Acute Kidney Injury. **H-J. Park, J-I. Cho, H-J. Jang, E-J. Park, H-J. Choi, T-H. Kwon.** Kyungpook National University, Republic of Korea.

B47 **649.6** Base Editing: Chemistry on the Genome. **A.C. Komor.** University of California and San Diego.

B48 **649.7** Inactivation of Gene α-1,3-Galactosyltransferase in Bovine Aortic Smooth Muscle Cells Using CRISPR-Cas9. **X. Wang, J. Apple, Y. Huang.** University of Arkansas.

B49 **649.8** Gene Architecture Influences on the Outcome of Indel-Based Genome Editing. **R. Tuladhar, Y. Yeu, J.T. Piazza, J. Clemenceau, X. Wu, Z. Tan, D. Mathews, T.H. Hwang, J. Kim, L. Lum.** The University of Texas Southwestern Medical Center, Cleveland Clinic and University of Rochester Medical Center.

B50 **649.9** Reversal of Phenotypic Abnormalities by CRISPR/Cas9-Mediated Gene Correction in iPSCs Derived from Fabry Ivs4+919 Mutation Patients. **H. Song, C-S. Chien, S-H. Chiou, S. Chien.** Institute of Engineering in Medicine, University of California, San Diego, Institute of Pharmacology and National Yang-Ming University, Taiwan.

B51 **649.10** Development of Split Cas6 for Inducible Dimerization Modules. **J.A. Ling, E.J. Vontalge, D.G. Sashital.** Iowa State University.

B52 **649.11** Impact of Chromatin on Genome Accessibility and Cleavage by CRISPR-Cas9 *in Vivo*. **S. Verma, R. Yarrington, J. Trautman, S. Schwartz, D. Carroll.** University of Utah.

650. RNA PROCESSING: FROM TRANSCRIPTION TO EDITING

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B53 **650.1** Regulation of RNA Polymerase III Transcription Factors Brf1 and Brf2 by Cancer Stem Cell Signaling Pathways. **S.M. Cabarcas-Petroski, L. Schramm.** Penn State Beaver and St. John's University.

B54 **650.2** Zika Viral Polymerase: A Promising Therapeutic Target. **G.S. Wells, J. Bernatchez, M. Coste, L. Luna, J. Siqueira Neto, B. Purse, C.S. Sohl.** San Diego State University, University of California and San Diego.

B55 **650.3** Investigating RNA Hairpin Stability and Protein Binding Using Optical Tweezers. **S. Plachinski, L. Furman, M.J. McCauley, M.C. Williams, M.E. Núñez.** Wellesley College and Northeastern University.

B56 **650.4** Probing RNA Structure and Dynamics in the HIV-1 5′utr Using Ensemble and Single Molecule Approaches. **K. Musier-Forsyth, B. Brigham, J. Kitzrow, J-P.C. Reyes, J. Munro.** The Ohio State University and Tufts University School of Medicine.

B57 **650.5** Investigating on the Binding Characteristics of the Important RNA-Protein Interactions in Brome Mosaic Virus. **R. Riboul, N. Siegel, C. Kim.** California State University and East Bay.

B58 **650.6** Changing the Ligand Specificity of a Riboswitch from Guanine to Hypoxanthine. **J.G. Garcia, D.P. Morse.** United States Naval Academy.

B59 **650.7** Synthesis and Characterization of RNA Aptamers Targeted at *Aspergillus* Cell Surface Carbohydrates. **N.M. Woodhead, S.S. Silvestri, D.R. Engelke, C.E. Rohlman.** Albion College and The University of Colorado.

B60 **650.8** Protein Homology Suggests Similarities in Histone mRNA Processing Between Humans and Slime Molds. **S.P. Roth, P. Lackey.** Westminster College.

B61 **650.9** Isoforms of Human CD46 Produced by Alternative Splicing Adopt Different Quaternary Structures. **E.Y. Wu, E.L. Romanoff, J.W. Woon.** University of Richmond.

B62 **650.10** Recombination Events and Clusters of ADAR1-Like Hypermutations Increase Genome Diversity of Measles Virus, a Negative Strand RNA Virus. **R. Cattaneo, R.C. Donohue, C.K. Pfaller.** Mayo Clinic Graduate School of Biomedical Sciences and Mayo Clinic.

B63 **650.11** Dimerization of ADARs Expands the Range of Substrates That Can Undergo A-to-I RNA Editing. **H.A. Hundley, S. Rajendren, A.C. Manning, Y. Takagi.** Indiana University and Indiana University School of Medicine.

B64 **650.12** Multiple Mechanisms Driving Alternative Polyadenylation of Cyclin D1 (*ccnd1*) Pre-mRNA Processing. **C.P. Masamha, E. Wagner.** Butler University and The University of Texas Medical Branch.

B65 **650.13** Splicing Variation of TTN Novex Isoforms Across Species and RBM20 Does Not Regulate Splicing of Novex Isoforms in Cardiac Muscle. **Z. Chen, W. Guo.** University of Wyoming.

B66 **650.14** RNA Editing Mediates Oligomerization State of Calcium-Dependent Activator Protein for Secretion 1 (Caps1). **B. Mitchell, R.J. Ulbricht.** Missouri State University.

651. MECHANISMS AND REGULATION OF PROTEIN SYNTHESIS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
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Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B67 **651.1** An mRNA-rRNA Base Pairing Model for Efficient Protein Translation. **W. Barr, R. Sheth, O. Chatterji, H.K. Moon, M. Weir.** Wesleyan University.

B68 **651.2** Tributyltin Effects on Akt/protein Kinase B and Ribosomal S6 Protein Phosphorylation. **N. Hamza, M. Boules, M. Whalen.** Tennessee State University.

B69 **651.3** Regulation of Protein Translation Initiation by Estrogen. **M.K. Holz.** Yeshiva University.

B70 **651.4** Selenoprotein Profiling in Various Tissues of Mice Fed with Selenium-Deficient and High-Selenomethionine Diets. **I. Ishii, N. Akahoshi, S. Kamata, Y. Hashimoto, S. Hayashi, N. Tokoro, S. Yamamoto, K-I. Shimada, Y. Anan.** Showa Pharmaceutical University, Japan.

B71 **651.5** Chemotropic Receptor Deleted in Colorectal Cancer (DCC) Prevents Translation Initiation by Directly Inhibiting Ribosome Function. **M.E. Filbin-Wong, T. Gonen, J.S. Kieft.** Metropolitan State University of Denver, Howard Hughes Medical Institute, University of California, Los Angeles and University of Colorado School of Medicine.

B72 **651.6** Screening Cysteine Mutants for Site-Specific Pegylation of L-Asparaginase II. **J. Ramirez-Paz, K. Griebenow.** University of Puerto Rico.

B73 **651.7** Pentachlorophenol Effects Synthesis of IL-1 β in Human Immune Cells. **T. Martin, M. Whalen.** Tennessee State University.

B74 **651.8** Transcriptional and Post-Transcriptional Regulation of *mtlA* in *Vibrio cholerae*. **J. Wang, M. Zhang.** Pomona College.

B75 **651.9** Pervasive, Coordinated Protein Level Changes Driven by Transcript Isoform Switching. **G. Brar, G. Otto, Z. Cheng, E. Powers, A. Keskin, M. Jovanovic.** University of California, Berkeley and Columbia University.

B76 **651.10** A System for Global Analysis of Correlation Between Protein Expression and mRNA. **K. Johnson, S. Zhong.** University of California and San Diego.

B77 **651.11** Promoting Protein Translation in a *Vaccinia* Virus System Using Translation Enhancing Elements. **S. Minder, B. Richard; Jr., B.L. Jacobs, B.P. Wellensiek.** Midwestern University and Arizona State University.

B78 **651.12** A Post-Transcriptional Program of Chemoresistance Regulators in Quiescent Cancer Cells. **S. Vasudevan, S. Lee, S.I.A. Bukhari, S.S. Truesdell, M. Boukhali, D. Lee, M.A. Mazzola, R. Raheja, A. Langenbucher, N.J. Haradhvala, M. Lawrence, R. Gandhi, D. Sweetser, W. Haas.** Massachusetts General Hospital and Harvard Medical School and Brigham and Women's Hospital.

B79 **651.13** Cap-Independent Translation Initiation Driven by a 13-Nucleotide Motif. **M.A. Flores, A.N. Juba, J.C. Chaput, B.P. Wellensiek.** Midwestern University and Arizona State University.

B80 **651.14** JNK-Mediated eIF4E Phosphorylation and Signaling in Fibrotic Functions of Lung-Resident Mesenchymal Cells (MCs). **N.M. Walker, V.N. Lama.** University of Michigan.

B81 **651.15** Rpos Recovery from Phosphate Starvation. **I.N. Hamdallah, N. Majdalani, A. Tripathi, S. Gottesman.** National Cancer Institute and National Institutes of Health.

B82 **651.16** Evaluation of *Pro-Pol* Frameshifting Efficiencies for Naturally Occurring Variants of HTLV-1. **E.A. White, K. Mouzakis, M. Williams, H. Nash, A. Hamilton, J. Harrison, A. Eades, L. Daily, U. Contreras, A. Cooper-Sansone, D. Chadeayne, T. Banks, T. Abrams, N. Joe, E. Mylroie.** Fort Lewis College.

B83 **651.17** Effect of Arginine Methylation on Ded1 Function in *Saccharomyces cerevisiae*. **A. D'Alessandro, C. Freniere, A. Hilliker.** University of Richmond.

B84 **651.18** Role of Eukaryotic Initiation Factor 3 in the Non-Canonical Mechanism of Barley Yellow Dwarf Virus Translation Initiation. **P. Powell, U. Bhardwaj, S. Mitra, R. Gonzalez, D. Goss.** City University of New York, Hunter College, New York University and Columbia University.

B85 **651.19** Evaluating the Importance of Pseudoknot Formation to HTLV-1 *Pro-Pol*-1 Programmed Ribosomal Frameshift Stimulation. **A. Cooper-Sansone, M. Williams, D. Chadeayne, U. Contreras, L. Dailey, N. Joe, E. Mylroie, K. Mouzakis.** Fort Lewis College.

B86 **651.20** Exploring the Significance of the Human T-Cell Lymphotropic Virus Type-1 *Pro-Pol* Frameshift Site Pseudoknot. **M.A.C. Williams, A. Cooper-Sansone, D. Chadeayne, E. Mylroie, U. Contreras, N. Joe, K. Mouzakis.** Fort Lewis College.

B87 **651.21** Mechanistic Interrogation of the Entry- and Exit-Channel Arms of EIF3. **C.E. Aitken, P. Beznoskova, J. Dong, P. Yourik, L. Valasek, A.G. Hinnebusch, J.R. Lorsch.** Vassar College, Institute of Microbiology, Academy of Sciences of the Czech Republic, Czech Republic, Eunice Kennedy Shriver National Institute of Child Health and Human Development and National Institutes.

652. PROTEIN INTERACTIONS AND BINDING

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 PM–1:00 PM
Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B88 **652.1** A Time Course Study Examining the Effects of Tributyltin Exposures on eIF4E. **S. Brown, M. Whalen.** Tennessee State University.

B89 **652.2** The Iron Metabolism Receptors, TfR1 and TfR2, Bind and Stabilize Transferrin Through Non-Conserved Interactions. **M.D. Kleven, C. Enns.** Oregon Health & Science University.

B90 **652.3** Effect of Osmotic Stress on Folate Pathway Enzyme. **D.K. Nambiar, T. Berhane, O. Sharma, M. Duff, E. Howell.** University of Tennessee and Knoxville.

B91 **652.4** Interactome Mapping of the Pathogen *Helicobacter pylori* Using All-vs-All Sequencing (AVA-Seq). **S. Ramadan, S. Andrews, N. Al-Thani, I. Ahmed, J. Malek.** Weill Cornell Medicine-Qatar, Qatar.

B92 **652.5** Impact of Beta-Dystroglycan Deficiency on Emerin Functions. **J.M.E. Hernández Méndez, W.L. Gómez Monsiváis, R.M. González, R. Perlingeiro, J. García Mena, B. Cisneros Vega.** CINVESTAV, Mexico.

B93 **652.6** Exploring the Entry Route of Palmitic Acid and Palmitoylcarnitine into Myoglobin. **S.V. Chintapalli, A. Anishkin, S.H. Adams.** Arkansas Children's Nutrition Center, University of Arkansas for Medical Sciences and University of Maryland.

B94 **652.7** Calsequestrin, a New Modulator of Unfolded Protein Response in Skeletal and Cardiac Muscle. **Q. Wang, J. Groenendyk, K. Kor, Y. Liu, F. Hiess, S.W. Chen, B.C. Knollmann, M. Michalak.** University of Alberta, Canada, Vanderbilt University School of Medicine and University of Calgary, Canada.

B95 **652.8** Characterization of the Binding Interactions of AT Hook Motif Variants. **K.R. Dobbins, K.L. Buchmueller.** Furman University.

B96 **652.9** Structure and Interaction Analysis of Human R7-RGS/Gβ5/R7BP Complexes. **P.R. Adikaram, J. Zhang, M. Pandey, C. Kittock, W.F. Simonds.** National Institutes of Health.

B97 **652.10** A Biophysical Analysis of Malate Dehydrogenase and Citrate Synthase Protein-Protein Interaction. **D. Ghebreigziabher, J. Provost.** University of San Diego.

B98 **652.11** Identification and Functional Testing of Six Interactors of the Transmembrane Sensor Mtl1p in the Budding Yeast *Saccharomyces Cerevisiae* DNA Binding Kinetics of CTCF *in Vitro*. **N. Martinez-Matias, J. Rodriguez-Medina.** University of Puerto Rico and Medical Sciences Campus.

B99 **652.12** E-Cadherin Interact with AJUBA-LIM During *Drosophila* Larval Brain Development. **T. Tadros, A. Viera, T. Underwood, S. Fung.** Vanguard University.

B100 **652.13** Bending and Wrapping of Upstream Promoter DNA on *E. coli* RNA Polymerase Facilitates Open Complex Formation in Transcription Initiation; a Fluorescence (FRET, PIFE) Study. **C.L. McNerney, K. Callies, C.K. Cimperman, P. Chittur, R. Sreenivasan, M. Chhabra, M.T. Record; Jr.** University of Wisconsin—Madison.

B101 **652.14** The Assessment of Interaction Between eNOS and Alpha Hemoglobin by Bio-Layer Interferometry. **D. Ma, H. Ackerman.** National Institute of Allergy and Infectious Diseases and National Institutes of Health.

B102 **652.15** LRP1 Requires the I3 Domain of hDlg for Interaction with the Motor Protein KIF13B. **J.E. Mills, T. Hanada, L. Liscum, A. Chishti.** Sackler School of Graduate Biomedical Sciences, Tufts University and Tufts University School of Medicine.

B103 **652.16** Determination of the PIP_2 Binding Sites on ENaC. **C.R. Archer, Y. Chen, A.M. Stockand, J.D. Stockand.** The University of Texas Health Science Center at San Antonio and Case Western Reserve University.

B104 **652.17** Characterization of Dog, Cat, Guinea Pig, and Human IAPP Toxicity in HeLa Cells. **L.I. Ledesma.** Mount Saint Mary's University and Los Angeles.

B105 **652.18** Expression of Alpha 1 Subunit in the Haptoglobin 2-1 Phenotype and Its Association with Clinical Course in Aneurysmal Subarachnoid Hemorrhage. **B.J. Kim, J.P. Jeon, Y. Kim.** Hallym University, Republic of Korea.

B106 **652.19** Pabp and EIF4B Effects Binding Affinity and Kinetic Rates of Genome Linked Viral Protein (VPg) with Eukaryotic Initiation Factor 4F. **M.A. Khan, D.J. Goss.** Alfaisal University, Saudi Arabia, Chemistry and Biochemistry Programs, Graduate Center and City University of New York and Hunter College.

B107 **652.20** New Structural Features Reveal How Bacteria Stick to Host Surfaces. **J.J. Paxman, A. Lo, S. Panjikar, M. Kuiper, C-H. Luan, M. Schembri, B. Heras.** La Trobe Institute for Molecular Science, La Trobe University, Australia, Australian Infectious Diseases Research Centre, Australia, Australian Synchrotron, Australia, Commonwealth Scientific and Industrial Research Organisation, Australia and Northwestern University.

B108 **652.21** Kinetics and Binding Studies of the (NRPS)-Independent Siderophore (NIS) Synthetase DesD. **K. Lathan, K. Hoffmann.** California Lutheran University.

B109 **652.22** Characterization of a Protein-Protein Interaction Between NIL-16 and HDAC3 **L.A. Dailey, K.D. Baugh, S.D. Fenster.** Fort Lewis College.

B110 **652.23** Protein E6 in High Risk Human Papillomaviruses. **R. Mahesh, D. Langat, D. Langat, E. Barbara, A. Cheng.** Olathe North High School.

B111 **652.24** Atypical Binding Behavior of Epsin-Like Clathrin Adaptor 1 to Diacylglycerol Pyrophosphate. **P. Putta, E.E. Kooijman.** Kent State University.

B112 **652.25** The Role of Fusion Protein F in the Virus Entry and Cell-to-Cell Spread for Nipah Virus. **T. Link, M. Ul-Islam, T. Arpornsuksant, J. Fisher, C. Lee, A. Rajput, Z. Saberi, A. Singh.** Walton High School.

B113 **652.26** Fluorescence Kinetic Studies of DNA Unwrapping in Transcription Initiation with NTP Addition and in Open Complex Dissociation by High Salt. **K. Callies, C. McNerney, C.K. Cimperman, A. Xue, H. Kan, R. Sreenivasan, M. Chhabra, T. Record.** University of Wisconsin—Madison.

B114 **652.27** Characterization of the 3RD and 4TH Ef-Hand Motifs of NADPH Oxidase 5 by Spectroscopy and Calorimetry. **C-C. Wei, E. Fabry.** Southern Illinios University Edwardsville.

B115 **652.28** Identification of Notch Binding Protiens and Localization of Notch to Focal Adhesions. **S.L. Havel, T.R. Gazdik, T.L. Wood, B. LaFoya, A. Albig.** Boise State University.

B116 **652.29** Deciphering the 'Fuzzy' Interaction of FG Nucleoporins and Transport Factors Using SANS. **S. Sparks, D. Cowburn.** Albert Einstein College of Medicine.

B117 **652.30** Biochemical Characterization of MarR and TetR Proteins from *Clostridium difficile*. **R. Takahashi, B. Panchal, D.E. Kim, S. Wilkinson.** California Polytechnic State University.

B118 **652.31** Dynamic Multi-Site Phosphorylation by Fyn and Abl Drives the Interaction Between CRKL and the Novel Scaffolding Receptors DCBLD1 and DCBLD2. **A. Schmoker, J. Weinert, K. Kellett, H. Johnson, R. Joy, M. Weir, A. Ebert, B. Ballif.** University of Vermont.

B119 **652.32** Phosphorylation of PEA-15 Allosterically Induces Conformational Change Suited for Fadd Binding and Negatively Regulates Apoptosis. **S. Hassan, S. Crespo, Y. Wei.** New Jersey City University.

B120 **652.33** Resolving Protein Interactions in Live Bacterial Cells Through 3D Single-Molecule Localization Microscopy. **C.J. Richardson, J. Rocha, A. Gahlmann.** University of Virginia.

B121 **652.34** Mapping the Interface of Alpha Globin and eNOS: Implications for Increasing Endogenous NO Therapeutically. **T.C.S. Keller IV, N.K. Swope, L. Columbus, B.E. Isakson.** University of Virginia.

B122 **652.35** Ligand Binding and Phosphorylation of Anabaena Sensory Rhodopsin Transducer Towards Putative Signaling State in Sensory Rhodopsin Mediated Protein-Protein Cross Talk. **A. Gautam, T.S. Jones, V.D. Trivedi.** Bethune-Cookman University.

B123 **652.36** Analyzing Protein Kinase C Interactions with Rho4 and Bud3 in the Filamentous Fungus *Aspergillus nidulans*. **B. Betton, J. Hobson, E. Olsen, T.W. Hill, L. Jackson-Hayes.** Rhodes College and Lane College.

B124 **652.37** Investigating the Cia1:Cia2 Sub-Complex of the Cytosolic Fe-S Cluster Assembly Pathway. **S. Esonwune, A. Vo, M. Marquez, D. Perlstein.** Boston University.

B125 **652.38** Preferential Interaction of Beryllium Ion with Carboxylate-Rich Peptides. **B. De Silva, R.K. Gary.** University of Nevada and Las Vegas.

B126 **652.39** A Biochemical and Structural Look into the Functional Role of Transferrin in *D. melanogaster*. **J. Weber, L. Brummett, B. Geisbrecht, M. Kanost, M. Gorman.** Kansas State University.

B127 **652.40** Evaluating the Nuclease Activity of *Pseudomonas* Exotoxin A. **N. Patel, N. Jackson, J. Weldon.** Towson University.

B128 **652.41** DNA Binding Properties of the Transcription Factor *Optix*. **J.M. Rodriguez.** University of Puerto Rico, Puerto Rico.

B129 **652.42** Metal Binding Specificity in a Putative Nickel Solute Binding Protein. **M. Amato, E. Yukl.** New Mexico State University.

B130 **652.43** Exploration of Membrane Binding of α-Synuclein Through Site Based Spin Labeling. **J. Vrabel.** Westminster College.

B131 **652.44** Parameters That Define Suppressor of IKK Epsilon (SIKE): Cytoskeletal Protein Interactions Revealed Through Determination of Binding Affinities and SIKE's Dimer Interface. **H.A. Sonnenschein, J.E. Bell, J.K. Bell.** University of San Diego.

653. PROTEIN TURNOVER AND QUALITY CONTROL

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
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Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B132 **653.1** Mitophagy During Differentiation of Human Embryonic Stem Cells. **L-P. Kao, E. Wolvetang.** Purdue University and University of Queensland, Australia.

B133 **653.2** Hepatic Endoplasmic Reticulum Associated Degradation (ERAD) Manages FGF21 Levels and Metabolism via CREBH During Fasting-Feeding and Growth. **A. Bhattacharya, K. Zhang, L. Qi.** University of Michigan and Wayne State University.

B134 **653.3** Dysregulation of Human Mitochondrial ClpP Protease Activity by Acyldepsipeptides Analogs Leads to Apoptotic Cell Death. **W.A. Houry.** University of Toronto, Canada.

B135 **653.4** Modulation of the HSP70 Protein Quality Control System by Phosphorylation of Chaperones and Co-Chaperones. **R. Page.** Miami University.

B136 **653.5** Autophagic Clearance of Proteasomes in Yeast Requires the Conserved Sorting Nexin SNX4. **L.A. Howell, A.A. Nemec, M.A. Murray, R.J. Tomko; Jr.** Florida State University College of Medicine.

B137 **653.6** A Novel Method for Studying Zinc Deficiency in Vitro and Its Application. **C.E. Richardson, L.S. Cunden, V.L. Butty, E.M. Nolan, S.J. Lippard, M.D. Shoulders.** Massachusetts Institute of Technology.

B138 **653.7** Defining Chaperone Mediated Autophagy in Ischemic and Proteotoxic Models of Cardiac Pathology. **R. Ghosh, J.S. Pattison.** University of South Dakota.

B139 **653.8** Numerous Cellular Pathways Modulate Non-Imported Mitochondrial Protein Abundance. **V.P.S. Shakya, W. Barbeau, C. Knutson, A.L. Hughes.** University of Utah School of Medicine.

B140 **653.9** Regulating Er Protein Folding Homeostasis by Distinctively Processing mRNAs. **W. Li, V. Okreglak, J. Peschek, P. Kimmig, P. Walter.** University of California and San Francisco.

654. UBIQUITIN PATHWAY AND TARGETING

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
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Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B141 **654.1** Usp24 Induces IL-6 in Tumor-Associated Microenvironment Through Stabilizing p300 and β-TrCP to Promote the Malignancy of Lung Cancer. **J-J. Hung.** Bioscience and Bioindustry, Taiwan.

B142 **654.2** Understanding the Internalization Dynamics of N-Acetylglucosamine Transporter (NGT1) in *Candida albicans*. **K.H. Rao, S. Ghosh.** National Institute of Plant Genome Research, India and University of Kalyani, India.

B143 **654.3** Activation and Auto-Destruction of the Ubiquitin Ligase Itch. **A. Angers, R. Ayoubi, G. Desrochers.** University of Montreal, Canada.

B144 **654.4** The Misfolded Protein Client as a Determinant of Substrate Ubiquitination by the Hsp70/CHIP Complex. **C. Paththamperuma, H. Zhang, R. Page.** Miami University.

B145 **654.5** Phosphorylation of SLIMB by Minibrain/DYRK1a Activates SLIMB-Mediated Circadian Clock Protein Degradation. **A. Contreras, C. Tabuloc, Y. Li, J. Vanselow, A. Schlosser, J. Chiu.** University of California, Davis and University of Würzburg, Germany.

B146 **654.6** Characterizing the Spatial Variance of Autophagic Cargo Receptor, OPTN. **S.S. Najera, J-M. Heo, W. Harper.** San Diego State University and Harvard Medical School.

B147 **654.7** Understanding How Distal Residues Play a Role in Parkin Activity. **J. Winters, P. Beuning, L. Makowski, M.J. Ondrechen.** Northeastern University.

B148 **654.8** Function and Evolution of Ubiquitin HECT Ligases. **E.D. Kim, V.P. Ronchi, J.M. Klein, C.M. Summa, A.L. Haas.** Louisiana State University Health Sciences Center and University of New Orleans.

B149 **654.9** Dub Activity of Endothelial A20 Maintains and Repairs Endothelial Barrier After Inflammatory Lung Injury. **D. Soni, D. Wang, S.C. Regmi, S.M. Vogel, C. Tiruppathi.** University of Illinois at Chicago.

B150 **654.10** The Related Roles of a Ubiquitin Processing Protease, Nutrient Sensor, and Cytidine Deaminase in the Growth-To-Development Transition of *Dictyostelium* Development. **B. Nelson, R. Pandoy, K. Cook, D. Lindsey.** Walla Walla University.

B151 **654.11** Regulation of Mitophagy by the Parkin Ubiquitin Ligase and PINK1 Ubiquitin Kinase. **K. Gehring.** McGill University, Canada.

B152 **654.12** Arkadia (Ring Finger Protein 111) Mediates Sumoylation?Dependent Stabilization of Nrf2 Through K48-Linked Ubiquitylation. **J. Davis, D. McIntosh, T. Walters, I. Arinze.** Meharry Medical College.

B153 **654.13** Identifying the Substrate Proteins of E3 Ubiquitin Ligase by Orthogonal Ubiquitin Transfer (OUT). **J. Yin, Y. Wang, K. Bhuripanyo, G. Chen, L. Zhou, R. Liu, H. Zhou.** Georgia State University.

655. ENZYME MECHANISMS, KINETICS AND ENERGETICS

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 PM–1:00 PM
Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B154 **655.1** Deciphering the Effect of Salts on Bilirubin Oxidases Activity. **E. Roussarie, S. Bichon, G. Perrière, N. Mano, C. Stines-Chaumeil.** National Center for Scientific Research, France.

B155 **655.2** Investigating the Kinetics, Mechanism, and Reaction Pathway of a Biodesulfurizing Enzyme from *Rhodococcus erythropolis,* Dibenzothiophene Monooxygenase. **S.A. Jirde, G. Mendez, L. Gonzalez-Osorio, K.J.E. Johnson, B. Palfey, J. Vey.** California State University, Northridge and University of Michigan.

B156 **655.3** Investigating Amino Acid Residues in the Active Site of Dibenzothiophene Monooxygenase (DszC). **K. Johnson, G. Mendez, L. Gonzalez-Osorio, S. Jirde, B. Palfey, J. Vey.** California State University, Northridge and University of Michigan

B157 **655.4** Structural Determination of Inteins from Halophilic Organisms. **D.A. Reidy.** College of the Holy Cross.

B158 **655.5** The Influence of Pressure on the Activity of Enzymes from Deep-Sea Extremophiles. **C.K. Ramsoomair, A. Chavez, M.A. Ruiz, A.V. Gomez, K.V. Mills.** College of the Holy Cross.

B159 **655.6** Expression and Characterization of the Receptor Tyrosine Kinase TIE2. **M.A. Kennedy, Y. Wu, A. Grunseth, C.D. Sohl.** San Diego State University.

B160 **655.7** Homing Endonuclease and Protein Splicing Activity of Inteins from Extreme Thermophiles. **H.Y. Comeau, A.V. Gomez, K.V. Mills.** College of the Holy Cross.

B161 **655.8** Purification of Acid Phosphatase from *Lupinus albus* for Characterization. **S.R. Phillips, E.J. Fogle.** California Polytechnic State University.

B162 **655.9** Comparing *E. coli* Expression and Enzyme Kinetics of Wildtype and Codon Optimized 2-(2'-Hydroxyphenyl) benzenesulfinate Desulfinase (DSZB) from *Nocardia asteroides* A3H1 and *Rhodococcus erythropolis* IGTS8. **M.L. St. George, K. Idrizi, L.M. Watkins.** James Madison University.

B163 **655.10** Characterization of Bacterial Arginine Kinases in Species from the Order *Myxococcales.* **L. Fannin, M. Aryal, K. Stock, M. Snider, D. Fraga.** College of Wooster.

B164 **655.11** Kinetic Analysis of PRMT1 Reveals Multifactorial Processivity and a Sequential Ordered Mechanism. **J.I. Brown, T. Koopmans, J. van Strien, N.I. Martin, A. Frankel.** University of British Columbia, Canada, University of Utrecht, Netherlands and Leiden Institute for Chemistry, Netherlands.

B165 **655.12** Control of the Rate Limiting Step by Active Site Compactness: Reaction of UDP-Galactopyranose Mutase with UDP-Arabinopyranose. **P. Sobrado, G. Pierdominici-Sottile, J.J. Tanner.** Virginia Polytechnic Institute and State University, Universidad de Nacional Quilmes, Argentina and University of Missouri

B166 **655.13** Investigating Putative Key Catalytic Residues and Uncoupled Hydroperoxyflavin Formation in the Mechanism of 6-Hydroxynicotinate-3-Monooxygenase, a Decarboxylative-Hydroxylase in Bacterial Nicotinate Catabolism. **S.W. Perkins, M.J. Snider.** College of Wooster.

B167 **655.14** Determining the Mechanism of 6-Hydroxynicotinate 3-Monooxygenase (NicC), an Enzyme Involved in Nicotinate Degradation. **K. Nakamoto, S. Gerislioglu, M.J. Snider.** The College of Wooster and University of Akron.

B168 **655.15** The Relationship of Structural Stability to Temperature-Dependent Activity in a Family of Thermophilic Inteins. **P.M. Exconde.** College of the Holy Cross.

B169 **655.16** Salt-Dependent Protein Splicing: *in Vitro* Enzymology and *in Vivo* Physiological Relevance. **C.J. Janton, A.V. Gomez, A.M. Makkay, R.T. Papke, K.V. Mills.** College of the Holy Cross and University of Connecticut.

B170 **655.17** *In Vitro* Biochemical Studies of the Decarboxylase Domain of Arna from *Pseudomonas aeruginosa*. **R. de Miranda, L. Miller Conrad.** San Jose State University.

B171 **655.18** Differential Protein Splicing of Salt-Dependent Inteins from *Haloquadratum walsbyi*. **A.K. Lynch, S. Amunya, A. Gomez, J. Reitter, K. Mills.** College of the Holy Cross.

B172 **655.19** Biochemical Characterization of DszD, the Flavin Reductase Involved in Bacterial Biodesulfurization. **G. Mendez.** California State University and Northridge.

B173 **655.20** Endonuclease and Splicing Activity of a *Haloferax volcanii* Intein. **A. Cawood.** College of the Holy Cross.

B174 **655.21** Characterization of Mutant Sunflower Acetoacetyl CoA Thiolase. **J. Dyer.** Montclair State University.

B175 **655.22** The Variable Salt Dependence of Mini-Inteins from *Haloquadratum walsbyi*. **O.R. Conroy, A.V. Gomez, K.V. Mills.** College of the Holy Cross.

B176 **655.23** Structural and Biochemical Analyses of Bifunctional Alcohol Dehydrogenase Enzymes from *Entamoeba* Spp. M**. Gabrielle, A. Espinosa.** Roger Williams University.

B177 **655.24** The Cationic Residue Coordinated to the N1/^{2}O-Position of FMN in the Nitroreductase Family Is Highly Conserved Yet Not Central to Catalysis. **J.M. Musila, S.E. Rokita.** Johns Hopkins University.

B178 **655.25** A Bacterial Flavin-Dependent Oxidoreductase That Captures Carbon Dioxide into Biomass. **J. Mattice, B. Streit, G. Prussia, J. Peters, J. DuBois.** Montana State University and Washington State University.

B179 **655.26** Electrostatic Interactions in Natural Enzymes: What Can We Learn for Enzyme Design? **M.J. Ondrechen, T.A. Coulther, L. Ngu, P.J. Beuning.** Northeastern University.

B180 **655.27** Kinetic Characterization of *Staphylococcus aureus* speG Polyamine *N*-acetyltransferase. **P. Boeck, R. Renolo, J. Forwood, M.L. Kuhn.** San Francisco State University and Charles Sturt University, Australia.

B181 **655.28** FSLA Biochemical Characterization as a Baseline for Future Inhibitor Analysis. **D.G. Miles, K.M. Hoffmann.** California Lutheran University.

B182 **655.29** Binding Association and Kinetic Characterization of DesD Reveals High Substrate Specificity and Cooperative Behavior. **L. Tran, K.M. Hoffmann.** California Lutheran University.

B183 **655.30** Determining the Active Site Base and Order of Substrate Addition Within F_{420}-Dependent Glucose-6-Phosphate Using Steady-State and Pre Steady-State Kinetics and Isotope Effects Methods. **K. Johnson-Winters, M. Oyugi, L. Davis, G. Bashiri, E.N. Baker.** The University of Texas at Arlington and University of Auckland, New Zealand.

B184 **655.31** Resolving the Mechanism of Glycine Oxidation by GoxA Using X-Ray Crystallography. **D.M. Avalos, K. Mamounis, V.L. Davidson, E.T. Yukl.** New Mexico State University and University of Central Florida.

B185 **655.32** Exploring New Ligand Architecture Derived from Purple-Acid Phosphatase Type and Their Interactions with Oximes: Towards Useful Catalyst for Dephosphorylating Pesticides. **N.T. Le, M.M. Allard.** La Sierra University.

B186 **655.33** Effects of Hydrogen Bond Donors on Reactivity of Sulfite Oxidase. **S. Bali.** New Mexico State University

B187 **655.34** Mutational Analysis of the Clu2593c Homing Endonuclease Reveals Specific Residues Required for DNA Binding and Cleavage. **L. Davis, B. Takushi, B.K. Kaiser.** Seattle University.

656. CHEMICAL BIOLOGY OF NATURAL PRODUCTS AND SMALL MOLECULES

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 PM–1:00 PM
Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B188 **656.1** Natural Compounds as Probes to Dissect Lysosome Homeostasis. **Y. Li, X. Hao, C. Yang.** Chinese Academy of Sciences, People's Republic of China.

B189 **656.2** Some Biochemical and Histological Changes During Cadmium-Induced Toxicity in Rats and the Protective Intervention of *Phyllanthus nivosus* Leaf Extract. **T.O. Johnson, A. Olatunde, A.D. Ochekwu, P.I. Eze.** University of Jos, Nigeria and Abubakar Tafawa Balewa University, Nigeria.

B190 **656.3** SuFEX Based Click Chemistry for Peptide Stapling. **J. Han, J. Celaje, J. Thomas, V. Fokin.** University of Southern California.

B191 **656.4** The Role of Autophagy and Mitophagy in Synthetic Lethality of KRAS Mutant Human Colorectal Cancer Cells by Phytochemical Formosanin C. **C-L. Su, C. Ni.** National Taiwan Normal University, Taiwan.

B192 **656.5** Assessment of *Humulus lupulus'* Essential Oil Profile and Its Effect on Fungal Infection. **S.D. Walden, C.W. Anderson, E. Lowry, M.J. Wolyniak.** Hampden-Sydney College.

B193 **656.6** Cell-Based Screening Platforms for Identification of Modifiers of Odor-Triggered Mosquito Behaviors Acting Through Binding to the Orco Subunit of Odorant Receptor Heteromers. **K. Iatrou, P. Tsitoura, N. Sdralia, M. Konstantopoulou.** National Centre for Scientific Research "Demokritos", Greece.

B194 **656.7** A Synergistic Combination of Huperzine A, *Convolvulus pluricaulis* and *Celastrus paniculatus* Promote Cognitive Function and Health. **I. Ahmad, A. Swaroop, D. Bagchi.** Cepham Life Sciences, Inc. and Cepham Research Center.

B195 **656.8** *Euphorbia bicolor* (*Euphobiaceae*) Latex Extract Induces Antinociception and Analgesia in a Rat Inflammatory Pain Model. **P. Basu, T. Harris, S. Tongkhuya, A. Riley, J. Wojtaszek, J. Granger, D.L. Averitt, C. Maier.** Texas Woman's University, U.S. Army Institute of Surgical Research, AIT Laboratories and A HealthTrackRx Company.

B196 **656.9** A Small Molecule Virulence Factor Suppresses Plant Immune Response. **B. Li, E.M. O'Neill, T. Mucyn, J.B. Patteson, J. Baccile, F.C. Schroeder, E. Massolo, J. Dangl.** University of North Carolina at Chapel Hill and Cornell University.

B197 **656.10** Antitumor Activity of *Simarouba tulae* Extracts in a Panel of Cancer Cell Lines. **I. Conde Del Moral, J. Reyes, P. Vivas-Mejia, C. Ospina.** Universidad de Puerto Rico, Rio Piedras Campus, Puerto Rico, University of Puerto Rico, Medical Sciences Campus , Puerto Rico, University of Puerto Rico and Cayey Campus, Puerto Rico.

B198 **656.11** The Anti-Adipogenic Effects of Neohesperidin Dihydrochalcone Derivatives on Human Adipose-Derived Stem Cells. **G.E. Han, J.H. Lee.** CHA University, Republic of Korea.

B199 **656.12** Design and Synthesis of a Triazole-Based Small Molecule Library for the Inhibition of Bacterial Quorum Sensing. **C.E. Kruszynski, K. Hinspeter, A.M. Danowitz.** Mercyhurst University.

B200 **656.13** Investigations of Essential Oils as Quorum Sensing Inhibitors of *Vibrio fischeri*. **K. Hinspeter, A.M. Danowitz.** Mercyhurst University.

B201 **656.14** Antioxidant and Ameliorative Potential of Aqueous Seed Extracts of Delonix Regia on High Fat Diet and Streptozotocin Induced Diabetes in Female Wistar Rats. **B.M. Onyegeme-Okerenta, P.O. Ogboye, C.C. Monago-Ighorodje, I.N. Monago.** University of Port Harcourt, Nigeria and Federal Polytechnic Oko, Nigeria.

B202 **656.15** Towards a Pan-Group Activator of the Quorum Sensing System in the Common Pathogen *Staphylococcus epidermidis*. **W. Shen, Y. Tian, H.E. Blackwell.** University of Wisconsin—Madison.

B203 **656.16** Identifying the Target Protein of an Antipyocyanin Compound in *Pseudomonas aeruginosa* Using Photoaffinity Labeling. **R. Moore, K. Aboulhosn, L.M. Conrad.** San Jose State University.

B204 **656.17** *In Vitro* Microbiological Evaluation of Some Metal Complexes of 4-Hydroxy-2-oxo-2H-Chromene-3-Carbonitrile. **S. Govori Odai, H. Ibrahimi, M. Daci, A. Haziri.** University of Prishtina, Kosovo.

B205 **656.18** Carnosol Increases Skeletal Muscle Cell Glucose Uptake via AMPK-Dependent GLUT4 Glucose Transporter Translocation. **D.C. Baron, F. Vlavcheski, I. Vlachogiannis, E. Tsiani.** Brock University, Canada.

B206 **656.19** 4β-Hydroxywithanolide E Inhibits Tumor Necrosis Factor α-Induced Tissue Factor Expression and Tumor-Associated Coagulation in Non-Small Cell Lung Cancers. **K-Y. Hsieh, Y-H. Lin, F-R. Chang, C-C. Wu.** Kaohsiung Medical University, Taiwan.

B207 **656.20** Design and Characterization of an NQO1-Activated Spiroisoindolinone Derivative for Glioma Treatment. **S.R. Punganuru, H.R. Madala, K. Srivenugopal.** Texas Tech University Health Sciences Center.

B208 **656.21** Accessing New Chemical Diversity from Ancient Non-Actinobacterial Strains. **S.M. Terrell, Y. Wu, J.G. Klein, L.K. Charkoudian.** Haverford College.

B209 **656.22** Natural Products as a Source to Discover Novel Drug Targets in *p. falciparum*. **J. Butler.** University of Georgia.

B210 **656.23** Anticancer Effect of Silibinin B on Colorectal Cancer Cell Line. **M.A. Horita, U. Ezekiel.** Saint Louis University.

B211 **656.24** Aerobiotics: Toward the Discovery of New Antibiotics from Airborne Actinomycetes. **Z. Hudgens, A. Wickard, C. Nealon, C. Sweet.** United States Naval Academy

B212 **656.25** Biosynthesis of Non-Ribosomal Peptide Beta-Lactones by Plant-Associated *Pseudomonas fluorescens*. **J. Schaffer, T. Wencewicz.** Washington University in St. Louis.

B213 **656.26** Safety and Efficacy of a Novel *Curculigo orchioides* Extract in Boosting Testosterone Levels in Male Rats. **A. Swaroop, H.G. Preuss, M. Bagchi, D. Bagchi.** Cepham Research Center, Georgetown University Medical Center and Dr. Herbs LLC.

B214 **656.27** International Research Infrastructures—New Research Opportunities for Biochemists and Molecular Biologists. **B. Stechmann.** EU-OPENSCREEN / FMP Leibniz Institute for Molecular Pharmacology, Germany.

B215 **656.28** Anticancer Effect of Cucurbitacin B on Head and Neck Cancer. **A.K. Ganapathy, M.A. Horita, V.A. Selvamani, T. Subramanian, G.A. Chinnadurai, U. Ezekiel.** Saint Louis University.

B216 **656.29** Genome-Mining in *Pseudomonads* Identifies a New Class of Small Molecules. **A. Kretsch, G. Morgan, K. Santa Maria, J. Tyrrell, I. Vallet-Gely, B. Li.** University of North Carolina at Chapel Hill and Institut de Biologie Intégrative de la Cellule, France.

B217 **656.30** Montmorency Tart Cherry Anthocyanins: Dose-Dependent Antioxidant Activity Against Cholesterol Oxidation. **I.G. Medina Meza, M.D. Schweiss, C. Barnaba.** Michigan State University and University of Michigan.

B218 **656.31** Synthesis of Fluorescein-Linked, Zinc-Based Metal Organic Frameworks as Carriers of Targeted Treatments for Retinopathies. **Z. Fralish, D. Bromfield-Lee, J. Eubank, S. Shelby.** Florida Southern College.

B219 **656.32** The Role of Fruits on the Cancer Incidence in Cusco Peru. **J. Jones, C. Munoz, L. Ledesma, V. Faustino, L.A. Nogaj, L. Roberts, S. Deprele.** Mount Saint Mary's University.

B220 **656.33** Protective Effects of a Red Maple (*Acer Rubrum*) Leaves Extract on Human Keratinocytes Against H_2O_2-Induced Oxidative Stress. **H. Ma, H. Guo, C. Liu, Y. Wan, N.P. Seeram.** Wuyi University, People's Republic of China, No.1 Hospital of China Medical University, People's Republic of China, University of Rhode Island and Providence College.

B221 **656.34** Decorating with Amino Acids: Biosynthetic Investigation of a Unique Polyphenol Antibiotic. **A. Whiteley, N. Shah, C. Horta, V. Petukhova, L. Sanchez, K.R. Watts.** California Polytechnic State University and University of Illinois at Chicago.

B222 **656.35** Pomegranate Phenolics Inhibit Type I Collagen Cross-Linking Induced by Glycative Stress. A**. Cai, W. Liu, H. Ma, G.W. Dombi, J.A. Dain, N.P. Seeram.** University of Rhode Island.

B223 **656.36** Inhibition of Pentameric Ligand-Gated Ion Channels by Lophotoxin, a Diterpenoid from Coral *Lophogorgia chilensis*. **G.A. Camacho-Hernandez, L. Huber, W. Fenical, P. Taylor.** University of California and San Diego.

B224 **656.37** Fenugreek Saponin Improves Insulin Sensitivity in Obese Subjects—A Randomized, Placebo Controlled, Pilot Study. **S. Nair, S.L. Barnes, D.T. Smith, A.S. Nair.** University of Wyoming and Nutriwyo LLC.

657. CHEMICAL PROBES, BIOSENSORS AND BIOMARKERS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B225 **657.1** Fluorescent Peptide Biosensor for Probing CDK5 Kinase Activity in Glioblastoma and Its Applications for Diagnostics and Drug Discovery in Vitro and by Fluorescence Imaging. **M.C. Morris, M. Peyressatre, I. Soussi, H. Boukhaddaoui.** Institut des Biomolécules Max Mousseron, France.

B226 **657.2** Diphtheria Toxin Resistance Selective Marker for In *vivo* Selection. **T.R. Gomez, J.M. Gutierrez, D.J. Bacich, D.S. O'Keefe.** University of the Incarnate Word and The University of Texas Health Science Center at San Antonio.

B227 **657.3** Dimethylmaleimide: A New Reagent for Protein Bioconjugation. **R. Dyer, M. Richardson, J. Garcia, A. Chu, S. Majumdar, G.A. Weiss.** University of California and Irvine.

B228 **657.4** Characterizing Binding Interactions and Elucidating Structure of Aptamer-Based Biosensors. **L.T. Armstrong, A.J. Bonham.** Metropolitan State University of Denver.

B229 **657.5** Development of Novel Biosensors for Non-Invasive and Rapid Diagnosis of Celiac Disease. **A. Nguyen, A.J. Bonham.** Metropolitan State University of Denver.

B230 **657.6** A New Membrane Potential ($\delta\psi$)-Independent Iron Indicator Selectively Detects Mitochondrial Chelatable Iron but Not Calcium in Living Cells. **J. Hu, A-L. Nieminen, A. Kholmukhamedov, C.C. Lindsey, C.C. Beeson, J.J. Lemasters.** Medical University of South Carolina.

B231 **657.7** Troubleshooting the Process of Creating an Electrochemically Active Elastin-Like Polymer. **A.F. Mack, M. Morales, E.R.M. Balog, J.M. Halpern.** University of New Hampshire and University of New England.

B232 **657.8** A Novel Suite of Genetically Encoded Fluorescent Biosensors for Dynamic and Sensitive Enzyme Activity Measurements *in Vivo*. **S. Mehta, A. Mo, J. Zhang, J. Zhang.** University of California and San Diego.

B233 **657.9** Towards the Development of a Real-Time Insulin Biosensor. **S. Sen, E.M. Crawley, K.N. Gabriel, M.H. Fletcher, G. Speciale, B. Vincents, J.H. Mo, K. Safronyuk, C.A. Totoiu, S. Majumdar, E.L. Botvinick, G.A. Weiss.** University of California, Irvine, Flinders University, Australia and Novozymes, Denmark.

B234 **657.10** Investigation of New Chemical Probes for Detection of Citrulline Using Small Molecule Model Systems. **B. Delaney, B. Laufenberg, D.V. Kadnikov.** University of Wisconsin—Stout.

B235 **657.11** Identification and Characterization of Modified DNA Aptamers Targeting ENOX2. **L. Fetter, A.J. Bonham.** Metropolitan State University of Denver.

B236 **657.12** Ovarian Cancer Targeting Phage Clones for *in Vivo* Near-Infrared Optical Imaging. **M. Asar, J. Newton-Northup, S. Deutscher, M. Soendergaard.** Western Illinois University and University of Missouri.

B237 **657.13** Imaging Agent for Redox-Active Molecules. **M. Bongay, D. Sin, L.M. Sigua, M. Halim.** California State University and East Bay.

B238 **657.14** Fluorescence Lifetime Imaging of Compartmental pH Dynamics Using Red Fluorescent Protein Sensors in Live Cells. **E. Haynes, M. Rajendran, A. Lyon, N. Noinaj, R. Day, M. Tantama.** Purdue University and Indiana University School of Medicine.

B239 **657.15** Utilizing Design Principles of Electrochemical DNA Aptamer Biosensors in Multiple Optical Assay Methodologies. **A.J. Bonham.** Metropolitan State University of Denver.

B240 **657.16** Development of Ligand-Based Inhibitors for Protein N-Terminal Methyltransferase. **R. Huang.** Purdue University.

B241 **657.17** Urinary Platelet-Activating Factor as an Indicator of Interstitial Cystitis/Bladder Pain Syndrome. **J. McHowat, T.S. Isbell, E.C. Campian.** Saint Louis University.

B242 **657.18** Expanding the Toolbox of Chemoenzymatically Synthesized Peptidoglycan Probes and Investigating Their Interaction with Nucleotide Sugar Transporters. **Z.S. Jones, K.E. DeMeester, H. Liang, M. Jensen, E. D'Ambrosio, C. Leimkuher Grimes.** University of Delaware.

B243 **657.19** Adoption of DNA Aptamer-Based Biosensors into Nanoparticle-Based Complexes for Raman Detection. **D. Clark, A.J. Bonham.** Metropolitan State University of Denver.

B244 **657.20** Engineering a Hybrid Fret Biosensor to Study Proteolytic Activities of MT1-MMP. **P. Limsakul, Y. Wang.** University of California and San Diego.

658. LIPIDOMICS & METABOLOMICS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B245 **658.1** Lipidomics Reveals Physiological Isotope Effects During the Enzymatic Oxygenation of Polyunsaturated Fatty Acids *ex Vivo*. **A.R. Navratil, M.S. Shchepinov, E.A. Dennis.** University of California, San Diego and Retrotope Inc.

B246 **658.2** Phospholipids as Indicators of Castration Resistant Prostate Cancer. **L.M. Ingram, M. Manusoura, S. Pati, B. Cummings.** University of Georgia

B247 **658.3** Defects in TM6SF2 Impairs Lipidation of Nascent VLDL and Leads to Accumulation of Liver Fat. **S.A. Martin, E. Smagris, J.C. Cohen, H.H. Hobbs.** Howard Hughes Medical Institute and The University of Texas Southwestern Medical Center.

B248 **658.4** Advancement in Atopic Dermatitis Research Through the Use of a Novel Skin Tape Strip Mass Spectrometry Based Processing Protocol. **E. Berdyshev, E. Goleva, I. Bronova, M.A. Seibold, J. Jung, D.Y.M. Leung.** National Jewish Health.

B249 **658.5** Comparative Lipidomic Profiling of Parasite-Infected and Non-Infected Northern Saw-Whet Owls. **C.S. Peros, T.A. Garrett.** Vassar College.

B250 **658.6** Urine Odor Profiling for Diagnosis of Interstitial Cystitis. **R.J. Park, M. Shahid, A. Yeon, J. Kim.** Cedars-Sinai Medical Center.

B251 **658.7** Lipid Abnormalities and Hepatic Dysfunction Associated with *Yersinia pestis* Infection in Non-Human Primate Model. **A. Gautam, S. Muhie, N. Chakraborty, A. Hoke, D. Donohue, S.A. Miller, R. Hammamieh, M. Jett.** U.S. Army Center for Environmental Health Research.

B252 **658.8** Metabolomic Profiling Associated with Deployment-Related Stressors in Army Personnel. **A. Gautam, D. Donohue, D. Abu-Amara, A. Hoke, A. Genfi, E. Blessing, R. Hammamieh, C. Marmar, M. Jett.** U.S. Army Center for Environmental Health Research and Steven and Alexandra Cohen Veterans Center for the Study of Posttraumatic Stress and Traumatic Brain.

B253 **658.9** Metabolic Markers of Hyperhomocysteinemia in Healthy Adults Population. **M.I. Waly, A. Ali, S. Padmanabhan, Y. Al-Farsi.** Sultan Qaboos University, Oman.

B254 **658.10** Metabolomic Analysis of HER2-Positive Breast Cancer Cells. **J.A. Bush, M.K. Sahni, R.K. Ravindran, I.H. Khan, V.V. Krishnan.** California State University, Fresno, University of California and Davis.

B255 **658.11** Metabolite Concentrations Are Unstable During Cell Sorting. **E.M. Llufrio, L. Wang, F. Naser, G.J. Patti.** Washington University in St. Louis.

B256 **658.12** Aqueous Extract of *Aspilia africana* C.D. Adams Leaves Ameliorates Cadmium-Induced Testicular Perturbations in Male Wistar Rats. **B.A. Ayo-Lawal, T.M. Yakubu.** University of Ilorin, Nigeria.

659. GROWTH FACTOR AND CYTOKINE SIGNALING

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B257 **659.1** **I**nterleukin-**L**ike **E**MT **I**nducer *ILEI* Mediates Breast Cancer Stem Cell Formation and Tumorigenesis Through LIF Receptor Signaling. **A. Woosley, A. Dalton, P. Howe.** Medical University of South Carolina.

B258 **659.2** Leptin Alleviates the Saturated Fatty Acid-Induced Increase in BACE1 Expression and Amyloid-β Production-Relevance to Alzheimer's Disease Pathogenesis. G**. Marwarha, O. Ghribi.** University of North Dakota School of Medicine and Health Sciences.

B259 **659.3** The Cholesterol Metabolite 27-Hydroxycholesterol Decreases BDNF Expression through GPR17 Activation in Human SH-SY5Y Neuroblastoma Cells. **G. Marwarha, O. Ghribi.** University of North Dakota School of Medicine & Health Sciences.

B260 **659.4** Aqueous Extract of Lavender Demonstrates Immunomuodulatory Effects Through Activation of NFkB. **A.G. Butala, S. Byrd, K. McLain.** Fort Lewis College.

B261 **659.5** Comparing the Solution Conformation and Activin-Binding of Follistatin Isoforms. **L.S.S. Bhenderu, K. Murray, N. Stepurko, X. Wang, M. Hyvönen, S. D'Arcy.** The University of Texas at Dallas and University of Cambridge, United Kingdom.

B262 **659.6** Comparison of Polyvinyl Alcohol (PVA) vs. Collagen Sponges to Assess Macrophage Activation Patterns in Rats. **K. Alkhatib, A. Ozkizilcik, J.M. Durdik, J.A. Stenken.** University of Arkansas.

B263 **659.7** Understanding the Regulation of TGF-β1 Signaling Pathway in Human Bronchial Epithelial Cells: The Role of PP1 and LMTK2. **D.F. Cruz, K.M. Cihil, M. Köhn, C.M. Farinha, A. Swiatecka-Urban.** Children's Hospital of Pittsburgh, University of Freiburg, Germany and University of Lisbon, Portugal.

B264 **659.8** Deletion of Tumor-Derived IL-6 Maintains Muscle Mass and Attenuates Lipolysis with Evidence for Soluble IL-6rα as a Driver of Pancreatic Cancer Cachexia. **J. Rupert, T. Zimmers.** Indiana University School of Medicine.

B265 **659.9** Distinct Transcriptional Profile Activated by SCYE1 Through JAK-Mediated STAT3 in Partially Activated Macrophages. **D. Lee, M. Schwarz.** Indiana University School of Medicine.

B266 **659.10** P-Cadherin Overexpression Enhances Survival Signaling in Dysplastic Oral Epithelia via the Epidermal Growth Factor Receptor. **C. Neal, A. Mody, A. Parker, E. Cameron, S. Plager, K. Lawson.** Midwestern University.

B267 **659.11** IQGAP1 Binds the AXL Receptor Tyrosine Kinase and Inhibits Its Signaling. **L. Gorisse, Z. Li, A.C. Hedman, D.B. Sacks.** National Institutes of Health.

B268 **659.12** Insulin Modulates Hippo Signaling by Impairing Yap Function. **A. Hedman, S. Sayedyahossein, D. Sacks.** National Institutes of Health.

B269 **659.13** Quantification of the Release of NGF from Osteoblasts and Osteocytes in Response to Mechanical Load. **M.S. Kim, R.L. Duncan, M. Boggs.** University of Delaware.

B270 **659.14** Planar Enteroids Reveal an Autonomous Wnt and BMP Circuit Controlling Intestinal Epithelial Growth and Organization. **C.A. Thorne, I.W. Chen, L.E. Sanman, M.H. Cobb, L.F. Wu, S.J. Altschuler.** University of Arizona, University of California, San Francisco and The University of Texas Southwestern Medical Center.

B271 **659.15** Determination of the Three-Dimensional Structure of Full-Length Human Epidermal Growth Factor Receptor by Cryo-Electron Tomography. **E.R. Purba, R.R. Akhouri, L-g. Ofverstedt, U. Skoglund, I. Maruyama.** Okinawa Institute of Science and Technology, Japan.

660. EXTRACELLULAR MATRIX AND CELL SIGNALING

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

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Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B272 **660.1** Notch Heterodimer NICD Complexes Have Divergent Functions Compared to NICD Homodimer Complexes. **J.J. Crow, A. Albig.** Boise State University.

B273 **660.2** Investigating the Role of FLO1 in the Lack of Flocculation of Yeast Brewing Strain Thirsty Pagan Local. **A.E. Rieffer, Z. Via.** The College of St. Scholastica.

B274 **660.3** Increases in Transmembrane Glycoprotein NMB (GPNMB), Phospho-ERK1/2, and Matrix Metallopeptidase (MMP)-9 Follow Decline in Arylsulfatase B in Cystic Fibrosis. **J.K. Tobacman, S. Bhattacharyya, L. Feferman, G. Sharma.** University of Illinois at Chicago and Rush University Medical Center.

B275 **660.4** Phosphoproteomic Analysis Identifies Dynamic Regulation of Caveolin-1 Phosphorylation and Caveolae Formation by mTORC2 in Bladder Cancer Cells. **A. Hau, S. Gupta, M. Leivo, W. Zhou, A. Hodge, J. Wulfkuhle, B. Conkright, K. Bhuvaneshwar, S. Rao, S. Madhavan, K. Nakashima, E. Petricoin III.** University of California, San Diego, George Mason University and Georgetown University.

B276 **660.5** Soluble Activin Type IIB Receptor Decoy Changes Gene Expression Profiles of Bone Cells in the *Oim* and Not the *G610C* Mouse Model of *Osteogenesis Imperfecta*. **C.L. Omosule, Y. Jeong, C. Phillips, F. Pfeiffer.** University of Missouri.

B277 **660.6** Cross-Talk Between MAPK Inhibitors and TGF-β Signaling Results in Variable Activation of Human Dermal Fibroblastsdavid. **D.M. Dolivo, S.A. Larson, T. Dominko.** Worcester Polytechnic Institute.

B278 **660.7** Artesunate Antagonizes Myofibroblast Markers and Fibrosis-Associated Extracellular Matrix Protein Expression in Human Dermal Fibroblasts. **S.A. Larson, D. Dolivo, T. Dominko.** Worcester Polytechnic Institute

B279 **660.8** The Impact of the Physical Micro-Environment on Notch Signaling. **M.A. Detweiler.** Boise State University.

B280 **660.9** Alternative Splicing of MAGP2 Generates a Non-Glycosylated Variant Still Capable of Localizing to Extracellular Microfibrils. **A.R. Miyamoto.** California State University and Fullerton.

661. G PROTEINS AND SMALL GTPASES

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

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Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B281 **661.1** Phosphorylation of G Protein γ Subunit Ste18 and the Ste5 Scaffold Form a Braking System that Governs Pathway Activation Kinetics and Switch-Like Signaling in Yeast. **M. Torres, S. Choudhury, P. Baradaran-mashinchi.** Georgia Institute of Technology.

B282 **661.2** Atypical G Protein β5 Promotes Cardiac Oxidative Stress and Fibrotic Remodeling in Response to Multiple Cancer Chemotherapeutics. **S. Chakraborti, A. Pramanick, B. Maity.** Centre of Biomedical Research, India.

B283 **661.3** Effects of Differential Acylation on Aberrant Growth Signaling by Overexpressed Gα13 **N.F. White, G.R. McDiarmid, A.C. Tagliatela, T.E. Meigs.** University of North Carolina at Asheville.

B284 **661.4** A Divergent C-Terminal Region of Gα12 and Gα13 Provides Unique Effector Binding and Growth Signaling Mechanisms. **C.R. Quick, R.C. Stecky, M.L. Mull, E.N. Dover, T.E. Meigs.** University of North Carolina at Asheville.

B285 **661.5** Beta-Cell-Specific Loss of the Inhibitory G Protein, $G\alpha_z$, Prevents Development of Type 1 Diabetes in Nod Mice. **R. Fenske, H. Wienkes, D. Peter, M. Kimple.** University of Wisconsin—Madison.

B286 **661.6** Understanding $G\alpha_{q/11}$ Localization and Trafficking in Uveal Melanoma. **C. Randolph, P. Wedegaertner.** Thomas Jefferson University.

B287 **661.7** Comparison Between the Structure-Function Relationships in Oncogenic and Wild-Type Gα Subunits. **J. Goossens, B. Leverson, D. Freitas.** Loyola University Chicago.

B288 **661.8** New Insights into the Role of SmgGDS as a Major Integrator of Signaling by Ras and Rho Family Members in Cancer. **C. Williams, P. Gonyo, A. Brandt, O. Koehn, E. Lorimer, B. Unger, S-W. Tsaih, Y. Sun, M. McNally, H. Rui, M. Flister, C. Bergom.** Medical College of Wisconsin.

B289 **661.9** Loss of the Unique Inhibitory G-Protein, $G\alpha_z$, in the Pancreatic β-Cell Protects Against Diet-Induced Glucose Intolerance by Enhancing Insulin Secretion, but Is Not β-Cell Autonomous. **A. Reuter, M. Schaid, E. Laundre, J. Harrington, H. Wienkes, C. Mullenberg, M. Kimple.** University of Wisconsin—Madison.

B290 **661.10** TCL/RhoJ Vesicular Localization Is Regulated by GDP-Loading of Its Core GTPase Domain. **B.R. Tader, M.J. Hamann.** Bemidji State University.

B291 **661.11** Investigating a Role for TCL/RhoJ in Endocytic Pathways Using Live Cell Imaging. **B.N. Simons, C.E. Baumgartner, M.J. Hamann.** Bemidji State University.

B292 **661.12** Detection of Novel Rho GAP/GTPase Selectivities Using *in Vitro* Split-Luciferase Assays. **B.A. Wilander, M.J. Hamann.** Bemidji State University.

662. PROTEIN KINASES

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

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Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B293 **662.1** Atypical Protein Kinase C-Specific Activity Reporter Reveals Novel Activation Mechanism of Atypical Protein Kinase C by Sphingosine 1-Phosphate. **T. Kajimoto, A.D. Caliman, I.S. Tobias, T. Okada, J.A. McCammon, S-I. Nakamura, A.C. Newton.** University of California, San Diego and Kobe University, Japan.

B294 **662.2** Mapping Domain Interaction Networks in Protein Kinases with Optical Tweezers. **R. Maillard.** Georgetown University.

B295 **662.3** A Subtle Amino Acid Change Impacts Kinase Function in Dramatically Distinct Ways. **M.T. Kunkel, A.M. Hudson, J. Brognard, A.C. Newton.** University of California, San Diego, University of Manchester, United Kingdom, National Cancer Institute and National Institutes of Health.

B296 **662.4** Analyzing Protein Kinase C Domain Interactions with the Formin SEPA. **E. Olsen, B. Betton, Z. Atiq, A. Singh, L. Campbell, P.C. Parish, T. Hill, L. Jackson-Hayes.** Rhodes College.

B297 **662.5** O-GlcNAcylation of the Human Kinome. **X. Liu, G. Han, S. Renuse, A. Pandey, H. Zhu, G. Hart.** Johns Hopkins University.

B298 **662.6** Deciphering Key Cancer and Inflammation Signaling Pathways with a Novel Homogeneous Bioluminescent Cell Based Kinase Activity Assays. **B. Hwang, N. Nath, S. Goueli, H. Zegzouti.** Promega Corporation.

B299 **662.7** Protein Kinase Cα (PKCα) Gain-of-Function Variant in Alzheimer's Disease Displays Enhanced Catalysis by a Mechanism That Evades Down-Regulation. **J. Callender, Y. Yang, N. Stephenson, A. Jones, J. Brognard, A. Newton.** University of California, San Diego, Cancer Research UK Manchester Institute, United Kingdom, National Cancer Institute at Frederick and National Institutes of Health.

B300 **662.8** Rare Alzheimer's Disease-Associated Protein Kinase C Variant Displays Altered Pharmacological Profile in a Cellular Environment. **Y. Yang, J. Callender, A. Newton.** University of California and San Diego.

B301 **662.9** Trans-Phosphorylation Activates the Yeast Protein Kinase Kin2, an Ortholog of Human Microtubule Affinity Regulating Kinase. **C. Ghosh, L. Sathe, M. Dey.** University of Wisconsin—Milwaukee.

B302 **662.10** A Mechanism for Signal-Dependent IKKβ Activation Driven by Molecular Interactions with Poly-Ubiquitin-Bound Nemo. **S. Cohen, K. Shumate, T. Huxford, G. Ghosh.** San Diego State University, University of California and San Diego.

B303 **662.11** Identification of Novel Fibroblast Growth Factor Receptor Signaling Components. **E.J. Eichelberger.** Ithaca College.

B304 **662.12** A Luminal Kinase Regulates Sarcoplasmic Reticulum Calcium Cycling and Heart Disease. **A. Pollak, S. Wiley, J. Dixon.** University of California and San Diego.

B305 **662.13** Phosphorylation of GPCR Kinase 2 in Intact Cells: A Proteomic Approach. **R. Sterne-Marr, J. Vijay, J. Keyoskey, A. Shareef.** Siena College.

B306 **662.14** Elucidating Structure-Function Relationships of the Human Protein Kinase MEK1. **R.T. Lee, L.M. Ravatt, C.E. Runco, J.P. Oza.** California Polytechnic State University.

B307 **662.15** Molecular Mechanism of Apoptosis Signal-Regulating Kinase I Oligomerization and Auto-Activation. **A. Rahman, X. Zhan.** Tennessee Technological University.

B308 **662.16** The PKC Inhibitor Bimi Functions as a Bi-Topic Ligand That Toggles a Conserved Allosteric Switch to Drive Potent Kinase Inhibition. **N. Ma, S. Lee, T. Devamani, M. Sandhu, R. Sommese, S. Sivaramakrishnan, N. Vaidehi.** City of Hope Beckman Research Institute and University of Minnesota Twin Cities.

B309 **662.17** Ca^{2+}/Calmodulin-Dependent Protein Kinase Kinase β Negatively Regulates Progesterone Mediated Pgrmc1 Signaling and the Warburg Effect. **M.G. Sabbir, P. Fernyhough.** St. Boniface Hospital Albrechtsen Research Centre, Canada and University of Manitoba, Canada.

B310 **662.18** Intracellular Zinc as a Phosphorylation Modulator of Protein Kinase C Delta. **K. Slepchenko, J. Holub, Y.V. Li.** Ohio University.

B311 **662.19** Proline-Rich Tyrosine Kinase Phosphorylation's Effect on the Na^+/H^+ Exchanger Isoform 1. **K.P. Bagnell, J.J. Provost, M. Wallert.** Bemidji State University and University of San Diego.

B312 **662.20** Identification of Proteins Interacting with Fyn Kinase at Fertilization in *Patiria miniata*. **L.S. Bates, D. Carroll.** Florida Institute of Technology.

B313 **662.21** MK5 and ERK3 Play Overlapping but Distinct Roles in Regulating Cardiac Fibroblast Function. **P. Sahadevan, S.A. Nawaito, A. Calderone, M. Gaestel, B.G. Allen.** Montreal Heart Institute, Canada and Hannover Medical School, Germany.

B314 **662.22** Deciphering DYRK1a Signaling Using Proteomics and Transcriptomics. **Z. Poss, C. Ebmeier, H. Simpson, M. Pagratis, T. McClure-Begley, W. Old.** University of Colorado.

663. ACTIVE LEARNING IN THE MOLECULAR LIFE SCIENCES

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 PM–1:00 PM
Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B315 **663.1** When Active Learning Fails: How Faculty Beliefs Inform Their Teaching and Influence Student Outcomes. **S.M. Lo.** University of California and San Diego.

B316 **663.2** The Role of ANKDR49 in Evaluating the Prognosis of Glioma. **H. Duan, C. Hao, S. Wang, H. Wang, L. Gao, X. Zheng, S. Duan, W. Gao, C. Zhang.** The First Clinical College of Shanxi Medical University, People's Republic of China, The Public Health College of Shanxi Medical University, People's Republic of China and Shanxi Medical University, People's Republic of China.

B317 **663.3** Effects of a Data Analysis Intensive Course on Student Critical Thinking Skills, Confidence, and Post-Graduation Success. **K.K. Resendes.** Westminster College.

B318 **663.4** Understanding Curriculum Effectiveness and the Student Experience in a Modular Undergraduate Laboratory Experience Integrating Research and MALDI-TOF MS. **J.E. Grant, C. Lutz, D. Huffman.** University of Wisconsin—Stout, Anoka-Ramsey Community College and University of Kansas.

B319 **663.5** Addressing Enzyme-Substrate Interaction Misconceptions with 3D Physical Models in an Undergraduate Biochemistry Course. **T.L. Ekstrom, C.R. Terrell.** University of Minnesota.

B320 **663.6** A Toxic Collaboration: Using Spions and Shrimp to Bridge Courses in Chemistry and Biology for Undergraduate Engineering Students. **R.P. Rogers, L.E. Grove.** Wentworth Institute of Technology.

B321 **663.7** Introducing Students to Biochemistry Through an Inquiry-Based Curriculum Documented Using Electronic Notebooks on Scinote. **S.C. Daubner, V. Gutierrez, M. Rodriguez.** St. Mary's University.

B322 **663.8** Sustained Teaching Mentoring Works and Benefits Mentors as Well as Those Mentored: The Promoting Active Learning and Mentoring (PALM) Network. **M.J. Wolyniak, S. Wick, A.J. Prunuske, M. Peifer.** Hampden-Sydney College, University of Minnesota Twin Cities, Medical College of Wisconsin and University of North Carolina at Chapel Hill.

B323 **663.9** Increasing Active Learning in the Biochemistry Classroom: Using Group Quizzes to Stimulate Discussion. **L.J. Moore.** Monmouth College.

B324 **663.10** Enhancing Scientific Communication About and Ethical Reasoning Surrounding Gene Modifications Through a Collaborative Learning Experience. **A.M. Danowitz, V.M. Ehret.** Mercyhurst University.

B325 **663.11** The Intersection of Learning Progressions and Concept Inventories: Assessment of Student Understanding of Acid/base Concepts. **A.J. Wolfson, C.R. Reed, A.M. Mercer, S. Sutheimer, J.E. Lewis.** Wellesley College, University of South Florida and Green Mountain College.

B326 **663.12** Blended Instruction in Introduction to Biochemistry Class. **T. Nicholas, N. Reddy, R. Srinivasan.** Case Western Reserve University.

B327 **663.13** Use of a Research-Based Framework to Guide Instructional Design and Assessment Related to Noncovalent Interactions in a Biochemical Context. **J. Loertscher, S. Feola, P. Lemons, J. Lewis, A. Mercer, V. Minderhout.** Seattle University, University of South Florida and University of Georgia.

B328 **663.14** Development of a Computationally-Based Medicinal Chemistry Course at a Small, Primarily Undergraduate Institution. **B.L. Hall.** Grand View University.

B329 **663.15** Teaching the Use of Automated Pipettes to Undergrads Through Direct Visualization of Data: A Quantitative Chemical Analysis Lab Focusing on Technique, Skill, and Accuracy in Solution Chemistry. **A.G. Sostarecz, B.E. Sturgeon, S.P. Distin.** Monmouth College.

B330 **663.16** Assessment of Visual Literacy Skill Gains in Graduate Biochemistry. **K. Procko, D.M. Dean.** University of Saint Joseph.

B331 **663.17** Using an Innovative Approach to Teach Students How to Communicate About Scientific Topics to Non-Scientists. **M.A. Rowland-Goldsmith, M. Bisoffi.** Chapman University.

B332 **663.18** Deep Reading of the Literature and the Biosynthesis of Nucleotides. **E. Anderson.** University of Saint Joseph.

B333 **663.19** Scaffolding Soft-Skill Development Into a Two-Semester Undergraduate Laboratory Course. **D.P. Grilley, T.M. Weaver.** University of Wisconsin—La Crosse.

B334 **663.20** Evaluation of Real-Time PCR Primer Sets for the Diagnosis of Huanlongbing (HLB) in Citrus Root Tissue. **C.J. Avila, J-W. Park, M. Kunta.** South Texas College, Texas A&M University and Kingsville Citrus Center.

B335 **663.21** Implementing the Cure: Combining Wet-Lab Protein Biochemistry with Computational Analysis to Provide Gains in Student Learning in the Biochemistry Teaching Lab. **M. Pikaart.** Hope College.

B336 **663.22** Cell-Free Protein Synthesis: A Platform Technology for Education. **W.Y. Kao, N.E. Gregorio, J.P. Oza.** California Polytechnic State University.

B337 **663.23** Developing a Physical Model of O-GlcNAcTransferase (OGT) in Complex with TAB1. **V. Perez Hernandez, S. Nguyen, A. Chabbra, E.F. Schmitt Lavin.** Nova Southeastern University.

B338 **663.24** Are You a Scientist? Exploring Science Identity in a Structural Biology Outreach Program. **B.N. Wyatt, M. Schram, M. St. Maurice.** Marquette University

B339 **663.25** Visualizing Biochemistry: The Implementation of Biomolecular Visualization and Structure-Function Conceptual Game-Based Card Sorting Activities. **A. Bates, C.R. Terrell.** University of Minnesota.

B340 **663.26** Authentic Research in the Teaching Laboratory at a Large University: Comparative Studies of Malate Dehydrogenase Isoforms in Trypanosomes. **A. Springer.** University of Massachusetts Amherst.

B341 **663.27** Improving Student/Faculty Engagement: Impact of End of Lecture Classroom Surveys on Student Evaluations and Motivation. **K.R. Miller.** University of Mount Union.

B342 **663.28** Design and Construction of a Structural Model of the Bifunctional GlmU Protein in Complex with N-Acetyl-D-Glucosamine-1-Phosphate and Uridine-Diphosphate-N-Acetylglucosamine. **M.R. Tollar, T.D. Edwards, N. Nguyen, W.R.P. Novak.** Wabash College.

B343 **663.29** Measurement of *Enterococci* and Other Water Quality Parameters as an Active Learning Module in Introductory Life Science Courses. **C.D. Spence, A. Leri.** Marymount Manhattan College.

B344 **663.30** Moving a Biochem Majors Lab Course into Discovery Based Research. **C.K. Park.** University of Arizona.

B345 **663.31** Using a Laboratory Teaching Module to Train Undergraduate Students in Cell Culture Based Research. **J.L. Furnari, A. Aguanno.** Marymount Manhattan College.

B346 **663.32** 3D Model of Human O-N-Acetylglucosamine Hydrolase. **D.C. Hawkins, I. Tasie, A. Gayle, R. Billings, A. Harris, C. Jones, M. Van Stry.** Lane College.

B347 **663.33** Are Lab Courses Worth the Investment: Factors That Affect Student Success in a Biochemistry Lab Course. **O.M. Hart.** Purdue University.

B348 **663.34** Developing Professionalism in Research Through Journals Clubs. **G. Mendez, F. Prokopczuk.** California State University and Northridge.

B349 **663.35** Functional Characterization of 2QRU Based on Structural and Enzymatic Analysis. **A. Pyne, S. Sheikh, M.E. D'Ausilio.** The Pingry School.

B350 **663.36** Measuring Cognitive Load and Impact of Modeling Activities in Undergraduate Biochemistry. **C.R. Terrell, L. Aleuy, J. Calvert, A. Hampton-Ashford, X. Prat-Resina, A. Randolph, K. Cortes.** University of Minnesota and Kennesaw State University.

B351 **663.37** *O*-GlcNAcylase (OGA): A Sugar Cleaver. **C. Gallen, A. Rios-Rosales, I.G. Jacus, A. Cobb, Z. Nashman, R. Grant, A.C. Shor.** Saint Leo University.

B352 **663.38** Use of a Synchronous Collaborative Learning Environment in a Face-to-Face Molecular Biology Classroom. **C. Clauson-Kozina, G. Kunzweiler.** Saint Leo University.

B353 **663.39** Falcon Biomanufacturing: Teaching the Core Concepts of Biochemistry and Molecular Biology Through the Model of a Biotechnology Company. **M. Koci, R. Ali, B. Boller.** North Carolina State University and Bertie Early College High School.

B354 **663.40** *In Silico* Research as an Active Learning Platform in a Molecular Biology Course. **E. Beaulieu.** University of Ottawa, Canada.

B355 **663.41** Teaching Biochemistry Based Research Driven Course Through Active Learning to Accelerate Student's Adaptation to College Study and Promote Freshman Research. **S. Ray, J. Fresquez, R. Esper, J. Clark, G. Corral, C. Xiao.** The University of Texas at El Paso.

B356 **663.42** Three Web Tools to Aid Genetics Instruction Developed by Students in a Unique Undergraduate Bioinformatics Projects Course. **R. Rutherford, N. Garcia, R. Charczenko, S. Levy, J. Bjelajac.** Seattle University.

664. APOPTOSIS AND CELL DEATH

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
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Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B357 **664.1** Zyflamend Induces Apoptosis in Pancreatic Cancer Cells via Modulation of Endoplasmic Reticulum Stress and Autophagy. **D. Puckett, D. Alani, S. Chahed, V. Frankel, J. Whelan, A. Bettaieb.** University of Tennessee and Knoxville.

B358 **664.2** Induction of Immunogenic Cell Death of Cancer Cell by Using Chemical Detergent Treatment and Its Activation of Immune System. **T. Kimura, N. Nakamra, Y. Hashimoto, A. Kishida.** Tokyo Medical and Dental University, Japan and Shibaura Institute of Technology, Japan.

B359 **664.3** Perturbation of Homocysteine Homeostasis Leads to Cellular Epigenetic Modification and Endothelial Injury in Acute Myocardial Infarction. **C. Chang, T-C. Yang, S-C. Lu, M-S. Lee, P-Y. Chang.** Taipei American School, Taiwan and National Taiwan University College of Medicine, Taiwan.

B360 **664.4** Induction of Cancer Stem Cell Sphere Explosion by UV Irradiation/Cold Shock or Therapeutic Chemicals: Detection of Autofluorescence Using Visible Wavelength. **N-S. Chang, K.T. Chang, P-C. Ho.** National Cheng Kung University College of Medicine, Taiwan.

B361 **664.5** Primary Acute Lymphoblastic Leukemia Cells Strictly Require Interphase Microtubules for Survival During G1 Phase Advance. **M. Delgado, T.C. Chambers.** University of Arkansas for Medical Sciences.

B362 **664.6** Curcumin Induces Apoptosis via the Capase-8 Activated Extrinsic Pathway in MDA-MB-231 Breast Cancer Cells. **M. Ali, R. Smiley.** William Beaumont Army Medical Center.

B363 **664.7** Apoptotic Effect of Methylglyoxal in Pancreatic RINm5F Cells; Reversal by InGaP-P. **K. Gonzales, J. Su, S. Mungre.** Northeastern Illinois University.

B364 **664.8** Curcumin Reverses Methylglyoxal Induced Apoptosis in RINm5F Cells and PC12 Cells in Hyperglycemic Conditions. **S.F. Patangia, S. Mungre.** Northeastern Illinois University.

B365 **664.9** Follicular Fluid Promotes Anoikis Resistance in *tp53* Mutated Fallopian Tube Epithelial Cells in Ovarian Cancer. **W.R. Flanigan, A. Fleszar, P. Kreeger.** University of Wisconsin—Madison.

B366 **664.10** Epigallocatechin-3-Gallate Suppressed Methylglyoxal-Induced Apoptosis in SH-SY5Y Cells. **A-C. Cheng, M-F. Lee, T-L. Huang, Y-S. Liou, M-H. Pan.** Chang Jung Christian University, Taiwan and National Taiwan University, Taiwan.

B367 **664.11** Use of Cellular and Molecular Based Assays to Evaluate the Toxicity of Manganese (II) to RTgill-W1 Cell Cultures. **T.J. Whitlow, M. Armstead.** Marshall University.

B368 **664.12** Gene Regulatory Pathways That Modulate Response to Dexamethasone and Daunorubicin in Breast Cancer Cell Lines. **A.R. Macias, R. Medh.** California State University and Northridge.

B369 **664.13** Effects of Paclitaxel on Glucocorticoid-Induced Apoptosis of Human Leukemic Cem Cells. **I. Aranas, R. Medh.** California State University and Northridge.

B370 **664.14** Mutant Huntingtin Affects p53 Function in a Context-Dependent Manner in a Cell Model of Huntington's Disease. **G.A. Ellison, L.S. Garcia, J.C. Cornett.** Lee University.

B371 **664.15** Kaposi's Sarcoma-Associated Herpesvirus (KSHV) Role in Preventing Apoptosis: The vBcl-2 and Human BiK Association. **C. Yeager, J. Canfield.** Simmons College.

B372 **664.16** Investigation of the Role of *abl-1* in the Apoptosis Pathways in *C. elegans*. **M.R. Vos, R.L. Bennett.** Juniata College

B373 **664.17** Determination of Apoptotic Stage of HCC827 Lung Adenocarcinoma Cell Line, Following Calcium Sulfide Nanoclusters Treatment. **V.J. Rodriguez Irizarry, G. Trossi Torres, K. Muñoz Forti, A. Ruiz Rivera, M.E. Castro, E.B. Suarez Martínez.** University of Puerto Rico, Puerto Rico, Pontifical Catholic University of Puerto Rico, Puerto Rico and Ponce Health Sciences University Research Institute , Puerto Rico.

B374 **664.18** Exploration of the Mechanistic Role of Cyclophilin D in the Mitochondria. **O.S. Adegbite, Y.I. Adegbite, C. David, L-Y. Lian.** University of Liverpool, United Kingdom.

B375 **664.19** Posttranslational Arginylation Enzyme Ate1 Regulates Cell Death Through a Mitochondrial-Dependent Pathway. **F. Zhang, A. Kumar, M. Birnbaum, B. Moorthy.** University of Miami.

665. CELL STRESS AND XENOBIOTICS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B376 **665.1** Modulation of Phospho Tensin Homolog (PTEN) in Cancer Cells and Lipid Peroxides in Peripheral Blood Mononuclear Cells (PBMCs) Following Exposure to Flavonoids. **A.S. Garcia, E. Myles, W.Y. Boadi.** Tennessee State University.

B377 **665.2** Evaluation of Triclosan Exposures on Interleukin 6 and Interleukin 1 Beta Secretion from Human Immune Cells. **W.J. Wilburn, D. Brooks, M. Whalen.** Tennessee State University.

B378 **665.3** Investigating the Role of Trehalose Metabolism in Resistance to Abiotic Stress in the Filamentous Fungus*Fusarium verticillioides*. **N.R. Oberlie, S.D. McMillan, D.W. Brown, K.L. McQuade.** Bradley University, United States Department of Agriculture, Agricultural Research Service and National Center for Agricult.

B379 **665.4** Thermal Manipulation During Brolier Chicken Embryogenesis Increases the Basal mRNA Levels of Antioxidant Factors and Alters Their Production Dynamics During Thermal Stress. **M.B. Al-Zghoul.** Jordan University of Science and Technology, Jordan.

B380 **665.5** Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) Analysis of Lead Bioaccumulation in *Chlamydomonas reinhardtii* and the Role of Cia7 Gene. **E.U. Vazquez Cano, V. Reyes, R.A. Ynalvez.** Texas A&M International University.

B381 **665.6** Functional Characterization of the Novel Gene Cia7 from *Chlamydomonas reinhardtii.* **H.G. Gonzalez Cantu, R.A. Ynalvez.** Texas A&M International University.

B382 **665.7** Hepatotoxicity of Ochratoxin A, Benzo [A] Pyrene and Acrylamide, Alone and in Combination with HepG2 Cell Through Phase I and Phase II Pathway. **H.S. Shin, M.C. Pyo, H-S. Bae, J.M. Bae, K-W. Lee.** Korea University, Republic of Korea and Korean National Food Cluster FOODPOLIS, Republic of Korea.

B383 **665.8** Effects of Individual and Combined Toxicity of Ochratoxin A, Acrylamide on Oxidative Stress in Human Proximal Tubule HK-2 Cells. **M.C. Pyo, H.S. Shin, H-S. Lee, J.M. Bae, K-W. Lee.** Korea University, Republic of Korea and Korean National Food Cluster FOODPOLIS, Republic of Korea.

B384 **665.9** The Brominated Flame Retardant Tetrabromobisphenol-A Increases DNA Methylation at the Thy1 (Cd90) Locus to Promote Adipogenesis. **E. Flores.** University of Rochester.

666. SIGNALING INTEGRATION AND CROSS-REGULATION

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

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Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B385 **666.1** Limd2 Is an Intracellular Activator of Integrin Linked Kinase(ILK) Activity and GSK-3/Akt/β-Catenin Signaling. **S. Dedhar, S. Awrey.** University of British Columbia, Canada and BC Cancer Research Centre, Canada.

B386 **666.2** Regulation of Notch Signaling by SRC Kinase. **B. LaFoya, J.A. Munroe, A.R. Albig.** Boise State University.

B387 **666.3** Opening the Doors for Nuclear GLN3 Entry in *Saccharomyces cerevisiae*. **J.J. Tate, R. Rai, T.G. Cooper.** University of Tennessee Health Science Center.

B388 **666.4** 14-3-3 Protein-Dependent GATA Transcription Factor Control in *Saccharomyces cerevisiae*. **J.J. Tate, R. Rai, D. Buford, T.G. Cooper.** University of Tennessee Health Science Center.

B389 **666.5** Intersection of Cell Death Machinery: Akt Meets Vrk2 at the Lysosome to Control Induction of Autophagy. **M. Noguchi, F. Suizu, N. Hirata.** Institute for Genetic Medicine and Hokkaido University, Japan.

B390 **666.6** Exploring the Structural Basis of the Cross-Talk Between Glcnacylation and Phosphorylation Using Physical Models. **S. Shania, M. Schwabe, N.M. Garcia, H. Sonnenschein, E. Bell.** University of San Diego.

B391 **666.7** Determining the Role, Expression and Interactions of FAP-1 in *S. cerevisiae*, Cultivated in a Nitrogen-Limited Media. **A.C. Rodriguez Velez, E. Pares Matos.** University of Puerto Rico at Mayaguez.

B392 **666.8** Exploration of Novel Markers of Posterior Capsular Opacification. **E. Jackson, M. Shihan, Y. Wang, M. Duncan.** University of Delaware.

B393 **666.9** Coordinated Cross-Talk Between Calcium and cAMP in Regulating Pulsatile Insulin Secretion: A Novel Role for the Unique Inhibitory G-Protein, Gαz ,in Regulating β-Cell Function. **M. Schaid, J. Harington, H. Wienkes, M. Merrins, M. Kimple.** University of Wisconsin—Madison.

667. CELL MOTILITY AND MIGRATION

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

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Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B394 **667.1** Effects of Resveratrol in Cell Migration and Invasion by Studying the CXCR4-CXCL12 Axis in Breast Cancer Cell Lines. **G.A. Arroyo-Martinez, M. Figueroa, K. Muñoz-Forti, G. Trossi, J. Robles, A.A. Maldonado, E. Suarez, A. Ruiz.** University of Puerto Rico at Ponce, Pontifical Catholic University of Puerto Rico and University of Puerto Rico at Mayagüez.

B395 **667.2** HCT116 Colorectal Cancer Cells Secrete Chemokines Which Induce the Chemotaxis and Intracellular Calcium Mobilization of NK92 Cells. Influence of Dimethyl Fumarate and Monomethyl Fumarate. **A. Maghazachi, N. Elemam, Z. Al-Jaderi.** College of Medicine and University of Sharjah, United Arab Emirates.

B396 **667.3** The Biological Impact of the Golgi Membrane Protein TMEM165 for Breast Cancer. **P. Murali, B. Johnson, L. Climer, G. Oprea-Ilies, V. Lupashin, K. Abbott.** University of Arkansas for Medical Sciences and Emory University.

B397 **667.4** Defining the Role of Protein Interactions at WRAMP Structures in Directional Migration. **S. Miller, B. Murillo, M.K. Connacher, N. Ahn.** University of Colorado Boulder.

B398 **667.5** Erlotinib Inhibits Epithelial Mesenchymal Transition of Cigarette Smoke-Exposed Human Retinal Pigment Epithelial Cells Through Regulation of the FAK-Syk/SRC Pathway. **G-B. Park, D. Kim.** Kosin University College of Medicine, Republic of Korea and Inje University College of Medicine, Republic of Korea.

B399 **667.6** The Non-Canonical Wnt/Calcium Pathway Regulates the Migration and Function of Primary Mesenchyme Cells. **A. George, T. McCann, J. Song.** University of Delaware.

B400 **667.7** KY Hemp-Induced Modulation of Ovarian Cancer Cell Metastasis. **S. Biela, A. Wang, W.K. Sumanasekera.** Sullivan University College of Pharmacy.

B401 **667.8** Glioblastoma Cells Respond Directionally to LiCAM Protein Ectodomain. **A.I. Stubbolo, K. Plusch, C. Bernheimer, D.S. Galileo.** University of Delaware.

B402 **667.9** Crosstalk Between Tetraspanin-Interacting Protein Igsf3 and Sphingolipid Metabolism. **K. Schweitzer, K. Ni, I. Petrache.** National Jewish Health.

B403 **667.10** Resveratrol and CXCR4 Mediated Migration of Breast Cancer Cell Lines. **K. Cruz, L. Padilla, G. Trossi, K. Muñoz, J. Robles, G. Arroyo, E. Suarez, A. Ruiz.** University of Puerto Rico at Ponce, Pontifical Catholic University of Puerto Rico and University of Puerto Rico at Mayaguez.

B404 **667.11** Microtubule Involvement with the WRAMP Structure, a Mechanism for Rear Membrane Retraction in Mammalian Cells. **B. Murillo, S. Miller, M.K. Connacher, N. Ahn.** University of Colorado Boulder.

B405 **667.12** SIKE Affects Processes Involving Cytoskeletal Rearrangement. **R. McCool, C.A. Quintero, J.E. Bell, J.K. Bell.** University of San Diego.

668. TUMOR SUPPRESSORS AND TUMOR DRIVERS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

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Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B406 **668.1** Astrocyte-Derived CCL20 Reinforces HIF-1-Mediated Hypoxic Responses in Glioblastoma by Stimulating the CCR6-NF-κB Signaling Pathway. **P. Jin, J-W. Park.** College of Medicine and Seoul National University, Republic of Korea.

B407 **668.2** Validation of *Arid1a* as a Mammary Tumor Driver in Mice. **M. Winters, N. Kartha, J. Schimenti.** Cornell University.

B408 **668.3** Investigation of PKHD1L1's Localization and Potential Function as a Tumor Suppressor. **X. Shi, L. Yoo.** Denison University.

B409 **668.4** Med28 Modulates Transcription Factor FOXM1-Associated Migration and Invasion in Human Non-Small Cell Lung Cancer (NSCLC) Cells. **N-T. Hsieh, C-Y. Huang, C-C. Li, I-C. Wang, M-F. Lee.** China Medical University, Taiwan, National Tsing Hua University, Taiwan and Chang Jung Christian University, Taiwan.

B410 **668.5** ESE-1 Represses Formation of Tumor in Vivo and Growth, Invasion and Migration of Human NSCLC Cells in Vitro. **Z. Lou, B-S. Lee, T. Ha, Y. Xu, H-J. Kim, C-H. Kim, S-H. Lee.** University of Maryland and Ajou University, Republic of Korea.

B411 **668.6** Dysregulation of the Tumor Suppressor Tip60 and ATM Signaling Paradigm by the HIV Transactivator of Transcription. **A. Simenauer, A. Cota-Gomez.** University of Colorado Anschutz Medical Campus.

B412 **668.7** Cloning the p53 DNA Binding Domain. **J. Jones, V. Faustino, L.A. Nogaj.** Mount Saint Mary's University.

B413 **668.8** Prostate Specific Membrane Antigen Promotes Prostate Tumor Progression and Survival by Conferring Resistance to Hypoxic Stress. **A. Ponce, A. Lewis, D. Anukam, S. Abdulsalam, L. Shapiro, L. Caromile.** The University of Texas at El Paso, University of Connecticut Health Center and University of Saint Joseph.

B414 **668.9** WW Domain-Containing Oxidoreductase Induces Cellular Senescence in Response to Replication Stress. **H-C. Cheng, L-J. Hsu.** National Cheng Kung University, Taiwan.

B415 **668.10** EGCG Promotes Cell Growth Inhibition and Reprograms Mesenchymal-Epithelial Transition by Restoring CCN5/WISP2 in Triple Negative Breast Cancer Cells *in Vitro* and *in Vivo*. **A. Ghosh, A. Das, S. Banerjee, M. Baltezor, L. Zeng, S.K. Banerjee.** Kansas City VA Medical Center, University of Kansas and South West University , People's Republic of China.

B416 **668.11** Converting the Tumor Suppressor Function of WWOX to Tumor Promoting by Serine 14 Phosphorylation. **P-C. Ho, H-L. Kuo, N-S. Chang.** National Cheng Kung University, Taiwan.

B417 **668.12** TCEA3 Impairs Cancer Growth and Functions as a Tumor Suppressor. **N. Kazim, J. Davie.** Southern Illinois University School of Medicine.

669. MICROBE-HOST INTERACTIONS

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
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Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B418 **669.1** Clinical Case Report of Suspected Fulminating Leptospirosis in a 4-Months Old Caucasian Dog and Molecular Detection of Pathogenic *Leptospira* in Canine in Northwestern Nigeria: Public Health Significance and Ramifications. **N.N. Pilau, M. Matthias, Y. Sani, A. DanMaigoro.** Usman Danfodiyo University, Sokoto, Nigeria, University of California and San Diego.

B419 **669.2** Modeling Phage Survival in Limiting Bacterial Growth. **N. Tomassi.** San Diego State University

B420 **669.3** An Integrated System Approach Identified the Human Proteasome as a Conserved Critical Machinery for ZIKV and Denv Replication. **G. Song, E. Lee, J. Pan, M. Xu, H-S. Rho, Y. Cheng, N. Whitt, S. Yang, J. Kouznetsova, C. Klumpp-Thomas, S.G. Michael, A. Simeonov, W. Huang, M. Xia, R. Huang, M. Lal-Nag, H. Zhu, H. Tang, W. Zheng, J. Qian, H. Song.** John Hopkins University School of Medicine, Florida State University and National Institutes of Health.

B421 **669.4** High-Throughput Screening Assays to Identify Inhibitors of the Enterohemorrhagic *E. coli* NleB1 Virulence Factor. **P. Hardwidge.** Kansas State University.

B422 **669.5** Investigating Impact of Mycobacterial Physiology on Mycobacteriophage Life Cycles by Mass Spectrometry. **Y. Li, K.L. Clase.** Purdue University.

B423 **669.6** 25-Hydroxycholesterol Inhibits Viral Infection in a Liver X Receptor Dependent Manner. **Z. Wei.** Nankai University, People's Republic of China.

B424 **669.7** HIV-1 Infected NSG-BLT Humanized Mice as a Model for HIV-Associated Lung Complications. **J.L. Geohring, A. Cota-Gomez.** University of Colorado Anschutz Medical Campus.

B425 **669.8** Bacteria, Brains, and Behavior: Gut Microbes and Their Effects on Regulation of Gene Expression in the Brain. **C. Horstman, L. Devries, M. Sonnenburg, C. Carlson.** Trinity Christian College.

B426 **669.9** Novel Use of a Cell-Penetrating Peptide-Adaptor System to Investigate Activity of Type III Secretion Effector Proteins in Mammalian Cells. **S.M. Young, R.L. Dickson, J.L. McMurry.** Kennesaw State University.

B427 **669.10** Identification and Characterization of Protein Changes in the *Drosophila* Brain Upon *Wolbachia* Infection. **A. Lucas, H. Adams, N. Winegardner, W. Sullivan, J.S. Minden.** Carnegie Mellon University, University of California and Santa Cruz.

B428 **669.11** Serotonin Promotes Enterohemorrhagic *Escherichia coli* Pathogenesis Through Altered Ai-2 Production by Gut Microbiota. **R. Menon, S. Jani, R. Riordan, A. Jayaraman.** Texas A&M University/

B429 **669.12** *C. elegans* Avoids Toxin-Producing *Streptomyces*. **L.C. Miller Conrad, A. Tran, A. Tang, C.T. O'Loughlin, A. Balistreri, E. Chang, D. Coto Villa, J. Li, A. Varshney, S. Matthews, M. Bremmer, M.K. VanHoven.** San Jose State University, University of California and San Francisco.

B430 **669.13** Structural Basis of Heme Acquisition from Human Hemoglobin by the Gram-Positive Pathogen *Streptococcus pyogenes*. **R. Macdonald, M. Phillips, D. Cascio, M. Collazo, R.T. Clubb.** University of California and Los Angeles.

B431 **669.14** Correlation of Oyster Disease with *Vibrio parahaemolyticus* Accumulation in Oyster Tissue. **K. Jackson, A. Scro, R. Smolowitz.** Roger Williams University.

B432 **669.15** Characterizing Nucleic Acid Association with Bacterial Membrane Vesicles and Their Transfer to Host Cells. **B.V. Rodriguez, M.J. Kuehn.** Duke University.

B433 **669.16** The Surreptitious Survival of the Opportunistic Pathogen *Staphylococcus lugdunensis* Within Macrophages as an Immune Evasion Strategy. **D. Heinrichs, R. Flannagan, D. Watson.** University of Western Ontario, Canada.

B434 **669.17** *Pasteurella multocida* PfhB2 Toxin Displays a Novel Unconventional Cysteine Protease Fold. **S. Mattoo, S. Kumar.** Purdue University.

B435 **669.18** Recombinant MS2 L Is Biologically Functional. **A.L. Hoffer, K.J. Streff, A.J. Piefer.** Hartwick College.

B436 **669.19** Variation in Predation Phenotype Among Predatory Bacteria *Bdellovibrio*. **K. Martinez, M. Oser, L.E. Williams.** Providence College.

B437 **669.20** Phenotypic Variation and Genomics of *Bdellovibrio* Predatory Bacteria from the Built Environment. **L. Zappia, J. Mangiamele, L.E. Williams.** Providence College.

B438 **669.21** Ni(II) Uptake by Yersiniabactin, a Metallophore Produced by Uropathogenic *E. coli*. **A.E. Robinson, J.E. Lowe, E-I. Koh, J.P. Henderson.** Washington University School of Medicine in St. Louis.

B439 **669.22** *Legionella* Effector RavD Binds Host Phosphoinositide-3-Phosphate and Contributes to Lysosomal Avoidance. **R. Neunuebel.** University of Delaware.

B440 **669.23** Metabolic Reprogramming of Macrophages Exposed to *Pseudomonas aeruginosa* Biofilm. **M.C.B. Ammons, A. Fuchs, V. Copie.** Idaho Veterans Research and Education Foundation and Montana State University.

670. DIABETES, OBESITY AND METABOLIC SYNDROME

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

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Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B441 **670.1** Loss of Gα13 Exercise-Mimetically Reprograms Skeletal Muscle Through Rock2. **S.G. Kim, J.H. Koo.** Seoul National University, Republic of Korea.

B442 **670.2** Effects of Capsicoside G on Lipolysis and Fatty Acid Oxidation in 3T3-L1 Adipocytes. **J. Lee, Y. Kim, J. Sung.** Chungbuk National University, Republic of Korea, Kyungsung University, Republic of Korea and University of Florida.

B443 **670.3** Activator Protein 1 and Caspase 8 Mediate Palmitate-Induced Cardiomyocyte Apoptosis. **C. Oh, J. Lee, K. D'Souza, R. Migrino, K. Thornburg, P. Reaven.** Phoenix VA Health Care System, Carl T. Hayden Medical Research Foundation and Oregon Health & Science University.

B444 **670.4** Great, Green, Glowing Worms: The Insulin/IGF-1 Signaling Pathway Regulates C. Elegan Feeding Behavior. **N. Gousy, P. Quadros-Mennella.** Bay Path University.

B445 **670.5** Selenium and Exendin-4 Combination Is a Promising Therapeutic Approach for Diabetes Mellitus. **M.E. Moustafa, L. Abou Assi, S. Abou Najem, M. Merii, R. Hasan, G. Barakat, H.R. Dhaini, M. El-Sabban.** Alexandria University, Egypt, Beirut Arab University, Lebanon and American University of Beirut, Lebanon.

B446 **670.6** Fibroblast Growth Factor 21 Promotes Glucose Uptake in Adult Skeletal Muscle Fibers from Mice. **G. Rosales-Soto, A. Díaz-Vegas, P. Llanos, E. Jaimovich, A. Contreras-Ferrat.** Center for Molecular Studies of the Cell, Facultad de Medicina, Universidad de Chile, Chile, Institute for Research in Dental Science, Facultad de Odontología, Universidad de Chile, Chile, Institute of Biomedical Sciences Facultad de Medicina, Universidad de Chile, Chile, Exercise Physiology Laboratory, Facultad de Medicina and Universidad Finis Terrae, Chile.

B447 **670.7** Role of Oxidative Stress and Inflammatory Cytokines in Type 2 Diabetes Mellitus Patients with and Without Small Intestinal Bacterial Overgrowth. **S. Rana, A. Malik, R.K. Morya, S.K. Sharma, S.K. Bhadada.** Post Graduate Institute of Medical Education and Research, India.

B448 **670.8** Link Between Food Intake and the Expression of O-Linked N-Acetylglucosamine Transferase (OGT) in Channel Catfish. **O. Abernathy, M. Dougherty, D. Kostner, E. Nevarez, A. Schmidtberger, R. Spainhour, Y. Kobayashi.** Fort Hays State University.

B449 **670.9** Serum Leptin Is Associated with Fasting Plasma Glucose and Serum Insulin Levels Independent of Bmi in Haitian Americans with Type 2 Diabetes. **J. Antwi, W. Proulx, S. Sullivan, R. Lavin, M. Bellavia.** State University of New York College at Oneonta.

B450 **670.10** Differential Roles of CIDE Proteins in Promoting Lipid Droplet Fusion and Growth in Subpopulations of Hepatocytes. **L. Zhou.** Tsing Hua University, People's Republic of China.

B451 **670.11** $CD8^+$ T Cells Regulate Liver Injury in Obesity-Related Nonalcoholic Fatty Liver Disease. **A. Kennedy, C. Pacheco, M.K. Washington, A. Hasty.** Vanderbilt University, Seattle Children's Hospital and Vanderbilt University Medical Center.

B452 **670.12** Impact of Short- and Long-Term Weight Loss on the Inflammatory Profile of Metabolically Healthy and Unhealthy Obese Patients. **M. Clark, F. Barrenäs, M. Rajan, M. Sotak, V. Wallenius, E. Borgeson.** Institute of Medicine, University of Gothenburg, Sweden, Department of Cell and Molecular Biology, Uppsala University, Sweden, Institute of Clinical Sciences and University of Gothenburg, Sweden.

B453 **670.13** Reverse Correlation Between Body Mass Index and Post-Transplant Hypertension by a New Diagnostic Criteria. **E. Tantisattamo, P. Vutthikraivit, P. Ratanasrimetha.** University of California, Irvine School of Medicine, Phramongkutklao College of Medicine, Mahidol University, Thailand and Texas Tech University Health Sciences Center.

B454 **670.14** Janus-Faced Role of ATP1B4 Gene Co-Option in Mammalian Evolution. **N. Modyanov.** University of Toledo College of Medicine and Life Sciences.

B455 **670.15** HUNK, a Serine/threonine Protein Kinase, Regulates Insulin Secretion from Pancreatic Islets. **A. Lakshmanan, M. Rabaglia, R. Das, K. Schueler, D. Stapleton, S. Simonett, M. Keller, A. Attie.** University of Wisconsin—Madison.

B456 **670.16** Attenuation of FFA-Induced Skeletal Muscle Insulin Resistance by Rosemary Extract. **F. Vlavcheski, E. Tsiani.** Brock University, Canada.

B457 **670.17** SIRT3 Activation Inhibits Development of Diabetic Kidney Disease. **K. Myakala, X. Wang, P. Lewien, D. Wang, Y. Luo, M. Herman-Edelstein, A.Z. Rosenberg, M. Levi.** Georgetown University, University of Colorado, Tel Aviv University, Israel and Johns Hopkins University.

B458 **670.18** Inhibitory Effect of Diosmetin on Lipolysis and Inflammation in Adipocyte-Macrophage Co-Culture Model. **H. Lee, J. Sung, J. Lee.** Chungbuk National University, Republic of Korea and University of Florida.

B459 **670.19** Protective Effects of Perilla Seed Meal on *tert*-Butyl Hydroperoxide Induced Oxidative Damage in HepG2 Cells. **U. Sim, I-H. Kim, J. Lee.** Chungbuk National University, Republic of Korea and Korea University, Republic of Korea.

B460 **670.20** Physiological Regulation of Brown Adipose Tissue with Obesity by Mild-Cold Exposure, a β3-Agonist and Exercise Training at Thermoneutrality. **P. Aldiss, J. Lewis, F. Ebling, H. Budge, M. Symonds.** The University of Nottingham, United Kingdom.

B461 **670.21** Dendropanax Improve Kidney Function by Inhibiting Oxidative Stress via Upregulating SIRT1 in Streptozotocin-induced Diabetic Rats. **R. Sachan.** SungkyunKwan University, Korea and Democratic People's Republic of.

B462 **670.22** The Expression Differences of Cyclin Dependent Kinase Inhibitors in Aged and Young Pancreatic Beta Cells. **T.J. Aitken, S.G. Grover, P.L. Booren, J.S. Tessem.** Brigham Young University.

B463 **670.23** Sirtuin 4 Controls Leucine Metabolism and Insulin Secretion by Reversing Effects of Reactive Metabolites. **F.K. Huynh, K.A. Anderson, J.D. Stuart, Z. Lin, M.D. Hirschey.** Duke University Medical Center.

B464 **670.24** Assessing Glucocorticoid Receptor Polymorphisms in Obese Populations. **C-L. Bonnet, A. Dowdye, B.D. Cohen.** Union College

B465 **670.25** Fecal Fermentation Products of Common Bean-Derived Fiber Inhibit C/EBPα and PPARγ Expression and Lipid Accumulation but Stimulate PPARδ and UCP2 Expression in the Adipogenesis of 3T3-L1 Cells. **H-Y. Lu, W-H. Cheng.** Mississippi State University.

B466 **670.26** Hepatocyte Specific SHP1 Deletion and Low Dose Rosiglitazone Treatment Act in Concert to Improve Liver Glucose Homeostasis in Diet-Induced Obese Mice. **J.G. Bernardo Leandro, M-P. Forest, M-H. Lavallée-Bourget, L. Gomez, R. Moreira, V. Houde, M. Schwab, K. Bellmann, Y. Deshaies, M. Sola-Penna, A. Marette.** Universidade Federal do Rio de Janeiro, Brazil and Laval University, Canada.

B467 **670.27** Distinct Roles of Dietary Fat and Sugar in the Development of Obesity, Insulin Resistance, Atherosclerosis and Cardiac Dysfunction in LDL Receptor Knockout Mice. **L.R. Perazza, N. Daniel, M.J. Dubois, G. Pilon, P. Mitchelle, K. Le Quang, D. Lachance, E. Plante, T. Varin, R. Bouchareb, P. Mathieu, Y. Pouliot, S. Gauthier, D. Roy, C. Asselin, M. Blais, M. Lessard, A. Marette.** Laval University, Canada and Sherbrooke University, Canada.

B468 **670.28** Central Adiposity Is a Strong Predictor of Non-Alcoholic Fatty Liver Disease (NAFLD) in South Asian Women. **K. Albracht-Schulte, S. Rosairo, L. Ramalingam, S. Wijetunge, R.M.C.J. Ratnayake, H.M.S.R. Kotakadeniya, J.A. Dawson, N. Kalupahana, N. Moustaid-Moussa.** Texas Tech University and University of Peradeniya, Sri Lanka.

B469 **670.29** Antioxidant Effect of *Justicia spicigera* in Liver from Diabetic Rats. **M. Murillo-Villicaña, J.A. Martínez-Mora, R. Noriega-Cisneros, S. Manzo-Avalos, R. Salgado-Garciglia, C. Cortés-Rojo, R. Montoya-Pérez, A. Saavedra-Molina.** Universidad Michoacana de San Nicolás de Hidalgo, Mexico.

B470 **670.30** Restoration of Hepatic TDAG51 Expression Improves Insulin Signaling and Reduces Weight Gain in Mouse Models of Non-Alcoholic Fatty Liver Disease. **T.R. Yousof, C. Bouchard, M. Alb, E. Lynn, S. Lhoták, H. Jiang, H. Li, K.N. Maclean, N. Cherrington, J. Krepinsky, G. Steinberg, R.C. Austin.** McMaster University, Canada, St. Joseph's Health Care, Canada, University of Colorado and University of Arizona.

B471 **670.31** Antioxidant and Hypoglycemic Effects of *Justicia spicigera* in Kidney from Diabetic Rats. **J.A. Martínez-Mora, M. Murillo-Villicaña, J.A. Mejía-Barajas, R. Salgado-Garciglia, D.J. Peña-Montes, R. Montoya-Pérez, R. Noriega-Cisneros, A. Saavedra-Molina.** Universidad Michoacana de San Nicolás de Hidalgo, Mexico.

B472 **670.32** Examination of Piccolo Splice Variants in Regulated Insulin Secretion from Pancreatic β-Cells. **V.G. Quintana, R. Salamon, S.D. Fenster.** Fort Lewis College.

B473 **670.33** Synergistic Anti-Adipogenic Effect of 3,3'-Diindolylmethane and Capsaicin in 3T3-L1 Adipocytes. **J. Lee, S-H. Lee.** University of Maryland.

B474 **670.34** Tissue-Specific Genetic Targeting of iNOS Reveals an Unexpected Role of Adipocyte iNOS in the Development of Insulin Resistance, Dyslipidemia and Altered Energy Metabolism in Diet-Induced Obese Mice. **V. Rodrigues Vilela, G. Lachance, R.T. Nachbar, C. Centano-Baez, K. Bellmann, A. Marette.** Laval University, Canada.

B475 **670.35** How Do You Measure Up? BMI Versus Waist to Height Ratio. **K. Smolinski, T. Ward, B. Hall, S.E. Hurst.** University of Arizona, Lincoln Memorial University and Boston University.

B476 **670.36** Anti-Photoaging Activity of Sinapic Acid in UVB-Irradiated Human Skin Fibroblasts Through Increasing the Expression of PPARδ. **D. Yeon, Y. Kim, J. Lee.** Chungbuk National University, Republic of Korea and Kyungsung University, Republic of Korea.

B477 **670.37** IDH2 Deficiency Aggravates Fructose-Induced NAFLD by Activating Inflammatory Signaling in Female Mice. **K.E. Beane, A.M. Montalbano, J.H. Pan, B.C. Kong, J.K. Kim.** University of Arkansas.

B478 **670.38** Enhancement of Biological Activity Through Conversion of Rutin to Quercetin Using Acid Treatment. **J. Yang, J. Lee.** Chungbuk National University, Republic of Korea.

B479 **670.39** Betulinic Acid Alleviates Body Fat Accumulation and Dyslipidemia by Inhibiting *de Novo* Lipogenesis and Stimulating Lipolysis *in Vivo*. **H. Kim, Y. Ryu, G-w. Go.** Kookmin University, Republic of Korea.

B480 **670.40** Antihyperglycemic, Nephroprotective and Antioxidative Effects of White and Yellow *Discorea domentorum* Yam Based-Diet in Alloxan-Induced Diabetic Rats. **O.B. Ajayi.** Ekiti State University, Nigeria.

B481 **670.41** *In Vivo* Effects of Adipose-Specific Deletion of Jagged 1 in Mice Administered a High Fat Diet. **A. Langlais.** University of New England.

B482 **670.42** Anti-Adipogenic and Anti-Diabetic Activities of Patchouli Alcohol. **J. Lee, S-H. Lee.** University of Maryland.

B483 **670.43** Targeting and Tracing Cardiac Myocytes with *fgf1* Expression in F1a-CreER^{T2} Transgenic Mice. **I-M. Chiu, Y-F. Chung, M-S. Chen, S-T. Jiang, Y-C. Hsu.** National Health Research Institutes, Taiwan, National Applied Research Laboratory, Taiwan and Mackay Medical College, Taiwan.

B484 **670.44** Enhanced Mitochondrial DNA Repair Confers Protection Against Obesity and Metabolic Syndrome by Altering White Adipose Tissue Energetics. **S.S.B. Komakula, J. Tumova, H. Ye, V. Vartanian, R.S. Lloyd, T. Akal, H. Sampath.** Rutgers University and Oregon Health & Science University.

B485 **670.45** Regulation of Hepatic Glucose and Lipid Metabolism by the Acetyl-CoA Hydrolase Acyl-CoA Thioesterase 12 (Acot12). **M. Acuna-Aravena, D.E. Cohen.** Weill Cornell Medicine and Cornell University.

B486 **670.46** Intestinal Sodium Glucose Transporter 3 (SGLT3) Is Downregulated in Experimental Models of Obesity and in Morbidly Obese Patients. **M. Sotak, A. Casselbrant, M. Strömstedt, E. Rath, D. Adingupu, D. Karlsson, M. Fritsch Fredin, P. Ergang, T. Zietek, J. Pácha, E. Börgeson, P.B.L. Hansen, A. Ericsson, A. Björnson Granqvist, V. Wallenius, L. Fändriks, R.J. Unwin.** AstraZeneca, Sweden, University of Gothenburg, Sweden, Technische Universität München, Germany, Institute of Physiology and Czech Academy of Sciences, Czech Republic.

B487 **670.47** Identifying New Regulators of Insulin-Stimulated Glut4 Exocytosis. **L. Crisman, D. Gulbranson, J. Miller, H. Yu, J. Shen.** University of Colorado Boulder.

B488 **670.48** Obesity-Related Stressors Repress Gonadotropin-Releasing Hormone Gene Expression via the Transcription Factor C-Fos. **W. Moseman, A. Bertsch, H.E. Walsh.** Wabash College.

B489 **670.49** Changes in Spexin Levels Are Influenced by the Presence or Absence of Gestational Diabetes in Pregnant Subjects. **N. Aldaghri.** King Saud University, Saudi Arabia.

B490 **670.50** The Effects of Renin-Angiotensin System on Endoplasmic Reticulum Stress in Pancreatic Beta Cells. **B. Sopontammarak, K. Menikdiwela, L. Ramalingam, N. Moustaid-Moussa.** Texas Tech University.

B491 **670.51** Syntaxin 4 (Stx4)—More Than Just a Snare Protein: Elevating Stx4 Content in Skeletal Muscle to Prevent Insulin Resistance/Pre-Diabetes. **K.E. Merz, E. Olson, J. Zhang, R. Veluthakal, E. Oh, A. Hamilton, J. Huss, D.C. Thurmond.** City of Hope.

B492 **670.52** Regulation of Insulin Sensitivity by Skeletal Muscle Specific Modulation of p21-Activated Kinase 1 (PAK1). **V.A. Salunkhe, R. Tunduguru, M. Ahn, E.M. Olson, R. Veluthakal, J. Zhang, A. Aslamy, D.C. Thurmond.** City of Hope.

B493 **670.53** Mechanisms Linking the Adipocyte Renin Angiotensin System, Inflammation and Endoplasmic Reticulum (ER) Stress. **K.R. Menikdiwela, L. Ramalingam, N.S. Kalupahana, S. Scoggin, N. Moustaid-Moussa.** Texas Tech University and University of Peradeniya, Sri Lanka.

B494 **670.54** Regulation of HIF1 Alpha in Hyperoxia and Hyperglycaemia. **B.U. Iwuagwu.** Robert Gordon University, United Kingdom.

B495 **670.55** The Protein Phosphatase PHLPP1 Suppresses Insulin Signaling and Inflammation in Mouse Model. **G. Lorden, S. Skovsø, M. Riopel, K. Cohen-Katsenelson, J.D. Johnson, A.C. Newton.** University of California, San Diego and University of British Columbia, Canada.

B496 **670.56** Hepatocyte Early Growth Response 1 (EGR1) Regulates Lipid Metabolism in Nonalcoholic Fatty Liver Disease. **N.S. Magee, Y. Zhang.** University of Kansas Medical Center.

B497 **670.57** Molecular Characterisation of Small Molecule Agonists and Internalisation of GLP-1R. **V. Kanamarlapudi.** Swansea University, United Kingdom.

B498 **670.58** Perturbation of FoxO1 Expression Levels in 3T3-L1 Pre-Adipocytes Using Cinnamon Extract. **A. Dingess, K. Bova, A. Aulthouse, A. Stockert.** Ohio Northern University.

B499 **670.59** Does This Gene Make Me Look Fat? ATP10A Expression in Targeted Human Populations. **S.E. Hurst, T. Ward, B. Hall, K. Smolinski.** University of Arizona, Lincoln Memorial University and Boston University.

B500 **670.60** Comparison of Antioxidant and Anti-Inflammatory Activity of Quercetin, Isoquercitrin and Rutin Against Alcohol-Induced Liver Injury in HepG2 Cells. **J. Song, Y. Kim, J. Lee.** Chungbuk National University, Republic of Korea and Kyungsung University, Republic of Korea.

B501 **670.61** The Effects of Physical Activity and Omega 3 Fatty Acids on Glucose Levels and Neuropathy Symptoms in Hispanic Diabetics in the "En Balancé Plus" Study. **D. Patel.** Loma Linda University.

B502 **670.62** Analyzes of Body Adiposity Index, Waist to Size Ratio, Waist to Hip Ratio, and Heart Score as a Better Clinical Evaluation in Postmenopause. **G. Lugo-Martinez, C.A. Jiménez-Zamarripa, M.E. Ocharan-Hernández, C.C. Calzada-Mendoza.** Instituto Politécnico Nacional-Escuela Superior de Medicina, Mexico and Instituto Politécnico Nacional, Mexico.

B503 **670.63** Understanding the Role of Pancreatic β-Cell CD36 in the Development of Type 2 Diabetes. **E.A. Kolar, E. Gajrawala, J. Deeney, J. Hamilton.** Boston University School of Medicine and Mary Baldwin University.

671. LIPIDS AND MEMBRANES

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 PM–1:00 PM
Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B504 **671.1** Sphingomyelin-Cholesterol Complexes in Plasma Membranes. **S. Endapally, D. Frias, D. Tomchick, A. Radhakrishnan.** The University of Texas Southwestern Medical Center.

B505 **671.2** Regulating the Activity of Akt by Inhibiting the Pleckstrin Homology Domain-Ptdins(3,4,5)P_3 Interaction Using Flavonoids. **Y. Kang, W. Lee, Y. Yoon.** Konkuk University, Republic of Korea.

B506 **671.3** A Quercetin Derivative as a Selective Inhibitor of 12-Lipoxygenase Activity in Human Platelets. **L.H. Boudreau, M.S. Doucet, J-L. Jougleux, S.J. Poirier, M. Cormier, J.L. Léger, M.E. Surette, N. Pichaud, M. Touaibia.** Université de Moncton, Canada.

B507 **671.4** Probing the Two Orientations of PAL in Vesiculating *E. coli.* **N. Pannullo, M. Zavorin, B. D'Arcy, K. Farquharson, R. Kaur, N. Surendran, M. Pichichero, J. Hellman, L.V. Michel.** Rochester Institute of Technology.

B508 **671.5** Bacterial-Triggered Triglyceride Synthesis in *Coccomyxa subellipsoidea* Coincident with Bioremediation of EPA-Regulated Municipal Wastewater. **T. Nicodemus, P. Black.** University of Nebraska-Lincoln.

B509 **671.6** Crystallographic and Enzyme Kinetic Analyses of the Human Inositol Polyphosphate Multikinase (IPMK). **R. Blind.** Vanderbilt University.

B510 **671.7** A New Model for Understanding the Egg Cell Surface at Fertilization. **E. Wiseman, D. Carroll.** Florida Institute of Technology.

B511 **671.8** Designing a Model Skin Cell Membrane to Investigate the Extent of Nanoparticle Absorption. **B. Yoder, A.G. Sostarecz.** Monmouth College.

B512 **671.9** Repurposing Fendiline as a Novel Anti-Viral Therapeutic. **M.L. Husby, R. Stahelin.** Purdue University.

B513 **671.10** Investigating the Elongated Cell Phenotype of *Escherichia coli* Overexpressing the Lysophospholipase PLDB. **G.S. Georgiou, T.A. Garrett.** Vassar College.

B514 **671.11** Mechanism of Membrane Biogenesis. **A.R. Naik, E.R. Kuhn, K.T. Lewis, K.M. Kokotovich, K. Maddipati, X. Chen, H. Horber, D.J. Taatjes, J.J. Potoff, B.P. Jena.** Wayne State University, University of Bristol, United Kingdom and University of Vermont.

672. LIPID METABOLIZING ENZYMES

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B515 **672.1** Convenient and Sensitive Assay for the Screening of Lysosomal Storage Disorders. **E. Stokes.** City College of New York.

B516 **672.2** Novel Crystal Structure of Calcium Independent Phospholipase IPLA2β: Mechanism of Activity Regulation and Membrane Localization. **S. Korolev, O. Koroleva, K. Malley.** Saint Louis University School of Medicine.

B517 **672.3** The Lipid A 1-Phosphatase, LpxE Play Multiple Roles in Bacteria Envelope Biogenesis. **J. An, J. Zhao, D. Hwang, R.A. Gillespie, E.G. Yang, P. Zhou, H.S. Chung.** Korea Institute of Science and Technology, Republic of Korea and Duke University Medical Center.

B518 **672.4** Polyunsaturated Fatty Acid Desaturase-Mediated NAD+ Recycling Permits Ongoing Glycolysis and Cell Proliferation. **W. Kim, A. Deik, J.C. Florez, S.B. Jacobs, C.B. Clish, E.P. Rhee.** Massachusetts General Hospital and Broad Institute of Harvard and MIT.

B519 **672.5** Thioesterase Superfamily Member 2 (Them2) Regulates Fatty Acid Partitioning Between Oxidative and Secretory Pathways in the Liver. **M. Alves-Bezerra, Y. Li, D.E. Cohen.** Weill Cornell Medicine and Cornell University.

B520 **672.6** Structure and Function of Lipins: Key Enzymes in Triglyceride Metabolism. **M. Airola.** Stony Brook University.

B521 **672.7** Human COQ10A and COQ10B Are Distinct Putative Start Domain Proteins That Restore Q Biosynthesis and Function in Yeast. **H.S. Tsui, N.V. Pham, L. Fernández-Del-Río, B.R. Amer, M.C. Bradley, R.T. Clubb, C.F. Clarke.** University of California and Los Angeles.

B522 **672.8** Identification of the Major Diacylglycerol Acyltransferase mRNA in Eukaryotic Cells. **H. Cao.** United States Department of Agriculture and Agricultural Research Service.

B523 **672.9** Identifying Genes Required for the Use of *p-Coumarate* in Coenzyme Q Biosynthesis in *Saccharomyces cerevisiae.* **A. Nag, Y. Li, G. Basset, O. Kwon, C. Clarke.** University of California, Los Angeles and University of Florida.

B524 **672.10** The Glycerophosphocholine Acyltransferase, Gpc1, Impacts PC Remodeling and Stationary Phase Cell Viability in *Saccharomyces cerevisiae*. **S.P. Anaokar, R. Kodali, B. Jonik, A. Nikiforov, I. Lager, S. Stymne, A. de Kroon, J. Patton-Vogt.** Duquesne University, Swedish University of Agricultural Sciences, Sweden and University of Utrecht, Netherlands.

673. GLYCANS AND GLYCOBIOLOGY (II)

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B525 **673.1** Patient-Specific Mechanisms of Lafora Disease Mutations in the Human Glycogen Phosphatase. **M. Gentry, M.K. Brewer, M. Raththagala, J. Wayne, C. Vander Kooi.** University of Kentucky College of Medicine and Skidmore College.

B526 **673.2** Expanded Exploration of FUT8 Substrate Specificity Towards a Variety of Its Less Preferred Substrates. **R. Zhang, Q. Yang, L-X. Wang.** University of Maryland College Park.

B527 **673.3** Rapid Evolution of Bacterial Exotoxin B Subunits Independent of a Subunits: Sialic Acid Binding Preferences Correlate with Host Range and Intrinsic Toxicity. **N. Khan, A. Verhagen, Z. Khedri, S. Diaz, N. Varki, A. Paton, T. Beddoe, J. Paton, A. Varki.** University of California, San Diego, University of Adelaide, Australia and La Trobe University, Australia.

B528 **673.4** Beyond ERAD: N-Glycanase Will Bring You to Tears. **M. Tambe, B. Ng, H. Freeze.** Sanford Burnham Prebys Medical Discovery Institute.

B529 **673.5** The Heparan Sulfate Degrading Enzyme Heparanase Is Up-Regulated by the EWS-FLI1 Fusion Protein in Ewing Sarcoma. **S. Gaskin.** La Trobe Institute for Molecular Science and La Trobe University, Australia.

B530 **673.6** Anti-Oxidative Activity of db Mice Treated with Glycosaminoglycan of Cricket, *Gryllus Bimaculatus*. **M.Y. Ahn, J.S. Hwang.** National Academy of Agricultural Science and RDA, Republic of Korea.

B531 **673.7** Anti-Aging Effect and Gene Expression Profiling of Bumblebee (*Bombus terrestris*) Queen Glycosaminoglycan in Aged Rats. **M.Y. Ahn, H.J. Yun, J.S. Hwang.** National Academy of Agricultural Science and RDA, Republic of Korea.

B532 **673.8** Mapping Specific Cellular Sialoglycans Using Glycosyltransferases. **Z.L. Wu, A.D. Person, B. Burroughs, R. Singh, T. Tatge, T. Manning, G. Wu, R. Sackstein, V. Kalabokis.** Bio-Techne and Brigham & Women's Hospital and Harvard Medical School.

B533 **673.9** Elevated O-GlcNAc Exacerbates Pro-Inflammatory Cytokine Secretion from $CD4^+$ T Cells. **M. Machacek, J. Li, T. Li, T. Lydic, C. Slawson, P. Fields.** University of Kansas Medical Center and Michigan State University.

B534 **673.10** Foxp3 O-GlcNAcylation Controls Regulatory T Cell Homeostasis and Suppressive Function. **B. Liu, O.S. Barrero, C. Sahu, L.E. Ball, K.A. Hogquist, H-B. Ruan.** University of Minnesota and Medical University of South Carolina.

B535 **673.11** System Metaglycomes: Mapping Dynamic Cell Surface N-Glycome, O-Glycome and Glycolipidome by Mass Spectrometry. **M. Barboza, M. Wong, J. Luke, Z. Cheng, G. Xu, M. Gareau, H. Raybould, C.B. Lebrilla.** University of California and Davis.

B536 **673.12** Polymorphic Pseudogenization of SIGLEC12 in Humans: Relationship to Late Stage Cancer Progression. **S.S. Siddiqui, R. Do, W. Zhang, H-J. Lenz, T. Johnson-Pais, R. Leach, G. Fraser, C. Wang, N. Varki, A. Varki.** University of California, San Diego, University of Southern California, The University of Texas Health Science Center and Loma Linda University.

B537 **673.13** Mucus-Inspired Low-Fouling Barriers Based on Self-Assembled Glycopeptide Nanofibers. **G. Hudalla, A. Restuccia.** University of Florida.

B538 **673.14** Roles of Glycosaminoglycans in the Ang/Tie Signaling Axis. **M.E. Griffin, G.M. Miller, A.W. Sorum, L.C. Hsieh-Wilson.** California Institute of Technology.

B539 **673.15** Lysozyme Over-Expression During Nerve Injury Excites Aδ and C Fibres in a Fibre Specific Manner to Incite Neuropathic Pain. **A. Surolia, S. Yadav.** Indian Institute of Science, India.

B540 **673.16** Harnessing Glycocalyx Interactions to Modulate Differentiation and Development. **M.L. Huang, A.L. Michalak, E.M. Tota, R.A. Smith, G.W. Trieger, K. Godula.** University of California and San Diego.

B541 **673.17** Glycomics Studies on Nematodes Elucidate Conserved Functional Epitopes and Biosynthetic Pathways. **S. Yan, J. Vanbeselaere, C. Jin, A. Joachim, K. Paschinger, I.B.H. Wilson.** Institute of Parasitology, University of Veterinary Medicine Vienna, Austria, Department für Chemie, Universität für Bodenkultur Wien, Austria, Institutionen för Biomedicin and Göteborgs universitet, Sweden.

B542 **673.18** Isolation, Characterization and Biochemical Effects of the Different Polysaccharides from Trametes Versicolor. **S.L. Badshah, A. Muhammad.** Islamia College and Peshawar, Pakistan.

B543 **673.19** High-Level Expression System for Production of Recombinant HIV-1 GP120 with Elevated Content of High-Mannose Glycans. **B. Knoppova, Q. Wei, A. Hargett, K. Regal, R. Brown, S. Hall, Z. Moldoveanu, J. Yother, R. Patel, M. Raska, M. Renfrow, J. Novak.** University of Alabama at Birmingham.

B544 **673.20** Sustained O-GlcNAcylation Amplifies ERK Signaling. **G.K. Cork, E.P. Tan, J. Thompson, S. McGreal, M. Machecek, J. Kelsh, K. Peterson, U. Apte, C. Slawson.** Washburn University, Sanford Burnham Institute and University of Kansas Medical School.

B545 **673.21** Engineering Synthetic Glycan Co-Receptors Into the Glycocalyx of Muscle Cells to Control Early Stages of Neuromuscular Junction Development. **K. Godula.** University of California and San Diego.

B546 **673.22** Encoding and Estimating the Remarkable Diversity of Possible Sialyltrisaccharides in Nature. **A. Sasmal, Z. Khedri, S. Diaz, N. Lewis, A. Varki.** University of California and San Diego.

B547 **673.23** Combining Mass Spectrometry and Glycan Array Data to Explore Invertebrate Glycomes. **I. Wilson, B. Eckmair, A. Hykollari, S. Yan, J. Vanbeselaere, K. Paschinger.** Universität für Bodenkultur Wien, Austria.

B548 **673.24** Design of Novel Lectins by Computer-Guided Directed Evolution. **P. Sharma, I.C. Kazan, S.B. Ozkan, G. Ghirlanda.** Arizona State University.

B549 **673.25** Comprehensive High Throughput One-Pot Analysis of Glycoproteins Through Tool for Rapid Analysis of Glycopeptide by Permethylation (TRAP) Method. **A. Shajahan, N.T. Supekar, C. Heiss, P. Azadi.** The University of Georgia.

B550 **673.26** Analyzing the Stabilizing Effects of *O*-Fucose Glycans on Thrombospondin Type 1 Repeats. **S.J. Berardinelli, R.S. Haltiwanger.** University of Georgia.

B551 **673.27** Probing the Role of Peptidoglycan Metabolism in *Helicobacter pylori*'s Helical Shape. **J.A. Taylor, B.P. Bratton, K.E. DeMeester, H. Liang, H.M. Jacobs, E. Kuru, Y.V. Brun, M.S. VanNieuwenhze, W. Vollmer, J.W. Shaevitz, C.L. Grimes, N.R. Salama.** University of Washington, Princeton University, University of Delaware, Indiana University, Newcastle University, United Kingdom and Fred Hutchinson Cancer Research Center.

B552 **673.28** The Development and Characterization of Antibodies to Site-Specific O-GlcNAc Modified Histones for Epigenetic Research. **R. Orlando, M. Popov, G. Gutierrez-Sanchez.** GlycoScientific.

B553 **673.29** Understanding Heparin/Heparan Sulfate Biosynthetic Pathway in the Generation of Antithrombin Binding Motif Using Combinatorial Virtual Library Screening (CVLS). **Y. Bi, N.V. Sankaranarayanan, B. Kuberan, U.R. Desai.** University of Utah and Virginia Commonwealth University.

B554 **673.30** Use of Bioorthogonal *N*-acetylcysteamine (SNAC) Analogues and Peptidoglycan *O*-acetyltransferase B (PatB) to Label Peptidoglycan. **K.M. Lazor, Y. Wang, K.E. DeMeester, H. Liang, T.K. Heiss, C.L. Grimes.** University of Delaware.

B555 **673.31** Fractones: Proteoglycan Matrix for Growth Factor Activity in Health and Disease. **H. Davis, F. Mercier.** University of Hawaii.

B556 **673.32** Structural and Functional Characterization of Ulvan Degrading Polysaccharide Lyase Enzymes. **T. Ulaganathan, W. Helbert, E. Banin, M. Cygler.** University of Saskatchewan, Canada, Recherches sur les Macromolécules Végétales, France and Bar-Ilan University, Israel.

674. SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE (SEBM) INTERDISCIPLINARY RESEARCH

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 PM–1:00 PM
Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B557 **674.1** The Effect of Hyperuricemia on Cardiac Function, Nuclear Factor-κB in Myocardial Tissue, Mn Superoxide Dismutases Activity in Mitochondria of Rats. **C. Hao, H. Duan, J. Zhang, S. Wang, X. Liu, S. Cao, X. Zheng, L. Gao, L. Pan, C. Liu.** The First Clinical College of Shanxi Medical University, People's Republic of China and The Public Health College of Shanxi Medical University, People's Republic of China.

B558 **674.2** Stainless Imaging to Identify the Biochemical Changes During Bleomycin-Induced Pulmonary Fibrosis by Fourier Transform Infrared Technique. **V. Suryadevara, S.S. Nazeer, H. Sreedhar, V. Natarajan, M. Walsh.** University of Illinois at Chicago.

B559 **674.3** RCSB Protein Data Bank: Sustaining a Living Digital Data Resource That Enables Breakthroughs in Scientific Research and Biomedical Education. **S.K. Burley, H.M. Berman, C. Christie, J.M. Duarte, Z. Feng, J. Westbrook, J. Young, C. Zardecki.** RCSB Protein Data Bank.

B560 **674.4** Quantification of Total HIV-1 DNA in Seminal and Blood Samples in Men Under Cart. **R.J. Torres-Strubbe, L.J. Godoy-Muñoz, L.J. Figueroa, M.J. Hill.** University of Puerto Rico at Ponce, Puerto Rico and Ponce Health Sciences University, Puerto Rico.

B561 **674.5** The Impact of the Affordable Care Act on Rural Healthcare. **T.L. Boyd-Seng, G.P. Einstein, O.L. Tulp.** University of Science, Arts and Technology Montserrat, Montserrat and Einstein Medical Institute.

B562 **674.6** Epigenetic and Transcriptomic Signatures of Human Slow- and Fast-Twitch Muscle Fibers Across the Lifespan. **G. Begue, U. Raue, B. Jemiolo, K. Minchev, T. Trappe, S. Trappe.** Ball State University

B563 **674.7** Physical Resilience as a Determinant of Healthy Aging. **A.K. Brown, D.L. Mazula, B. Zhang, C.M. Roos, T.A. White, R.A. Miller, J.D. Miller, N.K. LeBrasseur.** Mayo Clinic and University of Michigan

B564 **674.8** A High-Throughput Targeted Bisulfite Sequencing-Based Analysis for Epigenetic Age Quantification and Monitoring. **Y.C. Chew, W. Guo, X. Yang, M. Jin, K. Booher, S. Horvath, X.Y. Jia.** Zymo Research Corporation, University of California and Los Angeles.

B565 **674.9** TRAPPC6Aδ, TIAF1 and SH3GLB2 Are Initiators for Amyloid Beta Plaque Formation and Tau Aggregation in Vivo. **N-S. Chang, J-Y. Chang, Y.V. Yap, C-I. Sze.** National Cheng Kung University College of Medicine, Taiwan.

B566 **674.10** The Effects of the Senescent Preadipocyte Secretome on Skeletal Muscle Cells. **T.A. White, D. Mazula, M. Schafer, N. Giorgadze, Z. Aversa, J.L. Kirkland, N.K. LeBrasseur.** Mayo Clinic.

B567 **674.11** Activation of SIRT1 and NAMPT Preserves Late-in-Life Fertility of Female *Nothobranchius Guentheri* K**. Petersen Shay, N.O. Thomas, Y. Lee, A.C. Drake, L.G. Ferguson, P. Chappell.** Oregon State University.

B568 **674.12** The Role of Sphingomyelin Synthase on the Healthspan of Organisms via Modulating Neurotransmission. **S.S.H. Chuh, C. Wentz, J. Chan, D. Dries.** Juniata College.

B569 **674.13** Protective Effect of Curcumin Against Nitrosamine-Induced Gastric Cancer in Rats. **M.I. Waly, S. Al-Hinai, I. Al-Bulushi, M.S. Rahman.** Sultan Qaboos University, Oman.

B570 **674.14** An Investigation into the Antibacterial Properties of Citrus and Plant Essential Oils. **A. Axup, A.G. Sostarecz.** Monmouth College.

B571 **674.15** Autoimmune Nature of Type I Diabetes Mellitus. **D.L. Janvier, O.L. Tulp, G.P. Einstein.** University of Science, Arts and Technology Montserrat, Montserrat and Einstein Medical Institute.

B572 **674.16** Using *M. marinum* T6PP as a Model for *M. tuberculosis* Inhibitor Design. **G.M. Ferri, C.M. Harvey, D. Globisch, K. Janda, K.N. Allen.** Boston University, The Skaggs Institute for Chemical Biology, The Worm Institute of Research and Medicine and Scripps Rese.

B573 **674.17** Cold Active β-1,3-Glucanase from Antarctic Yeast, *Glaciozyma antarctica* PI12. **S. Mohammadi, N.M. Mahadi, A.M. Abdul Murad.** National University of Malaysia, Malaysia and Malaysia Genome Institute, Malaysia.

B574 **674.18** Crystallization and Study of Dihydrofolate Reductases (DHFR) in *Wuchereria bancrofti* and *Brugia malayi*. **K.R. Lange, C. Janson, N. Goodey.** Montclair State University.

B575 **674.19** Investigation of the Structure and Function of Phosphoserine Phosphatases. **M.C. Brousseau, L.C. Ray, K.N. Allen.** Boston University and Boston University School of Medicine

B576 **674.20** Resolving the Structure of Metallochaperone Aztd. **S. Fullam, D. Neupane, E. Yukl.** New Mexico State University.

B577 **674.21** Structure/Function Analysis of a Novel Myeloperoxidase Inhibitor from *Staphylococcus Delphini*. **N.T. Ploscariu, N. de Jong, J. van Strijp, B.V. Geisbrecht.** Kansas State University and University Medical Center Utrecht, Netherlands.

B578 **674.22** Dissecting Difference in Heterologous Protein Secretion Titer by Type III Secretion System Between Strains of *Salmonella Enterica*. **H.T. Wong, D. Tullman-Ercek.** University of California, Berkeley and Northwestern University.

B579 **674.23** Engineering Riboswitch-Based Whole Cell Biosensors in *Escherichia coli*. **M. Zhao, K. Page, J. Liu.** Pomona College.

B580 **674.24** Mechanogenetics for the Remote and Non-Invasive Control of Cancer Immunotherapy. **Y. Pan, S. Yoon, J. Sun, Z. Huang, C. Lee, M. Allen, Y. Wu, Y-J. Chang, M. Sadelain, K.K. Shung, S. Chien, Y. Wang.** University of California, San Diego, University of Southern California and Memorial Sloan Kettering Cancer Center.

B581 **674.25** Hybrid Biosensing Cellulose-Based Scaffolds for Imaging-Assisted Tissue Engineering. **N. O'Donnell, I.A. Okkelman, S.A. Ruane, P. Timashev, T.I. Gromovykh, R.I. Dmitriev.** University College Cork, Ireland and I.M. Sechenov First Moscow State University, Russian Federation.

B582 **674.26** Gene Expression in a Synthetic Eukaryotic Cell-Mimic. **H. Niederholtmeyer, N. Devaraj.** University of California and San Diego.

B583 **674.27** Preclinical Evaluation of a New ROS1 Inhibitor to Overcome Resistance to eGFR Therapy in Glioblastoma. **H.M. Aljohani, E.M. Bahassi.** University of Cincinnati Medical Center

Pathology

675. UNDERSTANDING A BROKEN HEART: MECHANISMS OF CARDIAC PATHOLOGY

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Cardiac Pathobiology

Cell and Tissue Injury

Presentation time: 11:45 am–12:45 pm

D1 **675.1** Prevalence of 22q11.2 Deletion and Genetic Characterization in Chinese Patients with Congenital Heart Disease. **H-T. Hou.** TEDA International Cardiovascular Hospital and Chinese Academy of Medical Sciences and Peking Union Med, People's Republic of China.

D2 **675.2** Multi-Omics Studies Identify the Role of PPAR Pathway in Rheumatic Heart Disease Patients with Chronic Atrial Fibrillation. **H-X. Chen.** TEDA International Cardiovascular Hospital and Chinese Academy of Medical Sciences and Peking Union Med, People's Republic of China.

D3 **675.3** Proteomic Changes After Surgical Repair in Congenital Heart Diseases. **G-W. He.** TEDA International Cardiovascular Hospital and Chinese Academy of Medical Sciences and Peking Union Med, People's Republic of China.

D4 **675.4** Cardiac Remodeling in Obesity Is Associated with High Gene Expression of TLR-4 and TNF-α. **P.H.R. Alves, F. Hasimoto, K. Kitawara, F. Francisqueti, A. Ferron, S.G.Z. Bazan, D. Campos, A.L. Ferreira, C.R. Correa.** Botucatu Medical School, Brazil.

D5 **675.5** PSEN1 and NUP98 as Diagnostic Biomarkers for Human Myocarditis. **P.J. Hanson, C. Li, H. Rai, E.L. Jang, B.M. McManus, M. Seidman.** University of British Columbia, Canada.

D6 **675.6** Clinical Biomarkers of Congestive Heart Failure Significantly Correlate with Pancreatic Trypsin and Lipase Levels in Human Blood Plasma. **V. Courelli, A. Courelli, P. Mills, G. Schmid-Schoenbein.** University of California and San Diego.

D7 **675.7** Cigarette Smoking Is Associated with PEDF Downregulation in the Myocardium. **J. McHowat, J. Adney, J. Jones, H. Patel, D. Hui.** Saint Louis University.

D8 **675.8** Inhibition of the Prostaglandin E2 EP3 Receptor Does Not Affect Beta Adrenergic Signaling in the Heart. **T.D. Bryson, T.S. Pandrangi, S.Z. Khan, J. Xu, E. Peterson, P. Harding.** Henry Ford Health System.

D9 **675.9** The Relationship Between Anemia and Sudden Cardiac Death in Severe Aortic Stenosis. **A. Ducharme-Smith, A.A. Chahal, B.J. Gersh, V.K. Somers, H. Sawatari, P.A. Brady, V.T. Nkomo, P.A. Pellikka.** Mayo Clinic.

D10 **675.10** Exosomal miRNAs Derived from Specific Cardiac Progenitor Cells Exert Strong Therapeutic Effect on Myocardial Infarction. **W. Xuan, L. Wang, Y. Tang, M. Ashraf.** University of Illinois at Chicago, Georgia Regents University and University of Illinois at Chicago.

D11 **675.11** Obesity and Heart Steatosis: The Potential Role of the Receptor for Advanced Glycation End Products (RAGE). **M.M. Corsi Romanelli, E. Vianello, L. Tacchini, F. Bandera, E. Dozio.** Università degli Studi di Milano, Italy.

D12 **675.12** Short-Term Changes in Left Ventricular Dyssynchrony Leads to Congestive Heart Failure. **J.J. Hurtado.** California State University and Los Angeles.

D13 **675.13** Developing a New Polymeric System for Release of Immunomodulators for Treatment of Heart Failure. **F.D.J. Salazar-Ramírez, O. Lozano, H. Chapoy-Villanueva, G. Torre-Amione, G. García-Rivas.** Cátedra de Cardiología y Medicina Vascular, Escuela de Medicina and Tecnológico de, Mexico.

D14 **675.14** Oroxylin A Prevents Cardiac Hypertrophy and Dysfunction as a Modulator of Mitochondrial Protein Acetylation. **A. Aguilar-Sáenz, N. Treviño-Saldaña, Y. Oropeza-Almazán, G. García-Rivas.** Tecnológico de Monterrey , Mexico.

D15 **675.15** Expression of Fusion Proteins in Different Subpopulations of Cardiac Mitochondria. **R. Guzmán-Hernández, R.M. Parodi-Rullán, X. Chapa-Dubocq, S. Jang, S. Javadov.** University of Puerto Rico School of Medicine.

D16 **675.16** P21-Activated Kinase 1 Is Necessary for Autophagy and Mitophagy in Cardiomyocytes. **K. Clements, K. Tin, T. Kobayashi, Y. Huang, S. Kobayashi, Q. Liang.** New York Institute of Technology College of Osteopathic Medicine.

D17 **675.17** Circulating Caspase-3 p17 Fragment as a Novel Marker for Cardiac Apoptosis During Cardioplegia. **M.K. Lorinsky, M. Kim, C. Gold, S. Lahey, D. Fusco, D. Rosinski, D. Pawlak, B. Liang.** University of Connecticut Health.

676. VASCULAR BIOLOGY AND PATHOLOGY: FROM A (ATHEROSCLEROSIS) TO Z (LINES OF ZAHN)

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Vascular Biology

Cardiovascular

Presentation time: 11:45 am–12:45 pm

D18 **676.1** *P. Gingivalis* Lipopolysaccharide-Induced Exacerbation of Oxidized LDL-Mediated Macrophage Foam Cell Formation Is Reliant on TRPV4 Channels. **S.O. Rahaman, N. Gupta, R. Goswami.** University of Maryland.

D19 **676.2** Soluble FMS-Like Tyrosine Kinase-1 (sFLT-1) Localization in Renal Biopsies. **Z.K. Zsengeller, M. Tavasoli, E. Pernicone, A.S. Karumanchi, S. Rosen.** Beth Israel Deaconess Medical Center.

D20 **676.3** Minocycline Inhibits PDGF-BB-Induced Human Aortic Smooth Muscle Cell Proliferation and Migration via Induction of RECK. **Y. Higashi, M. Srinivas, S. Sukhanov, T. Yoshida, P. Delafontaine, B. Chandrasekar.** University of Missouri and The University of Texas Rio Grande Valley.

D21 **676.4** Differential Expression of mTOR Related Molecules in the Placenta of Gestational Diabetes Mellitus (GDM), Intrauterine Growth Restriction (IUGR) and Preeclampsia Patients. **K. Price, B. Kimbler, N. Knowlton, L. Franson, K.M. Hirschi, P.R. Reynolds, J.A. Arroyo.** Brigham Young University.

D22 **676.5** Minimal Effect of Aliskiren on Mast Cell /s/ Count and Renal Vascular Damage in Acute Rat Model of Triolein Induced Pulmonary Fat Embolism. **F. Khalafi, E. Onishchenko, M. Pour, D. Arif, P. Monaghan, A. Poisner, A. Molteni, S. Siddiqi, S. Siddiqi.** University of Missouri—Kansas City and University of Kansas School of Medicine.

D23 **676.6** Intravenous Lipid Emulsion Induces Endocytosis in Human Coronary Artery Endothelial Cells by a CD36/Caveolin-1 Pathway. **N. McVey, M. Richman, J. Struve, S. Baumgardt, D. Weihrauch.** Medical College of Wisconsin and University of North Carolina.

D24 **676.7** Absence of Heme Oxygenase-1 Accelerates Smooth Muscle Cell Gene Expressions During Embryoid Body Development from Mouse Embryonic Stem Cells. **W-C. Jiang, Y-L. Lai, C-Y. Lin, S-F. Yet.** National Health Research Institutes, Taiwan.

D25 **676.8** Atherogenic Diet Induced Cardiovascular Disease and Bone Loss in APOE Knockout Mice. **W-Y. Cheng, Y-W. Lan, H-L. Chen, C-M. Chen.** Department of Life Sciences, National Chung Hsing University, Taiwan, Department of Medical Biotechnology and Laboratory Science, Chang Gung Christian University, Taiwan, Department of Bioresources and Da-Yeh University, Taiwan.

D26 **676.9** Deficiency of Lysosomal Ceramide Hydrolysis Contributes to Enhanced Exosome Release and Calcification in Coronary Artery Myocytes. **X. Yuan, O.M. Bhat, H. Lohner, Q. Zhang, Y. Zhang, K. Boini, P-L. Li.** Department of Pharmacology and Toxicology, Virginia Commonwealth University and University of Houston.

D27 **676.10** A Comparative Study on Phenotypic and Molecular Characteristics of Ischemic Stroke Resistant Animal Model. **H. Kang, J. Won, Y. Hong.** Inje University, Republic of Korea.

D28 **676.11** Vasopressin Infusion Throughout Pregnancy Causes Placental Pathology in Mice Consistent with Preeclampsia. **K.N. Gibson-Corley, J.A. Sandgren, K.J. Perschbacher, S.Y. Zhang, G. Deng, D.A. Santillan, M.K. Santillan, J.L. Grobe.** University of Iowa.

D29 **676.12** Syndecan-4 and PECAM-1-Dependent Cell Motility. **V. Abraham, A. Parambath, M. Murarka, K. Zoga, D. Saeed, T. Tran, R. Kumar, H. DeLisser.** University of Pennsylvania.

D30 **676.13** Elastic Lamina Fragmentation in Sickle Mice Can Be Rescued by JNK- Cathepsin Inhibition. **H. Song, P.M. Keegan, A.J. Denby, A. Clark, J. Selma, S. Anbazhakan, E.A. Botchwey, M. Platt.** Georgia Institute of Technology and Morehouse College.

D31 **676.14** Mast Cell Heterogeneity in Rat Lungs in a Model of Fat Embolism After Treatment with Drugs Related to the Renin Angiotensin System. **A. Siddiqi, S. Siddiqi, D. Arif, T. Haferkamp, T. Lind, A. Poisner, M. Pour, P. Monaghan, S. Hamidpour, A. Molteni.** University of Missouri—Kansas City and Kansas University Medical Center.

D32 **676.15** Detection of the Initiation of Medial Vascular Calcification in Coronary Artery Specimens of an HIV Patient with a Combination of 3D Tomographic Imaging and Histology. **H. Wen, H. Miao, T. Larsen, A. Morales-Martinez, Z-X. Yu, E. Bennett, M. Boehm, A.T. Remaley, A.M. Gharib.** National Institutes of Health.

677. CANCER PATHOLOGY, PATHOGENESIS, AND PATHOPHYSIOLOGY

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Neoplasia

Cancer and Therapy

Presentation time: 11:45 am–12:45 pm

D33 **677.1** Role of GRM1 Expression in the Transfer of Metastatic Phenotypes via Melanoma Exosomes. **K. Zembrzuski.** Rutgers University.

D34 **677.2** Construction of Clinically Relevant Non-Small Cell Lung Cancer Model in Athymic Nude Mice Using 3D Spheroids of A549-iRFP Cells. **Y. Huang, X. Guo.** University of the Pacific.

D35 **677.3** An Integrative Approach to Identify Biological and Socioeconomic Contributors to Cancer Incidence and Mortality: The Advancing a Healthier Wisconsin Endowment's Cross-Cutting Component. **J. Olson, M. Stolley, S. Millon-Underwood, T. Cawthra, K. Beyer, D. Fraser, L. Ignace, L. Pinsoneault, J. Salazar, A. Walker, C. Willliams, P. Lucey, C. Maurana.** Medical College of Wisconsin, University of Wisconsin—Milwaukee, Advancing a Healthier Wisconsin Endowment, University of Wisconsin—Madison, Gerald L. Ignace Indian Health Center, Spark Policy Institute and Sixteenth Street Community Health Center.

D36 **677.4** CXCR4 Inhibitor, MSX-122 Suppresses Aom-Induced Colon Cancer in Apc+/Min Mouse. **B.M. Bissonnette, U. Dougherty, R. Mustafi, H.I. Haider, L. Joseph, J. Souris, J.A. Hart, J.R. Pewkow, Y.C. Li.** University of Chicago and Beth Israel Hospital.

D37 **677.5** Indoleamine 2,3-Dioxygenase Expression Is Correlated to Prognosis in Localized Prostate Cancer. **J.M. Ferreira, J. Pontes-Júnior, L.H.G. Matheus, D.M. Sousa, A.E.R. Lima, R.J. Almeida, C.P. Camacho, S.T. Reis, K.R.M. Leite, M. Srougi, H. Dellê.** Universidade Nove de Julho, Brazil and Faculdade de Medicina da Universidade de São Paulo—FMUSP, Brazil.

D38 **677.6** Is HPV Vaccination Secure Protection of Women Without or with Cytologic Cancer Screening. **O. Markovic, N. Markovic.** Global Academy for Women's Health.

D39 **677.7** Induction of Lymphangiomas by Freund's Incomplete Adjuvant (FIA) in Fatty Acid Binding Protein (FABP)-3, 5 and 7 Knock-Out Mice. **T. Ezaki, H. Sagawa, N. Tokuda, K. Tokuda, C. Yamashiro, K. Kimura, Y. Owada.** Tokyo Women's Medical University, Japan, Yamaguchi University Graduate School of Medicine, Japan and Tohoku University School of Medicine, Japan.

D40 **677.8** IDH1-Mutated Gliomas Rely on Anaplerosis of Glutamate and Lactate Whereas IDH1 Wild-Type Gliomas Rely on Glycolysis and Acetate Anaplerosis. **M. Khurshed, K. Lenting, T. Peeters, R.J. Molenaar, W. Leenders, C. van Noorden.** Cancer Center Amsterdam, VUmc, Netherlands and Radboud University Nijmegen Medical Centre, Netherlands.

D41 **677.9** Body Mass Index and Other Anthropomorphic Variables in Relation to Risk of Colorectal Carcinoma Subtypes Classified by Tumor Differentiation Status. **J. Borowsky, A. Hanyuda, R. Nishihara, M. Song, J.K. Lennerz, J.A. Meyerhardt, A.T. Chan, C.S. Fuchs, E.L. Giovannucci, J.A. Nowak, T. Hamada, S. Ogino.** Dana-Farber Cancer Institute, Harvard T.H. Chan School of Public Health, Dana-Farber Cancer Institute and Harvard Medical School, Massachusetts General Hospital and Harvard Medical School, Yale Cancer Center and Brigham and Women's Hospital and Harvard Medical School.

D42 **677.10** Evaluation of Plasma Cell-Free Circulating DNA Integrity in Patients with Prostate Cancer in Jamaica. **A. Condappa, W. Aiken, W. McLaughlin, D. McGrowder, M. Gossell-Williams.** University of the West Indies, Jamaica.

D43 **677.11** High Fat Diet Exacerbates 4NQO-Induced Liver Pathology in Mice. **J. Green, C. Fuja, R. Schmelter, J. Goral, L. Pitstick, A. Meyer, M. Pytynia, M. Ciancio, B. Jham.** Midwestern University.

D44 **677.12** Chemorepulsion as a Novel Therapeutic Concept to Inhibit Pancreatic Cancer Metastasis. **B. Niclou, X. Li, A. Zessler, R. Adam, D. Briscoe, D. Bielenberg.** Boston Children's Hospital.

D45 **677.13** Generating 3D Artificial Melanoma Tumor Tissues Using Cellmate$_{tm}$ Hydrogels. **T. Lyden, D. Dahlberg, M. Martin.** University of Wisconsin—River Falls.

D46 **677.14** Fractones: Tumor Matrix in Colon Cancer, Stomach Cancer and Glioblastoma. **F. Mercier, A. Uguen, P. Marcorelles, A. Fronville, L. Corcos.** John A. Burns School of Medicine, University of Hawaii, Institut National de la Santé et de la Recherche Médicale (INSERM) UMR1078, IBSAM, UBO, France, Centre Hospitalier Régional Universitaire, France, LaTIM, Institut National de la Santé et de la Recherche Médicale (INSERM), UMR 1101 and U, France.

D47 **677.15** Role of Inflammation and Genes Associations with Prostate Cancer Risk. **R.G. Andavolu, O. Rodriguez, E.G. Shaaf.** Genetic Research Institute of the Desert.

D48 **677.16** Anti-Metastatic Activity of Capsaicin and Natural Capsaicin-Like Compounds in Human Lung Adenocarcinoma. **S.D. Richbart, N.A. Nolan, A.T. Akers, K.W. Colclough, J.D. Hurley, C.D. Williams, W.D. Rollyson, K.C. Brown, K.L. Denning, L.G. Brown, R.D. Egleton, P. Dasgupta.** Joan C. Edwards School of Medicine and Marshall University.

D49 **677.17** Capsaicin and Its Non-Pungent Analog Arvanil Sensitize Platinum-Resistant Small Cell Lung Cancer to Camptothecin-Induced Apoptosis. **K.W. Colclough, J.R. Friedman, H.E. Perry, K.C. Brown, A.T. Akers, N.A. Nolan, W.D. Rollyson, Y.C. Chen, K.L. Denning, L.G. Brown, P. Dasgupta, P. Dasgupta.** Joan C. Edwards School of Medicine, Marshall University and Alderson Broaddus University.

D50 **677.18** Inhibition of Choline Acetyltransferase Activity Abrogates the Growth of Lung Adenocarcinoma Patients Who Are Exposed to Tobacco Smoke. **A.T. Akers, K.C. Brown, K.W. Colclough, N.A. Nolan, J.R. Friedman, S.L. Miles, E.W. Bow, J.M. Rimoldi, E.W. Hardman, P. Dasgupta.** Joan C. Edwards School of Medicine, Marshall University and University of Mississippi.

D51 **677.19** Acetylcholine Signaling Pathway: A Novel Target for Lung Cancer in Smokers. **P. Dasgupta, J.K. Lau, K.C. Brown, E. Bow, Z.R. Robateau, W.D. Rollyson, C.A. Stover, J.M. Rimoldi, S. Cutler, W.E. Hardman, A.B. Carpenter, Y.C. Chen.** Joan C. Edwards School of Medicine, Marshall University, University of Mississippi, University of South Carolina and Alderson Broaddus University.

D52 **677.20** siRNA Mediated Knockdown of MLF1 Gene Suppressed the Proliferation and Colony Forming Ability of Human Lung Cancer Cells. **H. Wang, J. Yang, G. Zhu, R. Yan, Y. Zhang, X. Wang.** Bengbu Medical College, People's Republic of China.

D53 **677.21** Non-Contact Electric Fields Potently Hinder EGF Promoted Breast Cancer Motility by Downregulating eGFR Phosphorylation. **A.A. Garg, T.H. Jones, S. Bushman, S.A. Mishra, J. Ferree, P. Kumar, D.K. Ahirwar, R. Ganju, V. Subramaniam, J. Song.** The Ohio State University.

D54 **677.22** Toll-Like Receptor-4 Activation Improves the Immunosuppressive Properties of Cancer Cells-Derived Exosomes. **R. Domenis, D. Marinò, A. Cifù, M. Fabris, K.R. Niazi, P. Soon-Shiong, F. Curcio.** Università degli Studi di Udine, Italy, Azienda Sanitaria Universitaria Integrata di Udine, Italy, NantBioScience and Inc.

D55 **677.23** Discovery of Novel Non-Coding Products of the Pax-5 Gene and Their Clinical Significance in Lymphoid Cancers. **B. Hannay, P. Dumas, V. Veilleux, N. LeBlanc, G.A. Robichaud.** Université de Moncton, Canada.

D56 **677.24** Integrative Immune Stimulation Dynamic in Reversal Processes of Stage Four of Prostate Cancer. A Case Study. **G.P. Einstein, O.L. Tulp, C.M. Konyk, N.P. Kealoha.** Einstein Medical Institute, University of Science and Arts and Technology Montserrat, Montserrat.

D57 **677.25** Regulation of Trophoblast Invasion by Pyruvate Kinase Isozyme M2 (PKM2). **J.F. Mejia, P. Hall, K.M. Hirschi, P.R. Reynolds, J.A. Arroyo.** Brigham Young University.

678. BREAST CANCER: MODELS AND MECHANISMS

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Breast Cancer

Neoplasia

Presentation time: 11:45 AM–12:45 PM

D58 **678.1** The Effects of Methylmercury on Breast Cancer Cells in *Danio rerio*. **L. Cressey, E. Christensen, B. Conn, S. Morrow, R. Zhang, J. Benoit, H. Gaudet.** Wheaton College.

D59 **678.2** TIMP-2 Inhibits Triple Negative Breast Cancer Growth and Metastasis Through EMT Suppression and Promotion of Vascular Normalization. **S.M. Jensen, S. Kumar, A. Chowdhury, N. Castro, J. Shih, D.S. Salomon, W.G. Stetler-Stevenson.** National Cancer Institute and National Institutes of Health.

D60 **678.3** Identification of AQP5-Regulating miRNAs and Their Role in Breast Cancer Cell Migration. **E-J. Park, H.J. Jung, H-J. Choi, T-H. Kwon.** Kyungpook National University, Republic of Korea, National Heart, Lung, and Blood Institute and National Institutes of Health.

D61 **678.4** Differential Response to Apigenin in African American Triple-Negative Breast Cancer in Reducing TNF-α Mediated Rise in CXCL1. **K.F. Soliman, D.F. Bauer, E.A. Mazzio.** Florida A&M University.

D62 **678.5** Chronic Cadmium Exposure Reduces the Dependence of MCF7 Cells on ERA for Cell Growth. **M. Bloomfield, M. Louie.** Dominican University of California.

D63 **678.6** Chemotherapeutic Tolerability and Estrogen Dose Response in the B6;129-*Rag2*^{tm1Fwa}*IL2rg*^{tm1Rsky}/DwlHsd (R2G2) Mouse Model. **J. Naden, M. Melton, A. Bast, J. Gardner.** Envigo and Horizon Discovery.

D64 **678.7** *OTUD7B* Upregulation Predicts a Poor Response to Paclitaxel in Patients with Triple-Negative Breast Cancer. **Y-F. Lin, H-W. Chiu, M. Hsiao.** Taipei Medical University, Taiwan and Academia Sinica, Taiwan.

D65 **678.8** Role of HER-2 in Breast Carcinogenesis. **T. Link, S. Jain, A. Lu, A. Nathan, T. Shabazaz, I. Uppalapati.** Walton High School

Pharmacology

679. NATURAL PRODUCTS I

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:30 pm–2:30 pm

C1 **679.1** Suppression on Adipocyte Differentiation of Human Bone Marrow-Derived Mesenchymal Stem Cell (HBMSC) by a Phytoestrogen Diarylheptanoid. **N. Sutjarit, J. Weerachayaphorn, A. Suksamrarn, H.C. Blair, P. Piyachaturawat.** Mahidol University, Thailand, Ramkhamhaeng University, Thailand and University of Pittsburgh.

C2 **679.2** Study of the Chemo-Sensitizing Effects of Thymoquinone, the Active Constituent of *Negilla sativa* (Black Seed), to Nitrogen Mustards, Chlorambucil and Cyclophosphamide, in Human Melanoma Cell Lines. **M. Alsulaimany, S.G. Kerr.** Massachusetts College of Pharmacy and Health Sciences.

C3 **679.3** Cytoprotective Effect of Two Flavanoids—Catechin and Epicatechin, Against Oxidative Stress Induced by Cumene Hydroperoxide, in MCF-7 Cells. **R. Alghamdi, S.G. Kerr.** Massachusetts College of Pharmacy and Health Sciences.

C4 **679.4** Screening and Identification of Compounds in Pomegranate Peel to Ameliorate 5-Fluorouracil Induced Intestinal Mucositis in Rats and Induce HT-29 Colorectal Cancer Cell Death Through Reactive Oxygen Species Mediated Apoptosis and Cell Cycle Arrest. **X-X. Chen, Z-J. Zhang, S.C.W. Sze, G-H. Leung, Y-B. Zhang.** The University of Hong Kong, Hong Kong.

C5 **679.5** Amelioration of N-Acetyl-1,4-Benzoquinone Imine-Induced Hepatotoxicity in Rats by Aqueous Leaf Extract of *Annona muricata* (Soursop). **C.I. Nosiri, C. Anyanwu, E.N. Okwara.** Abia State University, Nigeria and Bizmart Pharmaceuticals.

C6 **679.6** Investigation of Metabolic Profiling of Leelamine *in Vitro* and *in Vivo* by LC-MS/MS. **R. Shrestha, T. Lee, S. Lee.** Kyungpook National University, Republic of Korea.

C7 **679.7** Influence of Cigarette Smoking on Myocardial Infarction Induced Renal Damage. **N. Habeichi, E. Abidi, H. Alawasi, A. El-Yazbi, F. Zouein.** American University of Beirut, Lebanon.

C8 **679.8** Concentration-Dependent Actions of Piperidine Alkaloids on the Inhibition of Fetal Movement in Day 40 Pregnant Goats and Comparison to Cell-Based Models. **B. Green, K.D. Welch, S.T. Lee, W.R. Kem.** Poisonous Plant Research Laboratory and University of Florida.

C9 **679.9** Determination of 13 Ginsenosides in Diverse Ginseng Product by LC-MS/MS. **P.J. Cho, Y. Gao, J.J. Jo, S. Lee.** Kyungpook National University, Republic of Korea.

C10 **679.10** Investigation of Selective Induction of Korean Red Ginseng Extract on Cytochrome P450 2D and 3A. **J.M. Jeon, P.J. Cho, J.J. Jo, R. Shrestha, S. Lee.** Kyungpook National University, Republic of Korea.

C11 **679.11** Tissue Morphology and Expression of Myelin Basic Protein and Inducible Nitric Oxide Synthase in Wistar Rats Treated with Sodium Arsenite: The Beneficial Effects of Ethanol Leaf Extract of *Tridax procumbens*. **E.S. Samuel, J.O. Olopade, M.A. Gbadegesin, O.A. Odunola.** University of Ibadan, Nigeria.

C12 **679.12** Toxicity Studies of *Striga hermonthica* δ Benth Extract in Rats. **M.M. Onakpa, P. Adamu, J.O. Ode, P.O. Ajagbonna.** University of Abuja, Nigeria.

C13 **679.13** Antioxidant and Anti-Apoptotic Effect of Gallic Acid on Doxorubicin-Induced Testicular and Epididymal Toxicity. **M.O. Oyeyemi, O.A. Moyinoluwa, E.R. Asenuga, T.O. Omobowale, O. Ajayi, A.A. Oyagbemi.** University of Ibadan, Nigeria, University of Benin, Nigeria and Federal University of Agriculture, Nigeria.

680. TRANSPORTER FOR BIOGENIC AMINES / CELLULAR MECHANIZED ADDICTION

Poster

(*Sponsored by:* ASPET Division for Neuropharmacology)

(*Cosponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Behavioral Pharmacology

Neuroscience

Presentation time: 12:30 pm–2:30 pm

C14 **680.1** Photoaffinity-Mediated Identification of a Third Citalopram Analog Binding Site on the Serotonin Transporter. **M.J. Tomlinson, V. Kumar, A.H. Newman, J.R. Lever, L.K. Henry, R.A. Vaughan.** University of North Dakota School of Medicine and Health Sciences, National Institute on Drug Abuse, National Institutes of Health and University of Missouri.

C15 **680.2** Interaction Between the Dopamine Transporter and the Gβγ Subunits of the Heterotrimeric G-Protein Modifies Transporter Function and Response to Psychostimulants. **J. Garcia-Olivares, D. Torres-Salazar, S.A. Wasserman, C.W. Hong, S.G. Amara.** National Institute of Mental Health, National Institutes of Health and Butler University.

C16 **680.3** Investigating Organic Cation Transporter 3 (OCT3) and Plasma Membrane Monoamine Transporter (PMAT) as Targets for Development of New Antidepressant Treatments for Juveniles and Adolescents. **M.A. Bowman, N.C. Mitchell, R. Fraser-Spears, G. Gould, L.C. Daws.** The University of Texas Health Science Center at San Antonio and University of the Incarnate Word.

C17 **680.4** Presynaptic Gq-Coupled Receptor Activation Drives D2-Dependent, Biphasic Dopamine Transporter Surface Trafficking. **P.J. Kearney, H.E. Melikian.** University of Massachusetts Medical School.

C18 **680.5** A Rare, Autism-Associated In-Frame Deletion in the Dopamine Transporter Exhibits Profound Functional Deficits. **A. Shekar, N. Campbell, J. Aguilar, D. Peng, K. Erreger, H. Matthies, J. Sutcliffe, H. Mchaourab, A. Galli.** Vanderbilt University and University of Alabama at Birmingham.

C19 **680.6** Elucidation of Self-Mediated Enhancement of Dopamine Transport by the Dopamine Transporter Which Can Be Modulated by Extracellular Gate and N-Terminal Residues. **L.K. Henry, M.D. Allen, M. Shetty, A. Cwikla, I. Nies.** University of North Dakota School of Medicine and Health Sciences.

C20 **680.7** D2 Autoreceptor Signaling Is Depressed by Neurotensin Released from Discrete Inputs to Midbrain Dopamine Neurons. **C.W. Tschumi, M.J. Beckstead.** The University of Texas Health Science Center at San Antonio and Oklahoma Medical Research Foundation.

C21 **680.8** Regulation of Serum- and Glucocorticoid-Inducible Kinase Phosphorylation and Catalytic Activity in Ventral Tegmental Area by Chronic Drugs of Abuse. **V. Bali, M. Doyle, M. Mazei-Robison.** Michigan State University.

C22 **680.9** Dopamine Transporter Allosteric Modulator Sri-32743 Alters the Effects of Cocaine on Dopamine Neurotransmission in Adult Mice. **A. Hager, L. Daws, S. Ananthan, M. Beckstead.** The University of Texas Health Science Center at San Antonio, Southern Research and Oklahoma Medical Research Foundation.

C23 **680.10** Using *in Vitro* Norepinephrine Transporter (NET) Inhibition and 5-HT_2 Receptor Binding Data to Predict Psychoactive Doses of Novel Psychoactive Substances in Humans. **M.E. Liechti, D. Luethi.** University Hospital Basel, Switzerland.

C24 **680.11** Microinjection of Urotensin II into the Pedunculopontine Tegmentnum Leads to an Increased Perception of Sensory Stimuli. **R. Ettaro, D. Daniels, D. MacLaren, T. Markovic, S. Clark.** University at Buffalo and State University of New York.

C25 **680.12** Identifying Diazepam Induced Alterations in GABA Type A Receptor Synaptic Plasticity. **J. Lorenz-Guertin, S. Das, S. Pardo, D. Molleur, S. Weintraub, T.C. Jacob.** University of Pittsburgh and The University of Texas Health Science Center at San Antonio.

681. STIMULANTS II

Poster

(*Sponsored by:* ASPET Division for Behavioral Pharmacology)

(*Cosponsored by:* ASPET Division for Neuropharmacology (NEU))

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Behavioral Pharmacology

Neuroscience

Presentation time: 12:30 pm–2:30 pm

C26 **681.1** Effects of Environmental Variables on the Pharmacological Actions of "Bath Salts" Constituent 3,4- (MDPV) in Mice. **L. Russell, W. Hyatt, M. Berquist, A. Ray, K. Murnane, W. Fantegrossi.** University of Arkansas for Medical Sciences and Mercer University.

C27 **681.2** The Role of Patch Compartment Neurons in Methamphetamine-Mediated Reward. **T. Kendrick, H. Robinson, N. Barker, B. Patel, J. Logue, A. Horner.** Mercer University School of Medicine.

C28 **681.3** Adult Neural Stem Cells Show Regional and Sex-Dependent Responses to Chronic Poly-Drug Administration. **C. Schlagal, E. McGrath, J. Gao, T. Dunn, R. Fox, S. Stutz, K. Dineley, B. Kaphalia, K. Cunningham, P. Wu.** The University of Texas Medical Branch.

C29 **681.4** Organ Distribution and Clearance of (3,4)-Methylenedioxypyrovalerone (MDPV) Enantiomers in Female and Male Rats After Intravenous Administration of Racemic MDPV. **M.D. Hambuchen, H.P. Hendrickson, M.G. Gunnell, S.J. McClenahan, S.M. Owens.** University of Arkansas for Medical Sciences.

C30 **681.5** Sex Differences in Cocaine Self-Administration Behavior Are Driven by Estrous Stage Dependent Changes in Dopamine Transporter Sensitivity to Cocaine. **M. Mauterer, S.R. Jones.** Wake Forest School of Medicine.

C31 **681.6** The Impact of Sex and Exercise on Methamphetamine Preference in a Rat Animal Model. **M. Purpura, T.E. Kippin, S. Williams, C. Barkas, J. Adams.** University of California, Santa Barbara.

C32 **681.7** Reinforcing Potency and Effectiveness of Synthetic Cathinones: Potency Versus Selectivity for DAT. **B.M. Gannon, A. Sulima, K.C. Rice, M.H. Baumann, G.T. Collins.** The University of Texas Health Science Center at San Antonio, National Institute on Drug Abuse, National Institute on Alcohol Abuse and Alcoholism, and National Institutes of Health Intramural Research Program.

C33 **681.8** Dissecting the Abuse Liability of Cathinone Derivative Psychomotor Stimulants in Female Rats. **M.A. Taffe, E.L. Harvey, M. Javadi-Paydar, J.D. Nguyen, Y. Grant, S.A. Vandewater, K.M. Creehan, T.J. Dickerson.** Scripps Research Institute.

C34 **681.9** Local Administration of Oxytocin in the Nucleus Accumbens Shell Affects the Neurochemical Effects of Methylphenidate Related to Its Reinforcing Effects. **G. Tanda, A.H. Newman, M.A. Coggiano, J.D. Keighron, L. Leggio, M.R. Lee.** Medication Development Program, National Institute on Drug Abuse, National Institutes of Health Intramural Research Program, Clinical Psychoneuroendocrinology and Neuropsychopharmacology Section and National Institute on Alcohol Abuse and Alcoholism.

C35 **681.10** Elucidating the Effects of Typical and Atypical Dopamine Uptake Inhibitors on the Phasic Release of Dopamine in Mice. **J.D. Keighron, J. Bonaventura, Y. Li, W. Sandtner, R. Slack, J.J. Cao, S. Lam, M. Michaelides, H. Sitte, A.H. Newman, G. Tanda.** National Institute on Drug Abuse, National Institutes of Health and Medical University of Vienna, Austria.

C36 **681.11** Characterization of the Effects of Standard and Atypical Dopamine Uptake Inhibitors and Other Centrally Acting Drugs on the EEG of Freely Moving Rats. **C. Zanettini, A. Scaglione, J. Keighron, J.B. Giancola, S-C. Lin, A.H. Newman, G. Tanda.** Medication Development Program, National Institute on Drug Abuse, National Institutes of Health Intramural Research Program, Neural Circuits and Cognition Unit, Laboratory of Behavioral Neuroscience and National Institute on Aging.

C37 **681.12** Relation of LSD, Ecstasy and Alcohol Used by Undergraduate Students. **M.C.C. Mendes, G.C.V. Lauar, R.P. Miranda, I.D. Taricano.** Universidade Nove de Julho, Brazil.

682. DIET AND DRUG ABUSE

Poster

(*Sponsored by:* ASPET Division for Neuropharmacology)

(*Cosponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Behavioral Pharmacology

Neuroscience

Nutrition/Obesity

Presentation time: 12:30 PM–2:30 PM

C38 **682.1** Acetazolamide Increases Locomotion, Exploratory Behavior, and Weight Loss Following Social Stress: *A Treatment for Emotional Eating?* **J. Student, R. Woodman, W. Lockette.** University of Missouri.

C39 **682.2** The Effects of Eating a High Fat Diet on Sensitivity of Female Rats to the Reinforcing Effects of Methamphetamine. **K.I. Galindo, N. Beltran, K. Serafine.** The University of Texas at El Paso.

C40 **682.3** Sex Differences in High Fat Diet-Induced Enhanced Sensitivity to the Locomotor Stimulating Effects of Methamphetamine and SKF 82958. **J. Ramos, G.F. Robles, A. Gonzalez, K. Serafine.** The University of Texas at El Paso.

C41 **682.4** The Effects of Daily Docosahexaenoic Acid Administration on High Fat Chow-Induced Enhanced Sensitivity to Dopaminergic Drugs. **C. Hernandez-Casner, N. Beltran, J. Ramos, K. Serafine.** The University of Texas at El Paso.

C42 **682.5** Neurochemical and Cardiovascular Effects of β-Methylphenethylamine (BMPEA) Analogs Found in Dietary Supplements. **M.H. Baumann, E.B. Thorndike, K.C. Rice, C.W. Schindler.** National Institute on Drug Abuse and National Institutes of Health Intramural Research Program.

C43 **682.6** Dopaminergic Perturbations from Food Restriction and Exercise Are Sex-Dependently Amplified During Adolescence. **T.L. Gilman, W.A. Owens, C.M. George, L. Metzel, L.C. Daws.** The University of Texas Health Science Center at San Antonio.

C44 **682.7** Potential Role of Central Microglia Activation in High Fat Diet-Induced Obesity. **A. Singal, C.R. Coker, S.S. Bingaman, A.C. Arnold, Y. Silberman.** Penn State Hershey College of Medicine.

C45 **682.8** Dietary Supplement Based Complementary and Alternative Medicine Use in Pediatric Autism: Physician Based Perception, Knowledge and Involvement. **M. Trudeau, R. Madden, Y. Korchemagin, J. Shearer.** University of Calgary, Canada.

683. OPIOIDS / ADDICTION

Poster

(*Sponsored by:* ASPET Division for Neuropharmacology)

(*Cosponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Behavioral Pharmacology

Molecular Pharmacology

Neuroscience

Presentation time: 12:30 PM–2:30 PM

C46 **683.1** The Mu-Delta Opioid Receptor Heterodimer Promotes Acute and Chronic Morphine Induced Dependence/ Withdrawal in Mice. **P.N. Nguyen, A. Keresztes, K. Olson, V. Hruby, J. Streicher.** University of Arizona

C47 **683.2** Evaluating the Effects of Cholinergic Depletion in the PPTg, LDTg, and VTA on Acoustic Startle Response and Morphine-Related Reward. **S. Gertz, J. Santini, D. MacLaren, S. Clark.** University at Buffalo and State University of New York.

C48 **683.3** Reinforcing, Antinociceptive, and Pruritic Effects of a G Protein-Biased Mu Opioid Receptor Agonist, PZM21, in Primates. **H. Ding, N. Kiguchi, D.A. Perrey, T. Nguyen, P.W. Czoty, Y. Zhang, M-C. Ko.** Wake Forest School of Medicine and Research Triangle Institute.

C49 **683.4** Evaluation of Hyperbaric Oxygen (HBO_2) as a Treatment for Hyperalgesia Associated with Naloxone-Precipitated Withdrawal in Morphine-Dependent Mice. **A.L. Brewer, D.Y. Shirachi, R.M. Quock.** Washington State University and University of the Pacific.

C50 **683.5** In Vivo Electrochemical Assessment of Dopamine Release During Conditioned Withdrawal in Heroin Dependent Rats. **K. Pultorak, S. Schelp, E. Oleson.** University of Colorado Denver.

C51 **683.6** Buprenophine Functions as a Weak Dopamine Releaser in the Absence of Heroin but Blocks the Dopamine Releasing Effects of Heroin in Its Presence. **D. Issacs, G. Krystinziak, S. Schelp, K. Pultorak, E. Oleson.** University of Colorado Denver.

C52 **683.7** Demand Analysis of the Mu Opioid Receptor Agonist Remifentanil Alone and in Combination with the Cannabinoid Receptor Agonist JWH018. **D.R. Maguire, C.P. France.** The University of Texas Health Science Center at San Antonio.

C53 **683.8** Assessing Opioid Tolerance Mechanisms in an Isolated Murine Dorsal Root Ganglia Neuron Model. **J.C. Jacob, W.L. Dewey, H.I. Akbarali.** Virginia Commonwealth University.

C54 **683.9** Pharmacokinetics and Pharmacodynamics of Morphine and Its Major Metabolites Following Intravenous Administration of Four Doses to Horses. **B.D. Hamamoto, E.P. Steffey, H.K. Knych. K.L Maddy.** Equine Analytical Chemistry Laboratory, California Animal Health and Food Safety Laboratory, School of Veterinary Medicine, University of California, Davis.

684. PAIN

Poster

(*Sponsored by:* ASPET Division for Neuropharmacology)

(*Cosponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Behavioral Pharmacology

Neuroscience

Presentation time: 12:30 PM–2:30 PM

C55 **684.1** Cannabinoid Type-1 Receptors Can Mediate the Antinociceptive Effects of Heroin in Nonhuman Primates. **M.R. Nilges, Z. Bondy, J.A. Grace, P. Winsauer.** Louisiana State University Health Sciences Center.

C56 **684.2** Evaluation of Swimming Exercise in Combination with Non-Steroidal Anti-Inflammatory Drugs on Inflammatory Nociception in Rats. **M. Alsalem, A. Altarifi, Z. Kalha, A. Alzoubi, M. Alfaqih, S. Kana'an.** The University of Jordan, Jordan and Jordan University of Science and Technology, Jordan.

C57 **684.3** A Pharmacological Model of TRPA1-Mediated Nociception in Zebrafish Larvae for Therapeutic Discovery. **M.J. Ko, L.C. Ganzen, Y.F. Leung, R.M. van Rijn.** Purdue University.

C58 **684.4** Endometriosis-Associated Vaginal Hyperalgesia Is Mediated by the Balance of Reactive Aldehyde Production and Metabolism. **S. McAllister, P. Sinharoy, E. Gross.** Stanford University School of Medicine.

C59 **684.5** Glial Glutamate Transporter Activator, LDN-212320, Attenuates Formalin-Induced Pain Behavior in Mice. **G. Alotaibi, S. Rahman.** South Dakota State University.

C60 **684.6** Analysis of Antinociception Produced by Positive Allosteric Modulators of the Mu-Opioid Receptor. **R. Kandasamy, J.R. Traynor.** University of Michigan Medical School.

C61 **684.7** Effects of the δ-Opioid Antagonist Naltrindole on the Antinociceptive and Behaviorally Disruptive Effects of Oxycodone in Squirrel Monkeys. **S.L. Withey, J. Bergman.** McLean Hospital/Harvard Medical School.

C62 **684.8** Expression and Treatment of Pain-Related Depression of Fixed-Ratio and Progressive-Ratio Food-Maintained Behavior in Rats. **L.L. Miller, F. Baker, S. Sinclair.** Augusta University.

C63 **684.9** Cinnamic Acid Derivatives as Novel Antinociceptives for Acute Pain. **A. Priebe, M. Hunke, O. Hyde, W. Martinez, C. Capellen, Y. Sonawane, S. Chandra, A. Natarajan, M. Pattabiraman.** University of Nebraska at Kearney and University of Nebraska Medical Center.

C64 **684.10** Sex Differences in Antinociceptive Tolerance Development to Δ^9-THC and CP55,940 in Wild-Type and Desensitization-Resistant S426A/S430A Mice. **A.N. Henderson-Redmond, D.E. Sepulveda, E.L. Ferguson, A.M. Kline, C.M. Nealon, D.J. Morgan.** Pennsylvania State University.

C65 **684.11** Behavioral Effects of α2/α3 Subtype-Selective $GABA_A$ Receptor Positive Allosteric Modulators. **L. Lewter, J.M. Cook, J-X. Li.** University at Buffalo, State University of New York and University of Wisconsin—Milwaukee.

C66 **684.12** The Neuropeptide Receptor System, BigLEN-GPR171, Interacts with the Opioid System to Relieve Pain. **L. Afrose, I. Gomes, L.A. Devi, E.N. Bobeck.** Utah State University and Icahn School of Medicine at Mount Sinai.

C67 **684.13** Heat Shock Protein 90α, Assisted by Co-Chaperones p23 and Cdc37, Promotes Opioid Anti-Nociception in the Brain via Promoting ERK MAPK Signaling. **W. Lei, D.I. Duron, C.A. Stine, B. Blagg, J.M. Streicher.** University of Arizona and University of Notre Dame.

C68 **684.14** Inhibition of Heat Shock Protein 90 in the Spinal Cord Strongly Promotes Morphine Anti Nociception by Increasing ERK MAPK Activation. **D.I. Duron, W. Lei, B. Blagg, J. Streicher.** University of Arizona and University of Notre Dame.

685. GPCR TRAFFICKING

Poster

(*Sponsored by:* ASPET Division for Molecular Pharmacology)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C69 **685.1** Activated Protein C-Mediated Crosstalk Between PAR1 and S1PR1 in Endothelial Barrier Stabilization. **O. Molinar, B. Chen, N.J. Grimsey, H. Lin, L.J. Coronel, J. Trejo.** University of California, San Diego.

C70 **685.2** Investigating the Impact of Altered Subunit Expression on Sweet Taste Receptor Surface Trafficking and Signaling. **S. Tan, R. Healey, P. Thordarson, A. Finch.** University of New South Wales Sydney, Australia.

C71 **685.3** Ligand-Specific Patterns of PTH_1R and Arrestin3 Internalization and Trafficking Define a Novel Form of Ligand "bias". **M-H. Lee, E.G. Strungs, L.M. Luttrell.** Medical University of South Carolina.

C72 **685.4** Functional Residues in Cannabinoid Receptor Type 1 β-Arrestin Biased Signaling. **L.M. Leo, P. Zhao, R. Al Zoubi, P.H. Reggio, M.E. Abood.** Temple University and University of North Carolina at Greensboro.

C73 **685.5** Acute Ethanol Exposure Enhances Ubiquitination and Degradation of β-Arrestin. **D.J. Luessen, H. Sun, M. McGinnis, G. Marrs, B. McCool, R. Chen.** Wake Forest School of Medicine and Wake Forest University.

C74 **685.6** Roles of PDZ-Dependent Interactions and N-Glycosylation in G Protein-Coupled Estrogen Receptor 1 (GPER1)/GPR30-Mediated Stimulation of ERK1/2 Activity. **E. Gonzalez de Valdivia, S. Broselid, R. Kahn, B. Olde, F.L.M. Leeb-Lundberg.** Lund University, Sweden.

C75 **685.7** Disease-Associated Mutation in PTH Reveals Molecular Mechanisms in Endosomal GPCR Signaling. **F. Jean-Alphonse, I. Sutkeviciute, K. Xiao, J-P. Vilardaga.** University of Pittsburgh.

C76 **685.8** Homologous Regulation of Mu Opioid Receptor Recycling by G Beta-Gamma. **J. Kunselman, A. Zajac, Z. Weinberg, M. Puthenveedu.** University of Michigan and Harvard University.

C77 **685.9** Novel Paradigms Governing β_1-Adrenergic Receptor Trafficking in Primary Adult Rat Cardiac Myocytes. **M.M. Nooh, S.M. Mancarella, S.W. Bahouth.** Faculty of Pharmacy Cairo University, Egypt and University of Tennessee Health Science Center.

C78 **685.10** Biophysical Identification of the 5-HT_{2A} Receptor:5-HT_{2C} Receptor Interaction *in Vitro*. **D.E. Felsing, N.C. Anastasio, J.M. Miszkiel, S. Gilbertson, F.G. Moeller, J.A. Allen, K.A. Cunningham.** The University of Texas Medical Branch, University of Houston and Virginia Commonwealth University.

686. SIGNAL TRANSDUCTION—SECOND MESSENGER SYSTEMS

Poster

(*Sponsored by:* ASPET Division for Molecular Pharmacology)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C79 **686.1** A Novel CRISPR/Cas9-Based Cellular Model to Explore Adenylyl Cyclase and Cyclic AMP Signaling. **M. Soto-Velasquez, A. Alpsoy, E.C. Dykhuizen, V.J. Watts.** Purdue University.

C80 **686.2** Hydrogen-Deuterium Exchange Reveals Distinct Activation States of PLCβ2 by G-Proteins. **I. Fisher, M. Jenkins, G. Tall, J. Burke, A. Smrcka.** University of Rochester, University of Victoria, Canada and University of Michigan.

C81 **686.3** Observing Signaling Dynamics at Endogenous Levels Using a New Class of Biosensors Fluostep. **J.Z. Zhang, B. Tenner, B. Huang, S. Mehta, J. Zhang.** University of California, San Diego, Johns Hopkins University and University of California, San Francisco.

C82 **686.4** Physiological Study of the Neurotoxic Actions of Manganese on Dopamine Cell Signaling in *Crassostrea virginica*, Downstream of D2-Like Receptor Activation. **C. Robertson, M.A. Carroll, E.J. Catapane.** Medgar Evers College.

C83 **686.5** Pharmacophore Identification of the Neuronal Cyclic AMP Sensors PKA, EPAC2 and NCS-Rapgef2 Using Novel Adenine-Based Compounds. **L.E. Eiden, A.C. Emery, M.V. Eiden, W. Xu, F. Siméon.** National Institute of Mental Health and National Institutes of Health Intramural Research Program.

C84 **686.6** Persistence of Cyclic AMP Signaling Determines Gs-Coupled GPCR Linkage to ERK Activation. **A.C. Emery, M.V. Eiden, W. Xu, L.E. Eiden.** National Institute of Mental Health and National Institutes of Health Intramural Research Program.

C85 **686.7** Interrogating Purinergic Signaling: From Extracellular ATP to Intracellular Second Messenger Dynamics. **M. Tantama, J. Conley, S. Valentino, D. Cholger.** Purdue University.

C86 **686.8** An Internal Pool of β-Adrenergic Receptors Activates PLC-Mediated PI4P Hydrolysis in Cardiac Myocytes. **C. Nash, W. Wenhui, A. Smrcka.** University of Michigan.

C87 **686.9** Molecular Mechanism of Rap1A-Dependent Activation of PLCε. **M. Sieng, E.E. Garland-Kuntz, A.M. Lyon.** Purdue University.

C88 **686.10** EPAC1 Boosts Macrophage Appetite: Implication of EPAC1 in Foam Cell Formation During Atherosclerosis. **W.G. Robichaux III, F.C. Mei, H. Sun, H. Wang, W. Yang, B-B. Teng, X. Cheng.** McGovern Medical School at The University of Texas Health Science Center.

C89 **686.11** Structural Insights into Phospholipase Cε Activity. **E.E. Garland-Kuntz, F.S. Vago, M.M. Van Camp, M. Sieng, A.T. Blaine, W. Jiang, A.M. Lyon.** Purdue University.

C90 **686.12** Conformational Dynamics Contribute to Phospholipase Cβ Activity. **M.M. Van Camp, E. Garland-Kuntz, A. Lyon.** Purdue University.

C91 **686.13** Cellular Compensation for Chronic Decreases in Cyclic AMP Concentration: Gαs-Deficient Dendritic Cells as a Model and Implications for Allergic Disorder Therapeutics. **A.M. Chinn, J. Lee, E. Raz, P.A. Insel.** University of California, San Diego.

C92 **686.14** PDE8 Activity Regulates cAMP Signaling by β_2AR But Not Prostanoid EP_2 Nor EP_4 Receptors in Human Airway Smooth Muscle. **T. Johnstone, M. Corpuz, A. Kazarian, F. Ehlert, R. Ostrom.** Chapman University School of Pharmacy and University of California, Irvine.

C93 **686.15** Inhaled Corticosteroids Stimulate cAMP Production and Enhance βAR Signaling in a Non-Genomic Fashion in Human Airway Smooth Muscle Cells. **M. Corpuz, T. Johnstone, A. Kazarian, R. Ostrom.** Chapman University School of Pharmacy.

C94 **686.16** Poly(ADP-Ribosyl)ation of Signal Transducer and Activator of Transcription (STAT)6 by Poly(ADP-Ribose) Polymerase (PARP)-1 Is Critical for Its Integrity, Nuclear Retention, and Subsequent Regulation of T_h2 Cytokines During Asthma. **J. Wang, M.A. Ghonim, S.V. Ibba, K. Pyakurel, M.R. Lammi, H. Boulares.** Louisiana State University Health Sciences Center—New Orleans, University of Milan, Italy and CTI Clinical Trial and Consulting Services.

C95 **686.17** Desensitization of PGE_2-Stimulated cAMP Signaling Due to Upregulated Phosphodiesterase Activity in Human Lung Fibroblasts. **F. Nuñez, M. Corpuz, A. Kazarian, T. Johnstone, R. Ostrom.** Chapman University School of Pharmacy.

C96 **686.18** PDE4 Inhibition by Rolipram Protects Against Alcohol-Induced ER Stress and Hepatocyte Death in an Alcoholic Liver Injury Model. **B. Wahlang, W. Rodriguez, Y. Wang, J. Zhang, S. Barve, C. McClain, L. Gobejishvili.** University of Louisville.

687. SIGNAL TRANSDUCTION—KINASES AND PHOSPHATASES

Poster

(*Sponsored by:* ASPET Division for Molecular Pharmacology)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C97 **687.1** mTORC2 Regulates the Maturation of Protein Kinase C by Folding and Phosphorylation. **T.R. Baffi, C.M. Gould, Z. Wang, S. Gutkind, A.C. Newton.** University of California, San Diego.

C98 **687.2** CDK1-Dependent Phosphorylation of the Tumor Suppressor Phosphatase, PHLPP1, Regulates the Mitotic PHLPP1 Interactome. **A.T. Grzechnik, C. Wong, C.C. King, A-C. Gingras, A.C. Newton.** University of California, San Diego, Lunenfeld-Tanenbaum Research Institute and Mount Sinai Hospital, Canada.

C99 **687.3** Mutations in Lyn Kinase Causes Changes in Neutrophil Function and Migration. **J.A. Chini, D.A. Bennin, A. Almeida de Jesus, R. Goldbach-Mansky, A. Huttenlocher.** University of Wisconsin—Madison, National Institute of Allergy and Infectious Diseases and National Institutes of Health.

C100 **687.4** A142V GRK4g Increased RH-Kinase Domain Separation Is Dependent on Interaction with the Plasma Membrane. **J.K. Yeon, W.M. Botello-Smith, Y.L. Luo, B.T. Andresen.** Western University of Health Sciences.

C101 **687.5** The Regulation of mTORC1 Activity in the Plasma Membrane. **Y. Zhong, X. Zhou, J. Zhang.** University of California, San Diego.

C102 **687.6** Cancer-Associated Fusions of the Protein Kinase C Kinase Domain Are Loss-of-Function. **A-A.N. Van, T.R. Baffi, M.T. Kunkel, C.E. Antal, A.C. Newton.** University of California, San Diego.

C103 **687.7** Reversal of Myofibroblast Differentiation by Phorbol 12-Myristate 13-Acetate Is PKC-Independent. **G. Talbott, H. Le, P. Lor, Z. Jin.** California Northstate University.

C104 **687.8** Mechanistic Study of a Novel Thienyl Napthalenesulfonate Molecule That Selectively Inhibits Melanoma Cells with Constitutively-Active ERK1/2 **R . Martinez III, W. Huang, G. Centola, R. Samadani, L. Chen, J. Scheenstra, S. Fletcher, M. Kane, A. Mackerell, P. Shapiro.** University of Maryland, Baltimore.

C105 **687.9** Live-Cell Super-Resolution Imaging of PKA Activity Reveals Microdomain Organization and Regulation. **G.M.O., J. Zhang.** University of California, San Diego.

C106 **687.10** Endosomal GPCR Signaling: Tyrosine Phosphorylation of a Peptide Linker in NEDD4-2 Increases Ligase Activity to Promote p38 Proinflammatory Signaling. **N.J. Grimsey, C.C. Rada, R. Narala, B.S. Stephens, S.J. Mehta, J.J. Lapek, T.M. Handel, J.J. Zhang, D.J. Gonzalez, J. Trejo.** University of California, San Diego.

C107 **687.11** Dual Leucine Zipper Kinase (DLK) Constitutively Signals in the Uninjured Mouse Cerebellum. **S. Goodwani, P. Acton, V. Buggia-Prevot, C. Chakraborty, M. Hamby, Y. Lightfoot, M. McReynolds, R. Al-Ouran, M. Soth, P. Jones, W.J. Ray.** The University of Texas MD Anderson Cancer Center and Baylor College of Medicine.

688. DRUG DISCOVERY: NEUROLOGICAL DISEASES / NEUROLOGY

Poster

(*Sponsored by:* ASPET Division for Drug Discovery and Development)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Drug Discovery and Development

Presentation time: 12:30 PM–2:30 PM

C108 **688.1** The Synergistic Effect of Dopamine and Norepinephrine Transporter Inhibition on Cognitive Enhancement. **M.M. Pantoni, S.G. Anagnostaras.** University of California, San Diego.

C109 **688.2** Synthetic Lipid Scavengers for the Treatment of Niemann-Pick C Disease. **M.V. Fawaz, M.L. Schultz, E. Liu, R. Ming, E.E. Morin, A.P. Lieberman, A. Schwendeman.** University of Michigan.

C110 **688.3** Eslicarbazepine Acetate Is Antiepileptogenic in the Latrunculin a Mouse Model of Partial Seizures. **N.M. Pires, B. Igreja, F. Campos, P. Moser, P. Soares-da-Silva.** BIAL, Portugal.

C111 **688.4** Blood-Brain Barrier Penetrant and Orally Bioavailable Antidotes to Organophosphate Poisoning. **Y-J. Shyong, A. Garcia, Y. Sepulveda, Z. Radić, J. Momper, P. Taylor.** Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California, San Diego.

C112 **688.5** Identification of Novel Therapeutic Targets Against Organophosphate-Induced Axonal Transport Deficits. **S.X. Naughton.** Augusta University.

689. DRUG DISCOVERY: OPIOID PHARMACOLOGY

Poster

(*Sponsored by:* ASPET Division for Drug Discovery and Development)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C113 **689.1** Mu Opioid Receptor Agonists with Dopamine D3 Receptor Antagonism: Toward Developing Analgesics with Less Abuse Potential. **N.M. Shah, C.L. Schmid, B. Merritt, N.M. Kennedy, N.C. Ross, K.M. Lovell, T.D. Bannister, L.M. Bohn.** Scripps Research Institute.

C114 **689.2** Discovery of MOR Selective, Reversible Opioid Antagonists for Potential Use in Treatment of Drug Dependence. **A. Jali, S. Obeng, Y. Zhang, D.E. Selley.** Virginia Commonwealth University.

C115 **689.3** Phosphatidylethanolamine-Binding Protein Promotes Opioid Anti-Nociception in the Brain and Spinal Cord by Reducing βarrestin2 Recruitment to the Mu Opioid Receptor. **C.Y.I. Kim, J. LaVigne, K. Edwards, J.M. Streicher.** University of Arizona and University of New England.

C116 **689.4** Biasing μ Opioid Receptors with G Protein Inhibitors to Improve Opioid Analgesics. **A.P. Campbell, A.V. Smrcka.** University of Michigan.

C117 **689.5** Investigating Arrestin-3 Recruitment to Nociceptin/orphanin FQ Opioid Receptor (NOPR). **M.M. Hansen, S.M. Spangler, M.R. Bruchas.** The University of Texas at Austin, Washington University in St. Louis and Washington University School of Medicine in St. Louis.

C118 **689.6** A Novel Approach to Safer Analgesics: Mu Opioid Receptor Agonist and Delta Opioid Receptor Antagonist Peptidomimetics. **T.J. Fernández, N. Griggs, A. Nastase, J. Anand, E.J. Jutkiewicz, H. Mosberg, J. Traynor.** University of Michigan Medical School and University of Michigan College of Pharmacy.

C119 **689.7** Assessing the Activity of Synthetic Opioid AH-7921 and U-47700 Analogs in Cloned Human Mu-Opioid Receptor Expressing Fibrosarcoma HT-1080 Cells. **T. Hsu, J. Mallareddy, K. Yoshida, T. Lee, E. Kemboi, E. Park, J. Krstenansky, A. Zambon.** Keck Graduate Institute.

690. DRUG DISCOVERY: EXPERIMENTAL AND DISCOVERY TECHNOLOGIES

Poster

(*Sponsored by:* ASPET Division for Drug Discovery and Development)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Drug Discovery and Development

Presentation time: 12:30 PM–2:30 PM

C120 **690.1** Expression Analysis of Prostaglandin E and F Receptors in Rat Uterus, Mesenteric Artery and Uterine Artery for Development of a Surrogate Assay of Uterine Contractility. **M. Roberts, G. Ferguson, J. Karras, M. van Duin, B. Lindstrom.** Ferring Research Institute, Inc.

C121 **690.2** Systems Approach to Assign Expression Based Signatures to Adrenergic Drugs. **B.A. McGregor, K. Guo, J.E. Porter, J. Hur.** University of North Dakota.

C122 **690.3** An Automated Live-Cell Microscopy System for Drug Profiling and Screening. **E.C. Greenwald, R. Wollman, J. Zhang.** University of California, San Diego and University of California, Los Angeles.

C123 **690.4** New Paradigms of Mass-Action Law Based Bio-Dynamics and Pharmacodynamics for New Drug Evaluations. **T-C. Chou.** PD Science LLC **(USA)**

C124 **690.5** The Metabolic Rainbow: Deep Learning Phase 1 Metabolism in Five Colors. **N.L. Dang, T.B. Hughes, M.K. Matlock, S.J. Swamidass.** Washington University in St. Louis.

691. NEUROTOXICOLOGY

Poster

(*Sponsored by:* ASPET Division for Toxicology)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Neuroscience

Toxicology

Cell and Tissue Injury

Cell Signaling, Signal Transduction

Presentation time: 12:30 PM–2:30 PM

C125 **691.1** 3,3′-Dichlorobiphenyl (PCB 11) Promotes Dendritic Arborization in Primary Neurons via CREB-Dependent Mechanisms. **S. Sethi, K. Keil, F. Wei, Y. Dong, G. He, X. Li, I. Pessah, M. Denison, H-J. Lehmler, P. Lein.** University of California, Davis and University of Iowa.

C126 **691.2** Reactive Skin Decontamination Lotion (RSDL) Maintains Its Effectiveness Against Cutaneous Applications of VX Nerve Agent for at Least 5 Years Past Its Expiration Date. **E.D. Clarkson, J.E. Morgan, P. Chen, S.M. Schultz, S.D. Soni, B.R. Capacio, I. Koplovitz.** U.S. Army Medical Research Institute of Chemical Defense.

C127 **691.3** Carbamate Insecticide Carbaryl Targets Melatonin Receptors and Modulates Circadian Rhythms. **G.C. Glatfelter, R.V. Rajnarayanan, M.L. Dubocovich.** University at Buffalo and State University of New York.

C128 **691.4** Quantitative Assessment of Trimethyltin, Kainic Acid and Pyrithiamine Neurotoxicity in Rat Brain and Its Correlation with MR Imaging. **A. Srivastava, S. Liachenko, M.G. Paule, S. Sarkar, J. Pandey, G. Negi, J. Hanig.** U.S. Food and Drug Administration.

C129 **691.5** Neurotoxic Dopamine Transporter Substrates Differentially Affect DAT Regulation, Uptake, and Reverse Transport. **D.J. Stanislowski, B.M. Johnson, S.D. Adkins, R.A. Vaughan, J.D. Foster.** University of North Dakota.

C130 **691.6** Carbamate Insecticides Bind to a Novel Allosteric Site on hMT_1 Melatonin Receptors. **A.J. Jones, R.V. Rajnarayanan, M.L. Dubocovich.** University at Buffalo and State University of New York.

C131 **691.7** Diverse Effects of NOS Inhibition on Mitochondrial Bioenergetics in Rat Primary Cortical Neuronal Cells Under Normoxia and Hypoxia. **V.N.L.R. Sure, S.S.V.P. Sakamuri, J.A. Sperling, P.S. Mahalingam, N.R. Peterson, P.V.G. Katakam.** Tulane University School of Medicine.

C132 **691.8** Identifying Potential Biomarkers, Mechanisms and Protective Strategies for General Anesthetic-Induced Neurotoxicity in the Developing Nonhuman Primate. National Center for Toxicological Research, U.S. Food and Drug Administration, University of Texas Health Science Center, National Center for Toxicological Research (NCTR)/FDA and Center for Drug Evaluation and Research/FDA.

692. BIOCHEMICAL/MECHANISTIC TOXICOLOGY

Poster

(*Sponsored by:* ASPET Division for Toxicology)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Toxicology

Cell and Tissue Injury

Cell Signaling, Signal Transduction

Environmental and Toxicologic Pathology

Presentation time: 12:30 PM–2:30 PM

C133 **692.1** Correlation Between Toluene Exposure and Toxicity Effects of Toluene on *Drosophila melanogaster* Fecundity and Offspring Survivability. **M.C. MacGregor, V. Trivino, B. Luu, A. Moreno, E. Kovar, D. Arredondo, R. Rosell, E. Ledesma.** University of St. Thomas.

C134 **692.2** p23 Modulates Aryl Hydrocarbon Receptor Protein Levels in Normal Cell Lines. **J. Chen, P. Yakkundi, W.K. Chan.** University of the Pacific.

C135 **692.3** Determining the Effects of E-Cigarette Vapor on Oral Epithelial Cells in a Cultured Cell Model. **M. Duggar, H. Swanson, M. Hill-Odom.** University of Kentucky and Xavier University of Louisiana.

C136 **692.4** Effects of Cannabinoids on Trophoblast Cell Growth and Syncytialization. **N.K. Neradugomma, Q. Mao.** University of Washington.

C137 **692.5** A Retrospective Study of the Relationship Between Testicular Damage and Urinary Creatine Excretion: Possible Markers of Testicular Toxicity Induced by Drugs. **M. Yono, M. Kimura, Y. Inoue, K. Furukawa, M. Fujiyama, A. Mugitani, M. Hori, S. Tsuji, T. Tanaka, S. Irie, J. Latifpour.** Nishi-Kumamoto Hospital, SOUSEIKAI, Japan, Sumida Hospital, SOUSEIKAI, Japan and Yale University School of Medicine.

C138 **692.6** Interaction of Respirable Fracking Sand Dust (FSD) with Pulmonary Tissues in Vivo and in Vitro. **J.S. Fedan, J.A. Thompson, K.A. Russ, J.R. Roberts, D. Schwegler-Berry, R.R. Mercer.** National Institute for Occupational Safety and Health and Centers for Disease Control and Prevention.

C139 **692.7** Evaluation of Non-Clinical Safety of Frutalin in Adult Zebrafish (*Danio rerio*). **A.C.O. Monteiro-Moreira, A.E. Vieira-Neto, M.K.A. Ferreira, F.R.S. Mendes, A.R.C. Barros, F.E.A. Magalhães, R.A. Moreira.** University of Fortaleza, Brazil and State University of Ceará, Brazil.

C140 **692.8** Effects of Nitrite in Goldfish (*Carassius auratus*) Olfactory Function. **M. Martinez, M. Huertas.** Texas State University.

C141 **692.9** Graphene Interactions with Human Endothelium. **D. Szukiewicz, M. Skoda, I. Dudek.** Department of General & Experimental Pathology with CEPT Laboratory and Medical University of Warsaw, Poland.

C142 **692.10** Heavy Metals' Analysis of Leachate from Municipal Solid Waste Landfill in Nekede, Owerri, Nigeria. **O. Ibeh, I. Okafor, S. Udochi.** Abia State University, Nigeria and University of East Anglia, United Kingdom.

C143 **692.11** Determination of the Role of PAR-Associated Proteins in ROS-Mediated Cell Death. **A. Islas-Robles, S.S. Lau, T.J. Monks.** University of Arizona and Wayne State University.

C144 **692.12** Induction of Muscle Atrophy and Loss of Muscle Function by Gulf-War Illness Associated Chemicals: Underlying Mechanisms. **V. Navarrete-Yanez, A. Franco-Vadillo, A. Garate-Carrillo, G. Ceballos, B. Ito, I. Ramirez-Sanchez, F. Villarreal.** Instituto Politécnico Nacional School of Medicine, Mexico and University of California, San Diego School of Medicine.

C145 **692.13** Comparative Proteomics of Zebrafish Liver in 5 POPs Mixture Exposure. **Y. Gao, O.K. Kwon, A.Y. Na, K-T. Kim, S. Lee.** Kyungpook National University, Republic of Korea and Seoul National University of Science and Technology, Republic of Korea.

C146 **692.14** Evaluation of the Potency and Selectivity of the Novel FAAH Inhibitor BIA 10-2474 in Comparison with PF-04457845 and JNJ-42165279. **M.J. Bonifacio, F. Sousa, C. Aires, A.I. Loureiro, C. Fernandes-Lopes, N. Palma, P. Moser, P. Soares-da-Silva.** BIAL, Portugal.

693. DRUG METABOLISM TRANSPORTERS

Poster

(*Sponsored by:* ASPET Division for Drug Metabolism)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Drug Metabolism and Disposition

Translational and Clinical Pharmacology

Ion Channels and Transporters

Presentation time: 12:30 PM–2:30 PM

C147 **693.1** OAT3 Mediated Interaction Between Steviol Acyl Glucuronide and Probenecid: In Vitro and in Vivo Investigations. **D. Chow.** Soochow University, People's Republic of China.

C148 **693.2** Interaction of the Plasma Membrane Monoamine Transporter and Organic Cation Transporters with *Meta*-Iodobenzylguanidine (MIBG). **A.J. Lopez Quinones, D. Wagner, J. Wang.** University of Washington.

C149 **693.3** Multidrug Resistance Protein 4 (MRP4), a Drug Transporter Is a Novel Genetic Determinant for Adipogenesis. **A.C. Donepudi, J.E. Manautou.** University of Connecticut.

C150 **693.4** Altered Dopamine Transporter Function and Immunoregulation in PD Macrophages. **P. Mackie, A. Gopinath, L. Saadatpour, J. Pino, H. Khoshbouei.** University of Florida.

C151 **693.5** Molecular Mechanisms of Organic Cation and Anion Transport at the Blood-CSF Barrier. **T. Hu, W. Zha, H. Duan, J. Wang.** University of Washington.

C152 **693.6** Regulatory Effect of Fruit-Derived Nanoparticle on Intestinal Transporters. **D. Fujita, T. Arai, Y. Shirasaki, Y. Iwamoto, H. Komori, T. Nakanishi, I. Tamai.** Kanazawa University, Japan.

C153 **693.7** The Clinical Implication of Compounds Which Could Induce the Function of Human Organic Cation Transporter 2 (hOTC2), While Inhibit the Function of Human Multidrug and Toxin Extrusion Proteins 1 (hMATE1). **H. Yang, D. Guo, Y. Shu.** University of Maryland and Baltimore.

C154 **693.8** Single Amino Acid Mutations in the Na^+/Taurocholate Cotransporting Polypeptide (NTCP) Result in Substrate-Dependent Effects. **M. Ruggiero, S. Malhotra, J. Karanicolas, L. Swint-Kruse, B. Hagenbuch.** University of Kansas Medical Center and Fox Chase Cancer Center.

C155 **693.9** Is Inhibitor Binding the Sole Requirement in Determining Inhibition of ABCG2 Mediated Transport? **T. Gose, Y. Fukuda, A. Allcock, J. Lynch, W. Lin, S. Das, A. Shelat, T. Chen, J.D. Schuetz.** St. Jude Children's Research Hospital.

C156 **693.10** In Vitro Evaluation of the Hepatic Disposition of Colistin. **B. Qi, I. Spriet, J. Wauters, P. Annaert.** Katholieke Universiteit Leuven, Belgium.

C157 **693.11** Amino-Terminal Region Plays an Important Role in Transport Function of Human Organic Anion Transporting Polypeptide 1B1. **M. Hong, J. Chen, Z. Xiang, Z. Fang, C. Ni.** South China Agricultural University, People's Republic of China.

694. DRUG METABOLISM TRANSCRIPTION REGULATION

Poster

(*Sponsored by:* ASPET Division for Drug Metabolism)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Drug Metabolism and Disposition

Molecular Pharmacology

Gene Expression

Presentation time: 12:30 PM–2:30 PM

C158 **694.1** A Transcriptional Regulatory Network Containing Nuclear Receptors and Long Non-Coding RNAs Controls Basal and Induced Expression of Cytochrome P450s in Liver Cells. **L. Chen, Y. Bao, S. Piekos, X. Zhong.** University of Connecticut.

C159 **694.2** Belinostat Inhibits Rifampicin Induced CYP3A4 and MDR1 Gene Expression. **K.L. Abbott, C.S. Chaudhury, N. Narayanan, S.R. Pondugula.** Auburn University.

C160 **694.3** SNPs Outside Response Elements Impact Aryl Hydrocarbon Receptor (AHR) Binding and Gene Regulation: Genome-Wide SNP-Dependent Transcriptional Regulation. **D. Neavin, D. Liu, H. Li, L. Wang, R. Weinshilboum.** Mayo Clinic.

C161 **694.4** ATRA Induces Cholesterol Accumulation Through CYP7A1 Repression in the Liver. **K-J. Won, H. Jeong.** University of Illinois at Chicago.

C162 **694.5** Suppression of Polycyclic Aromatic Hydrocarbon (PAH)-Mediated Pulmonary Carcinogenesis in Mice by Omega-3-Fatty Acids. **B. Moorthy, W. Jiang, W. Jiang, L. Wang, P. Maturu, G. Zhou.** Baylor College of Medicine and Texas A&M University.

C163 **694.6** A Ketogenic Diet Induces Changes in Gene Expression of Hepatic Drug-Metabolizing Enzymes and Drug-Efflux Pumps in Rats. **S.R. Pondugula, T. McElroy, K.L. Abbott, A.M. Holland, W.C. Kephart, P.W. Mumford, C.B. Mobley, N. Narayanan, M.D. Roberts.** Auburn University.

695. DRUG TARGETS IN CANCER

Poster

(*Sponsored by:* ASPET Division for Cancer Pharmacology)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C164 **695.1** HRH1: A Novel GPCR Drug Target in Pancreatic Cancer. **A. Rodriguez, K. Sriram, K. Moyung, P. Insel.** University of California, San Diego.

C165 **695.2** GPR68, a Proton Sensing GPCR, Mediates Interaction of Pancreatic Cancer Associated Fibroblasts and Cancer Cells. **S. Wiley, K. Sriram, W. Liang, S. Chang, T. McCann, H. Nishihara, R. French, A. Lowy, P. Insel.** University of California, San Diego and Hokkaido Cancer Center, Japan.

C166 **695.3** Wnt and TLR4 Pathway Modulators as a Promising Therapeutic Strategy in the Treatment of Glioblastoma. **E. Esposito, G. Casili, M. Campolo, M. Lanza, A. Filippone, S. Cuzzocrea.** University of Messina, Italy.

C167 **695.4** Expression of G Protein-Coupled Receptors in Pancreatic Cancer Cells. **D. Liu, T. McCann, R. French, S. Wiley, A. Lowy, P. Insel.** Department of Pharmacology, University of California, San Diego and Moores Cancer Center.

C168 **695.5** Alpha-2C Adrenergic Receptor Promotes the Malignant Phenotype of Colon Cancer Cells. **R. Njeim, A. Eid.** American University of Beirut, Lebanon.

C169 **695.6** Structural Characterization of KRAS with a Novel Interactor, Argonaute 2 **J. Waninger, S. Shankar, R.F. Siebenaler, T.S. Beyett, J.J. Tesmer, A.M. Chinnaiyan.** University of Michigan

C170 **695.7** Deciphering the Role of SLX4IP in Telomere Maintenance Mechanisms. **T. Whited, N. Robinson, M. Grabowska, W. Schiemann, D. Taylor.** Case Western Reserve University.

C171 **695.8** Polyamine Pathway as a Player in Breast Cancer Cell Proliferation in Diabetic Conditions. **C. Capellen, J. Ortega, M.J. Morwitzer, M. Dunworth, R.A. Casero; Jr., S. Chandra.** University of Nebraska at Kearney, University of Nebraska Medical Center and John Hopkins University School of Medicine.

C172 **695.9** *GNAS*-PKA Oncosignaling Network in Colorectal Cancer. **D.J. Steffen, P. Amornphimoltham, J.L. Callejas Valera, S. Taylor, T. Hunter, P. Tamayo, J.S. Gutkind.** University of California, San Diego, University of South Dakota and Salk Institute for Biological Studies.

C173 **695.10** Regulation of KRAS-Mediated Signaling by G-Protein Coupled Receptors in Pancreatic Cancer. **M.E. Feigin.** Roswell Park Cancer Institute.

C174 **695.11** *RGS8* and *RGS16* Protect Against Pancreatitis and PDA Cancer Progression. **T. Wilkie, S. Pal Choudhuri, Y. Zolghadri.** The University of Texas Southwestern Medical Center.

C175 **695.12** Inhibition of Pancreatic Carcinoma Growth Through Enhancing Epoxide Metabolic Profile of ω-3 Polyunsaturated Fatty Acid by Inhibiting Soluble Epoxide Hydrolase. **J. Liao, R. Xia, L. Sun, H. Li, D. Xu, S.H. Hwang, J. Yang, B. Hammock, G-Y. Yang.** Northwestern University and University of California.

C176 **695.13** The α-Arrestin ARRDC3 Suppresses Breast Carcinoma Invasion by Regulating GPCR Lysosomal Sorting and Signaling. **A.K. Arakaki, W-A. Pan, J. Trejo.** University of California, San Diego.

C177 **695.14** Characterizing Palmitoylation of the Sodium Hydrogen Exchanger Isoform 1 (NHE1). **M. Hovde, A. Kooiker, D. Rastedt, J. Provost, R. Vaughan, M. Wallert, J.D. Foster.** University of North Dakota, Bemidji State University and University of San Diego.

C178 **695.15** Genetic Ablation of the ABC Transporter ABCC4 Impairs Lymphoid Leukemogenesis. **R.R. Crawford, S. Cheepala, S. Lian, Y. Fukuda, Y. Wang, J.D. Schuetz.** St. Jude Children's Research Hospital.

C179 **695.16** Endoglin Targeting Inhibits Tumor Angiogenesis in Non-Small Cell Lung Cancer. **C-Y. Chen, M-J. Sheu.** China Medical University, Taiwan.

C180 **695.17** Evaluating the Effects of HIPK2 Inhibition on Castration-Resistant Prostate Cancer Cells. **E.M. Camacho-Hernández, P. Thomas, R. Ledet, M.J. Garabedian, S.K. Logan.** University of Puerto Rico at Ponce, Puerto Rico and New York University School of Medicine.

C181 **695.18** A Promiscuous Biotin Ligase as a Global Strategy to Interrogate the Protein Interactome of Human ABCC4. **R. Looi-Somoye, J. Wijaya, J. Peng, J. Schuetz.** St. Jude Children's Research Hospital.

696. CANCER IMMUNOTHERAPY

Poster

(*Sponsored by:* ASPET Division for Cancer Pharmacology)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Cancer and Therapy

Drug Metabolism and Disposition

Neoplasia

Presentation time: 12:30 PM–2:30 PM

C182 **696.1** A New Preventive Therapeutic Strategy for Liver Cancer. **J. Lee, G-S. Feng.** University of California, San Diego School of Medicine.

C183 **696.2** A Blockade of IL-6 Released from Human Breast Carcinoma MDA-MB-231 in Presence of NK-92 Inhibits an Invasion of Breast Carcinoma. **H. Lee, H. Cho.** Duksung Women's University, Republic of Korea.

C184 **696.3** Targeting the Metabolic Signaling Network for Immune Cell Longevity and Function in Oral Cancer Therapy. **M. Allevato.** University of California, San Diego.

C185 **696.4** Adiponectin Regulates T-Cell Maturation by Modulating the Thymic Epithelial Environment. **H. Cao, W.Y. Sun, Y. Zhang, A. Xu, Y. Wang.** The University of Hong Kong, Hong Kong.

C186 **696.5** Obesity Alters the Expression of Suppressive Factors in Intra-Tumoral Dendritic Cells Following Combinatorial Immunotherapy. **W. Turbitt, S. Boi, R. Orlandella, J. Gibson, L. Norian.** The University of Alabama at Birmingham.

C187 **696.6** Acarbose Delays Renal Cancer Progression in Mice: Implications for Obesity-Induced Immunotherapeutic Failure. **R.M. Orlandella, S. Boi, D.L. Smith; Jr., L.A. Norian.** University of Alabama at Birmingham.

C188 **696.7** Impact of β-Adrenergic Receptors on UV-Induced Skin Damage, Inflammation and Photoprotective Effect of Carvedilol. **S. Liang, S. Yeung, B. Andresen, Y. Huang.** Western University of Health Sciences.

C189 **696.8** Effect and Mechanism of Several Polyphenols on Inflammation Related Cancers. **X. Li.** Peking University, People's Republic of China.

697. CENTRAL CONTROL OF CARDIOVASCULAR FUNCTION

Poster

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C190 **697.1** The Provoked Cardiovascular and Autonomic Effects of Endotoxemia in Ovariectomized Rats Are Distinctly Affected by Estrogen and Progesterone Supplementation. **M.M. El-Mas, M.A. El-Lakany, M.A. Fouda, H.M. El-Gowelli.** Faculty of Pharmacy and Alexandria University, Egypt.

C191 **697.2** Central Cholinergic Pathways Diminish the Hypotensive and Cardiac Autonomic Depressant Effects of Endotoxemia in Male Rats: Role of Medullary NFκB/α7/α4β2 nAChR Signaling. **M.M. Sallam, S.M. El-Gowilly, M.A. Fouda, M.M. Abd-Alhaseeb, M.M. El-Mas.** Faculty of Pharmacy, Alexandria University, Egypt, Faculty of Pharmacy and Damanhour University, Egypt.

C192 **697.3** Central Effects of Angiotensin-(1-7) Treatment on Medullary MAPK and PI3K Pathways of Antenatal Glucocorticoid Exposed Adult Sheep Are Sex Dependent. **A.S. Hendricks, H.A. Shaltout, M.C. Chappell, D.I. Diz.** Wake Forest School of Medicine.

C193 **697.4** Ang II-Mediated Regulation of AGT Protein Synthesis in Rat Brainstem Astrocytes Is βArrestin1 Dependent. **S. Negussie, A. Lymperopoulos, M.A. Clark.** College of Pharmacy, Department of Pharmaceutical Sciences and Nova Southeastern University.

C194 **697.5** Direct and Indirect Effects of Ephedrine on the Cardiovascular System. **J.R. Docherty, H.A. Alsufyani.** Royal College of Surgeons in Ireland, Ireland and King Abdulaziz University, Saudi Arabia.

C195 **697.6** Angiotensin-(1-7)-Mediated Increases in Energy Expenditure Appear Independent of the Hypothalamic Melanocortin System. **R. Fleeman, S.S. Bingaman, Y. Silberman, A.C. Arnold.** University of Florida and Pennsylvania State University.

C196 **697.7** Cardiac Autonomic Neuropathy as a Result of Mild Hyper-Caloric Challenge in Absence of Signs of Diabetes: Modulation by Anti-Diabetic Drugs. **N.M. Bakkar, A. Mroueh, R. Ghali, O. Al-Assi, A. Kaplan, N. Mougharbil, A. Eid, F. Zouein, A. El-Yazbi.** American University of Beirut , Lebanon.

C197 **697.8** Chronic Angiotensin-(1-7) Treatment Prevents Obesity Hypertension in Mice. **A.J. Miller, M.C. White, S.S. Bingaman, A.C. Arnold.** Penn State College of Medicine.

C198 **697.9** The Effects of Nitric Oxide Synthase Inhibitors on Mitochondrial Respiration in Isolated Mouse Brain Mitochondria. **J.A. Sperling, S.S.V.P. Sakamuri, V.N. Sure, M.H. Dholakia, N.R. Peterson, R. Satou, P.V.G. Katakam.** Tulane University School of Medicine.

C199 **697.10** Down Regulation of ADD3 in Astrocytes Disrupts the Actin Cytoskeleton in Association with Decreasing Small Molecule Uptake and May Contribute to Cognitive Deficits in FHH Rats. **O.K. Travis, S. Wang, X. He, R.J. Roman, F. Fan.** University of Mississippi Medical Center.

C200 **697.11** Differential Sphingosine-1-Phosphate Receptor 1 Expression in Male and Female Murine Heart and Brain Following Acute Ischemia and Reperfusion. **S. Shi, A.R. Mohamed, K. Shi, W. Jin, Q. Liu, F-D. Shi, R.J. Gonzales.** University of Arizona College of Medicine—Phoenix and Barrow Neurological Institute.

698. CARDIAC INJURY

Poster

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology)

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:30 pm–2:30 pm

C201 **698.1** Delayed Therapy with a Hydrogen Sulfide Donor, JK1, Protects Against Pressure Overload-Induced Heart Failure. **Z. Li, J. Kang, M. Xian, D.J. Lefer.** Louisiana State University Health Sciences Center—New Orleans and Washington State University.

C202 **698.2** Pharmacological Inhibition of HuR Improves Survival and Reduces Adverse Cardiac Remodeling Following Left-Ventricular Pressure Overload. **S.R. Anthony, L.C. Green, L. Lanzillotta, X. Wu, M.L. Nieman, B.C. Blaxall, J.N. Lorenz, J. Rubinstein, L. Xu, M. Tranter.** University of Cincinnati, University of Kansas and Cincinnati Children's Hospital.

C203 **698.3** A Hydrogen Sulfide Donor, JK1, Preserves Endothelial Function and Improves Exercise Capacity in Pressure Overload-Induced Heart Failure. **Z. Li, J. Carnal, J. Kang, M. Xian, D.J. Lefer.** Louisiana State University Health Sciences Center—New Orleans and Washington State University.

C204 **698.4** Calcium/calmodulin-Dependent Protein Kinase II (CaMKII) Signaling in Cardiomyocytes Initiates Inflammatory Responses Required for Adverse Cardiac Remodeling in Response to Pressure Overload. **T. Suetomi, A. Willeford, M. Li, S. Miyamoto, J. Heller Brown.** University of California, San Diego.

C205 **698.5** Phosphodiestarase-9 Inhibitor (BAY 73-6691) Reduces the Cavernous Smooth Muscle Contractile Response and Improves the Effect of Chronic Treatment with Tadalafil in Heart Failure. **M.A. Claudino, S. Janussi, S. Tartarotti, A. Mora, D. Andrade, J. Barbosa, F. Priviero.** São Francisco University Medical School, Brazil.

C206 **698.6** miR-486a-5p Alters Cell Survival in Ischemia-Reperfusion Induced Myocardial Injury. **A. Phan, K. Luther, L. Haar, M. McGuinness, W.K. Jones.** Loyola University Chicago and Cedars-Sinai Medical Center.

C207 **698.7** Poloxamer 188 Does Not Target Altered Ca^{2+} Channels in Cardiomyocytes During Hypoxia/Reoxygenation Injury. **M.M. Salzman, B.J. Hackel, J.A. Bartos, M.L. Riess.** Vanderbilt University Medical Center and University of Minnesota.

C208 **698.8** Cardioprotection in the Mouse Heart: Acute Protective Effects of an Estrogen Receptor Agonist. **A. Ghimire, S.E. Howlett.** Dalhousie University, Canada.

C209 **698.9** Aspirin Protects Heart Against Ischemia-Reperfusion Injury via LKB1-Sestrn2-AMPK Signaling Cascade. **S. Lu.** University of Mississippi Medical Center.

C210 **698.10** MicroRNA-181c-5p Exacerbates Apoptotic Cell Death in H9C2 Cardiomyocytes During Hypoxia/Reoxygenation. **L. Ge, H. Ma, Y. Cai, L. Pang, M.G. Irwin, Z. Xia.** The First Hospital of Jilin University, People's Republic of China and The University of Hong Kong, People's Republic of China.

C211 **698.11** Kolaviron Abrogates Ischaemic Heart Reperfusion Injury Through Enhancement of Akt/PKB and Down-Regulation of p38MAPK/PARP/caspase 3 Signalling Pathways. **A.A. Oyagbemi, D. Bester, J. Esterhuyse, E.O. Farombi.** University of Ibadan, Nigeria and Cape Peninsula University of Technology, South Africa.

C212 **698.12** RAP1 Exacerbates Myocardial Ischemia/Reperfusion Injury Through Enhancing Cell Apoptosis and Inflammatory Response. **Y. Cai, M.G. Irwin, Z. Xia.** The University of Hong Kong, People's Republic of China.

699. VASCULAR PHARMACOLOGY

Poster

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology)

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:30 pm–2:30 pm

C213 **699.1** Induction of ET-1- and Non-ET-1-Mediated Endothelium-Dependent Vasoconstriction in Endotoxemic Hypotensive Shock. **T-L. Tseng, M-F. Chen, C-H. Liu, T.J.F. Lee.** Department of Med Research, Buddhist Tzu Chi General Hospital, Taiwan, Tzu Chi University, Taiwan and Buddhist Tzu Chi General Hospital, Taiwan.

C214 **699.2** Loss of Function RGS2 Mutations Augment Vascular Contractility *ex Vivo*. **H.T.N. Phan, W. Jackson, R. Neubig.** Michigan State University.

C215 **699.3** Enhanced Arterial Medial Calcification in Mice with Smooth Muscle-Specific Deletion of Lysosomal Acid Ceramidase. **O.M. Bhat, X. Yuan, Y. Zhang, K. Boini, H. Lohner, P-L. Li.** Department of Pharmacology and Toxicology, Virginia Commonwealth University, Department of Pharmacological and Pharmaceutical Sciences, College of Pharmacy and University of Houston.

C216 **699.4** Apelin and Acetylcholine Activate Distinct Nitric Oxide Signaling Pathways to Cause Endothelium-Dependent Relaxation of Isolated Coronary Arteries. **A. Mughal, C. Sun, S.T. O'Rourke.** North Dakota State University.

C217 **699.5** Hypoxic Stimulation of Vasoreparative Functions in Human $CD34^+$ Cells Is Mediated by Angiotensin Converting Enzyme-2 and Mas Receptor. **S. Joshi, E. Leclerc, Y. Jarajapu.** North Dakota State University.

C218 **699.6** Interaction Between Adenosine and β-adrenergic Receptors in Regulating Vascular Tone in Mouse Mesenteric Arteries. **V.R. Yadav, H. Zhang, S.J.S. Mustafa.** West Virginia University.

C219 **699.7** Transient Increase in Sympathetic Constriction of Mesenteric Arteries from High Fat Diet-Fed Dahl Salt-Sensitive Female Rats. **K.M. Alula, H. Xu, J. Galligan.** Michigan State University.

C220 **699.8** The AMPK Activators AICAR and A769662 Reduce Relaxations of Rat Superior Mesenteric Arteries Attributable to Endothelium-Dependent Hyperpolarization. **H. Chen, P.M. Vanhoutte, S.W.S. Leung.** The University of Hong Kong, Hong Kong.

C221 **699.9** Targeting Ocular Neovascularization with Novel APE1/Ref-1 Inhibitors. **K. Sishtla, S.P.B. Sardar Pasha, R. Sulaiman, B. Park, M.L. Fishel, M.R. Kelley, T.W. Corson.** Eugene and Marilyn Glick Eye Institute, Indiana University School of Medicine and Indiana University School of Medicine.

C222 **699.10** Latent Bradykinin B2 Receptor Agonist: Differential Vascular and Hemodynamic Effects Dependent on the Effector Carboxypeptidases. **H. Bachelard, X. Charest-Morin, F. Marceau.** Laval University, Canada.

C223 **699.11** Toll-Like Receptor 9 (TLR9) Is Associated with Vascular Dysfunction in 2-Kidney 1-Clip (2K1C) Hypertensive Mice. **F.L. Rodrigues, R.M. da Costa, C.A.A. Silva, G.F. Bomfim, F.S. Carneiro, R. Tostes, R. Fazan Junior, H.C. Salgado.** Ribeirão Preto Medical School, University of São Paulo, Brazil and Federal University of Mato Grosso, Brazil.

C224 **699.12** Effects of Exogenous Ouabain on Endothelium-Dependent Vascular Function. **C.H.E., P.M. Vanhoutte, W.S.S. Leung.** The University of Hong Kong, Hong Kong.

C225 **699.13** Bypassing Occlusion: Abdominal Aorta Occlusion in Rats and the Therapy with the Stable Gastric Pentadecapeptide BPC 157. **K. Kasnik, T. Kralj, K. Horvat Pavlov, D. Drmic, A. Boban Blagaic, S. Seiwerth, P. Sikiric.** School of Medicine and University of Zagreb, Croatia.

C226 **699.14** VE-PTP Functions as a Scaffold to Stabilize the AJ and Endothelial Barrier. **V. Juettner, A. Dan, D. Leckband, Y. Komarova, A. Malik.** University of Illinois at Chicago and University of Illinois at Urbana-Champaign.

700. VASCULAR SMOOTH MUSCLE CELLS

Poster

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C227 **700.1** GPER Attenuates Angiotensin II-Induced Oxidative Stress via cAMP-Mediated Regulation of Nox4. **B.O. Ogola, M.A. Zimmerman, V.N. Sure, P.V.G. Katakam, S.H. Lindsey.** Tulane University.

C228 **700.2** Enhanced Expression of EGR-1 in Vascular Smooth Muscle Cells from Spontaneously Hypertensive Rats: Role of Giα Proteins. **S. Polchtchikov, Y. Li, M.B. Anand-Srivastava.** University of Montreal, Canada.

C229 **700.3** Inhibitory Effect and Mechanisms of *Crossostephium chinensis* (L.) Makino on Cell Proliferation and Migration of Vascular Smooth Muscle Cells. **J. Wang, C-H. Wu.** Taipei Medical University, Taiwan.

C230 **700.4** Rho Kinase Inhibitors and Hypoxia Modulate Expression of Platelet Activating Factor (PAF) Receptor and Gene Expression in Fetal Ovine Pulmonary Vascular Smooth Muscle Cells. **B.O. Ibe, L.S. Renteria.** LA BioMed at Harbor-UCLA Medical Center.

C231 **700.5** Contribution of p62/SQSTM1 to PDGF-BB-Induced Myofibroblast-Like Phenotypic Transition in Vascular Smooth Muscle Cells Lacking *SMPD1* Gene. **P. Zhang, J. Chen, Y. Guan, X. Li, P-L. Li, Y. Zhang.** Huazhong University of Science and Technology, People's Republic of China, University of Houston and Virginia Commonwealth University.

C232 **700.6** Doxorubicin Temporally Modulates Cyclooxygenase-2 Levels in Male and Female Human Vascular Smooth Muscle Cells. **T. Tat, R. Bartel, M. So, K. Sweazea, R.J. Gonzales.** University of Arizona College of Medicine—Phoenix and Arizona State University

C233 **700.7** Lenalidomide Attenuates High Fat Diet Induced-Cyclooxygenase-2 Levels in Human Vascular Smooth Muscle Cells. **R. Bartel, S. Rahman, B. Decourt, K.L. Sweazea, R.J. Gonzales.** University of Arizona College of Medicine—Phoenix and Arizona State University.

C234 **700.8** Phenotypic Alteration of Vascular Smooth Muscle Cells as a Sequence of Mild Hyper-Caloric Intake in the Absence of Hyperglycemia: Potential Modulation by Antidiabetic Drugs. **F. Sleiman, A. Mroueh, A. Eid, A.F. El-Yazbi.** American University of Beirut, Lebanon.

701. LATE PRE-CLINICAL PHARMACOLOGY

Poster

(*Sponsored by:* ASPET Division for Translational and Clinical Pharmacology)

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Cardiovascular

Drug Discovery and Development

Molecular Pharmacology

Translational and Clinical Pharmacology

Presentation time: 12:30 PM–2:30 PM

C235 **701.1** Neuropeptides, Their Interactions and Gastric Mucosal Protection in the Rat. **K. Gyires, Z. Zádori.** Semmelweis University, Hungary.

C236 **701.2** Limonene-Induced Activation of A_{2a} Adenosine Receptors Reduces Airway Inflammation and Reactivity in a Mouse Model of Asthma. **D. Narke, A. Siddiquee, M. Patel, M. Kurade, S.J. Mustafa, C. Ledent, D.S. Ponnoth.** Long Island University, West Virginia University and Université Libre de Bruxelles, Belgium.

C237 **701.3** The Broad-Spectrum Antiemetic Efficacy of the Ryanodine Receptor Antagonist, Dantrolene, in the Least Shrew *(Cryptotis parva).* **W. Zhong, N.A. Darmani.** College of Osteopathic Medicine of the Pacific and Western University of Health Sciences.

C238 **701.4** Focal Inhibition of Thrombin Signaling with Anti-Thrombin Nanoparticles Reduces Ischemia-Reperfusion Injury in Acute Myocardial Infarction. **J. Fazal, J. Chen, C. Weinheimer, A. Kovacs, H. Pan, S.A. Wickline.** University of South Florida and Washington University in St. Louis.

C239 **701.5** Heparins Derived from Ovine (Sheep) Mucosa Are Interchangeable to Their Porcine (Pig) Counterparts. **A. Kouta, S. Abro, D. Clarizio, A. Farooqui, F. Siddiqui, Z. Siddiqui, O. Bouchard, J. Fareed.** Loyola University Medical Center.

C240 **701.6** Heat Shock Protein 90 Promotes Morphine Anti-Nociception in the Spinal Cord, but Not in the Brain, in a Murine Cancer Induced Bone Pain Model. **C. Stine, W. Lei, J.M. Streicher.** University of Arizona.

C241 **701.7** A Snake Venom-Derived Hemocoagulase Modified with Factor Xa Restores Hemostasis in Heparin-Treated, Hypocoagulant Mice. **M. Jackson, R. Adili, X. Dai, B.X. Li, M. Holinstat.** University of Michigan and Lee's Pharmaceutical, People's Republic of China.

C242 **701.8** Rapamycin PFC Nanoparticles Pre-Treatment Mitigates Cisplatin Induced Acute Kidney Injury. **J. Doherty, J. Fazal, S. Wickline, H. Pan.** University of South Florida Health

C243 **701.9** Indomethacin and Indomethacin-PC Inhibit the Growth of Colon Cancer Under in Vitro and in Vivo Conditions. **L. Lichtenberger, E. Dial, D. Fang.** The University of Texas Health Science Center at Houston and The University of Texas Health Science Center.

C244 **701.10** Modulation of Gastrointestinal Smooth Muscle Motility by Losartan in Rats. **F.R. Aigbe, M.E. Tobechukwu, O.K. Akindere, M.C. Chijioke, T.J. Jaiyesimi, F.A. Shonubi, O.O. Adeyemi.** University of Lagos, Nigeria.

C245 **701.11** Probiotic *Lactobacillus rhamnosus* GG Attenuates BDL-Induced Liver Injury Through Reduction of Hepatic Bile Acid Accumulation and Induction of Gut Bile Acid Excretion in Mice. **Y. Liu, C. McClain, W. Feng.** University of Louisville.

C246 **701.12** The Effect of Colonic Inflammation on Morphine Induced Antinociceptive Tolerance. **E. Komla, W.L. Dewey, H.I. Akbarali.** Virginia Commonwealth University.

702. NATURAL PRODUCTS II

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:30 pm–2:30 pm

C247 **702.1** Novel Marine Compounds Modulate Mitochondrial Function in H9C2 Cells: Potential New Pharmaceutical Targets to Control Cardiac Metabolism. **M.V. Warmbrunn, J.M. Schilling, M. Dhanani, E. Glukhov, L.G. Gerwick, W.H. Gerwick, H.H. Patel.** University of Amsterdam, Netherlands, University of California, San Diego and Scripps Institution of Oceanography, University of California, San Diego.

C248 **702.2** The Marine Pharmacology and Pharmaceuticals Pipeline in 2017. **J. Trieu, D.J. Newman, K.B. Glaser, A.M. Mayer.** Midwestern University, Chicago College of Pharmacy , National Cancer Institute, National Institutes of Health, AbbVie Inc., Midwestern University, Chicago College of Osteopathic Medicine and Pharmacology Department.

C249 **702.3** Epiligulyl Oxide from *Saussurea lappa* Inhibited Allergic Asthma Using in Vivo and in Vitro Experiments. **J. Huang, B-K. Lee, S-J. Park, S. Kang, D-S. Im.** College of Pharmacy and Pusan National University, Republic of Korea.

C250 **702.4** SML0417 from *Saussurea lappa* Ameliorates Asthma Features in Murine Allergic Asthma Model. **S-Y. Nam, B-K. Lee, S. Kang, S-J. Park, D-S. Im.** Pusan National University , Republic of Korea.

C251 **702.5** Anti-Allergic Effect of Elecampane Camphor from *Saussurea lappa* in Ovalbumin-Induced Asthma Model. **S-Y. Nam, B-K. Lee, D-S. Im, S-J. Park, S. Kang.** Pusan National University , Republic of Korea.

C252 **702.6** AMP-Activated Protein Kinase Activation by Traditional Herbal Medicines and Their Active Compounds Ameliorates Oxidative Stress as Mediated with Liver Kinase B1 and Farnesoid X Receptor. **S.Y. Baek, E.H. Lee, Y.W. Kim.** Daegu Haany University, Republic of Korea and Kyungpook National University, Republic of Korea.

C253 **702.7** The Comparative Study of Anti-Oxidative and Anti-Melanogenic Effects by *Angelica tenuissima* Extract and Its Biotransformed. **E. Sohn, Y. Park, J.W. Lee, H. Lim, Y.K. Kim, H.J. Koo, S. Namkoong, S-A. Jang, E-H. Sohn.** Korea Institute of Science and Technology, Republic of Korea, Kangwon National University, Republic of Korea, Korea Research Institute of Bioscience and Biotechnology, Republic of Korea, Korea National College of Agriculture and Fisheries, Republic of Korea and Kyung Hee University, Republic of Korea.

C254 **702.8** Effect of Xylopic Acid Isolated from *Xylopia aethiopica* on Acetic Acid-Induced Ulcerative Colitis in Rats. **N. Osafo, D.D. Obiri, K.O. Danquah, L.B. Essel, A.O. Antwi.** Kwame Nkrumah University of Science and Technology, Ghana.

C255 **702.9** Ameliorative Potentials of *Annona muricata* Against Potassium Dichromate-Induced Hypertension Through Antioxidant Defence System. **O.E. Ola-Davies, A.A. Oyagbemi, T.O. Omobowale, I.A. Akande.** University of Ibadan, Nigeria.

C256 **702.10** *Nardostachys jatamansi* Ameliorates Doxorubicin Induced Cardiotoxicity via Down Regulation Oxidative Stress and Inflammatory Markers in Rats. **H.A. Madkhali, M.A. Ganaie, M. Raish, B.L. Jan, A. Ahmad.** Prince Sattam Bin Abdulaziz University, Saudi Arabia and King Saud University, Saudi Arabia

Physiology

703. MICROVASCULAR CELL SIGNALING PATHWAYS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A1 **703.1** Troponin Subunits Are Expressed in the Rat Afferent Arteriole. **M.P. Walsh, I. Kathol, C. Sutherland, X. Wang, R. Loutzenhiser, K. Takeya.** University of Calgary, Canada.

A2 **703.2** Novel Non-Canonical Regulation of Soluble VEGF/VEGFR2 Signaling by Mechanosensitive Ion Channel TRPV4 in Endothelial Cells. **A.K. Kanugula, R.K. Adapala, P. Midha, H.C. Cappelli, G.J. Meszaros, S. Paruchuri, W.M. Chilian, C.K. Thodeti.** Northeast Ohio Medical University and University of Akron.

A3 **703.3** Mitochondrial Modulation of Calcium Pulsars Through Oxidative Stress. **M. Berlatie, F. Toussaint, A. Blanchette, J. Ledoux.** Université de Montréal, Canada and Montreal Heart Institute, Canada.

A4 **703.4** Increased Hydrogen Peroxide After Traumatic Brain Injury Disrupts Phosphatidylinositol 4,5-Bisphosphate Metabolism Causing Impaired Inward Rectifier Potassium Channel Function. **A.M. Sackheim, N. Villalba, A. Bonev, M. Nelson, K. Freeman.** University of Vermont.

A5 **703.5** Pannexin's Role in Mediating Skeletal Muscle Active Hyperaemia. **I.R. Lamb, N.M. Novielli, C.L. Murrant.** University of Guelph, Canada.

A6 **703.6** Aging and Endothelial Dysfunction: The Role of NADPH Oxidase and the Insufficient Inhibition by PKG. **O.S. Kwon, R.H.I. Andtbacka, J.R. Hyngstrom, R.S. Richardson.** University of Utah.

704. MICROVASCULAR FLOW REGULATION/ OXYGEN DELIVERY/NETWORKS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A7 **704.1** Model-Based Estimation of Pulmonary Flow Heterogeneity from Observed Oxygen Transport Parameters in Exercise. **T.K. Roy, T.W. Secomb.** Mayo Clinic and University of Arizona.

A8 **704.2** H_2O_2 and NO Contribute to Improved Flow-Induced Dilations in Visceral and Subcutaneous Adipose Arterioles During Aerobic Exercise in Morbidly Obese Adults. **R.S. Severin, A. Mohamed, C. Adamos, A. Gangemi, M. Masrur, C. Hassan, S. Phillips.** University of Illinois at Chicago.

A9 **704.3** Main Effects of Light Sources, Photoperiods, and Genetic Strains on Blood Physiological Variables of Broilers Grown to Heavy Weights. **H.A. Olanrewaju, J.L. Purswell, S.D. Collier, S.L. Branton.** United States Department of Agriculture.

A10 **704.4** Novel Method for Determining Incident Light Intensity for the Calculation of Red Blood Cell Oxygen Saturation from In-Vivo Microscopy Images. **R. Sove, N. Drakos, G. Fraser, C. Ellis.** University of Western Ontario, Canada and Memorial University, Canada.

A11 **704.5** The Microvascular Lattice: An Updated Paradigm of Flow Distribution Through Capillary Networks. **A. Mendelson, E. Ho, S. Milkovich, D. Goldman, C. Ellis.** Western University, Canada.

A12 **704.6** Interstitial PO_2 Dynamics During Contractions in Healthy Skeletal Muscle: Relationship to Oxidative Capacity and Nitric Oxide Bioavailability. **T.D. Colburn, J.C. Craig, D.M. Hirai, A. Tabuchi, K.S. Hageman, T.I. Musch, D.C. Poole.** Kansas State University and University of Electro-Communications, Japan.

A13 **704.7** Inducible Deletion of Endothelial *hba1* Significantly Reduces Exercise Fitness in Mice. **A.S. Keller, S. Brooks, A. Islam, T.C.S. Keller, A.K. Best, M.K. Cortese-Krott, Z. Yan, H. Ackerman, B.E. Isakson.** University of Virginia, National Heart, Lung, and Blood Institute, National Institutes of Health and Heinrich-Heine University of Düsseldorf, Germany.

A14 **704.8** It Does Not Do to Dwell on Single Components and Forget the Importance of Complete Networks: Optimizing an Integrated Hemodynamic Model Derived from Experimental Data. **Z. Farid, K.A. Lemaster, M. Al Tarhuni, J.C. Frisbee, D.N. Jackson, D. Goldman.** University of Western Ontario, Canada.

A15 **704.9** Increases of Capillary Blood Pressure in the Supine Position in Persons with Cervical Spinal Cord Injuries. **K. Kouda, T. Nakamura, Y. Umemoto, Y-i. Kamijo, F. Tajima.** Wakayama Medical University, Japan and Yokohama City University, Japan.

A16 **704.10** Single-Cell Measurement of Red Blood Cell Oxygen Delivery Rate. **Z.K. Chng, Y.C. Ng, S. Kim.** National University of Singapore, Singapore.

705. VASOMOTOR CONTROL: ENDOTHELIUM/ SMOOTH MUSCLE/NERVES

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A17 **705.1** Activation of Endothelial Nitric Oxide Production by the Sigma Receptor Agonist Afobazole. **Z.Y. Motawe, C.P. Katnik, A.N. Trujillo, J. Cuevas, J.W. Breslin.** University of South Florida.

A18 **705.2** Muscarinic Receptor-Mediated Regulation of Epineurial Blood Vessels of the Sciatic Nerve. **C. Killey, S. Cleary, J. Orr, J.C. Frisbee, D.N. Jackson, J. Twynstra.** Brescia University College, Canada and Western University, Canada.

A19 **705.3** Effects of Phenylephrine and Norepinephrine on the Diameter of the Epineurial Vessels Supplying the Sciatic Nerve. **S.R. Cleary, J.I. Orr, C. Killey, D.N. Jackson, J.C. Frisbee, J. Twynstra.** Brescia University College, Canada and University of Western Ontario, Canada.

A20 **705.4** Role of Myocardial Endothelin-Converting Enzyme in Promoting Coronary Arteriolar Constriction During Diabetes. **S-H. Tsai, T.W. Hein, L. Kuo.** Texas A&M Health Science Center.

A21 **705.5** Role of cGMP and EDHF Pathways in Hydrogen Sulfide-Induced Vasorelaxation in the Human Artery. **C. Yuan.** TEDA International Cardiovascular Hospital and Chinese Academy of Medical Sciences and Peking Union Med, People's Republic of China.

A22 **705.6** Protein Compositions Changes of Circulating Microparticles in Patients with Valvular Heart Disease and Cardiac Surgery. **J. Ou, Y-P. Jian, H-X. Yuan, C. Chen, Y-Q. Li, Y. Li, Z-J. Ou.** The First Affiliated Hospital of Sun Yat-sen University, People's Republic of China.

A23 **705.7** Cerebral Vascular $K_{ir}2.x$ Channels Are Distinctly Regulated by Membrane Lipids and Hemodynamic Forces. **M. Sancho, D.G. Welsh.** University of Western Ontario, Canada.

A24 **705.8** Effect of Aging on Rho-Kinase Activity and Vascular Smooth Muscle Contractility in Skeletal Muscle Resistance Arteries. **S.Y. Shin, S. Padgham, A. Trache, C. Woodman.** Texas A&M University.

A25 **705.9** Effects of Heated Versus Thermoneutral Bikram Yoga Interventions on Endothelial Function and Arterial Stiffness. **S.D. Hunter, J. Laosiripisan, A. Elmenshawy, H. Tanaka.** Texas State University and The University of Texas at Austin.

A26 **705.10** Roles and Mechanism of Protein Kinase D in Vasoconstriction. **Y. Mizuno, Y. Sugawara, T. Goto.** Yokohama City University, Japan.

706. PERMEABILITY/FLUID AND SOLUTE EXCHANGE/GLYCOCALYX

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A27 **706.1** Thrombin Cleavage of Endothelial Glycocalyx Syndecan-4 Ectodomain in Human Lung Vasculature. **M. Jannaway, X. Yang, J.E. Meegan, S. Rodriguez Ospina, D.C. Coleman, S.Y. Yuan.** University of South Florida.

A28 **706.2** The Role of Matrix Metalloproteinase 2 (MMP2) in Diabetes-Induced Loss of PECAM-1 in the Retina: Direct and Indirect Mechanisms. **R.S. Eshaq, N.R. Harris.** Louisiana State University Health Sciences Center.

A29 **706.3** *In Vivo* Measurement of Mouse Endothelial Surface Layer in Surface Cortical Microvasculature. **M.J. Perez, J. Ford, E. Schmidt.** University of Colorado School of Medicine.

A30 **706.4** The Effect of Sphingosine 1-Phosphate on Endothelial Permeability Is Fluid Flow Dependent. E**. Akbari, G.B. Spychalski, K.K. Rangharajan, S. Prakash, J.W. Song.** The Ohio State University.

A31 **706.5** Endothelial Surface Glycocalyx Revealed by Stochastic Optical Reconstruction Microscopy (STORM). **B.M. Fu, J. Fan, Y. Sun, J.M. Tarbell.** City College of New York.

A32 **706.6** Endothelial Barrier Restoration After Inflammation-Induced Hyperpermeability. **P.R. Nepali, P.E. Mujica, D.D. Kim, A.P. Thomas, W.N. Duran.** Rutgers School of Graduate Studies and Rutgers New Jersey Medical School.

A33 **706.7** Post-Septic Down-Regulation of Sulfatase-1 Suppresses Pulmonary Endothelial ICAM-1 Expression. **K. Oshima, Y. Yang, S.M. Haeger, T.C. Lane, R.J. Linhardt, E.P. Schmidt.** University of Colorado and Rensselaer Polytechnic Institute.

A34 **706.8** Nrf2 Deficiency Exacerbates Oxidative Stress and Microvessel Susceptibility to Inflammation in Diabetic Rats. **X. Xinghai, K.B. LaPenna, Y. Zhang, P. He.** Pennsylvania State University and Penn State College of Medicine Department of Cellular and Molecular Physiology.

A35 **706.9** Assessing Endothelial Cell Permeability and Transport Pathways via Biotin/FITC-Avidin Interaction in Cultured Endothelial Microchannel Networks Using Microfluidic Devices. **F. Gao, P. He.** Pennsylvania State University.

A36 **706.10** Transport and Metabolism of Adenosine and Its Metabolites in Capillary Endothelial Cells of Guinea Pig Hearts. **A. Liu, J.B. Bassingthwaighte.** University of Washington.

A37 **706.11** The Interplay Between Hyperresistinemia, Elevated ROS, and Hyperglycemia in Diabetic Rats and Their Roles in Diabetes-Associated Neutrophil Dysfunction. **H. Wang, F. Gao, P. He.** Pennsylvania State University.

707. MICROVASCULAR MECHANICS/ HEMODYNAMICS/RHEOLOGY

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A38 **707.1** Numerical Determination of Red Blood Cell Membrane Deformability from Intravital Microscopy. **A. Lucas, V.P. Jani, P. Cabrales.** University of California and San Diego.

A39 **707.2** ADAM17 via F11R/JAM-A Shedding Regulates Flow/Wall Shear Stress Mechanosensing in Endothelial Cells. **S. Christianson, H. Dou, X. Li, D. Fulton, D. Rudic, Z. Bagi.** Augusta University.

708. PERICYTES AND STEM CELLS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A40 **708.1** Optogenetic Stimulation of Pericytes Lacking Alpha Smooth Muscle Actin Produces a Decrease in Capillary Blood Flow in the Living Mouse Brain. **D. Hartmann, R.I. Grant, S.A. Harrill, T. Noonan, A. Lauer, A.Y. Shih.** Medical University of South Carolina and College of Charleston.

A41 **708.2** Agent-Based Model of Pericyte Response to Platelet-Derived Growth Factor-BB from Sprouting Endothelial Cells in the Developing Mouse Retina. **H. Patolia, S.M. Rikard, S. Peirce, J.C. Chappell.** Virginia Tech Carilion School of Medicine and Research Institute, University of Virginia and Virginia Tech Carilion Research Institute.

709. TISSUE-MICROVESSEL INTERACTIONS/ EXTRACELLULAR MATRIX

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A42 **709.1** Preadipocyte Differentiation in Gelma Hydrogels for Mechanical Testing. **A. Sakai, N.R. Menon, J. Rutkowski.** Texas A&M University.

710. MICROVASCULAR PATHOPHYSIOLOGY-PHARMACOLOGY, THERAPEUTICS AND TRANSLATIONAL ASPECTS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A43 **710.1** Chronic Administration of an Endothelial KCa Channel Activator (SKA-31) Improves Agonist Evoked Vasodilation in Mesenteric Arteries of Aged Rats. **R. Khaddaj-Mallat, C. John, H. Wulff, A.P. Braun.** University of Calgary, Canada, University of California and Davis.

A44 **710.2** Hyperglycemia Enhances Constriction of Retinal Venules to Endothelin-1 via Activation of the Reverse-Mode Sodium-Calcium Exchanger. **Y-L. Chen, W. Xu, R.H. Rosa; Jr., L. Kuo, T.W. Hein.** Texas A&M Health Science Center and Baylor Scott & White Health.

A45 **710.3** Mechanisms of Endothelial Dysfunction in Young Adults with Major Depressive Disorder: Influence of Sex. **J.L. Greaney, L. Santhanam, E.F. Saunders, L.M. Alexander.** Pennsylvania State University and Johns Hopkins University School of Medicine.

A46 **710.4** Is Heart Failure a Disorder of the Coronary Microcirculation? **V. Ohanyan, R. Finocchiaro, T. Hakobyan, B. Muhammad, L. Rinker, K. Graham, V. Chalasani, P. Peket, M. Enrick, C.L. Kolz, L. Yin, W.M. Chilian.** Northeast Ohio Medical University.

A47 **710.5** Brain Microvascular Endothelial Derived Microparticles as a Non-Invasive Diagnostic Tool for Multiple Sclerosis. **J.W. Yun, C. Boyer, A. Minagar, J.S. Alexander.** Louisiana State University Health Sciences Center—Shreveport.

A48 **710.6** Effect of Pressure Exposure Area and Magnitude on Muscle Microvascular Blood Flow, Peripheral Tissue Volume and Central Volume. **E. Bird, L. Petersen, A. Hargens.** University of California and San Diego.

A49 **710.7** Resveratrol Improves Microvascular Function in Adults Who Reported Adverse Childhood Events. **P. Rodriguez Miguelez, J. Looney, J. Thomas, J. Pollock, R. Harris.** Augusta University and University of Alabama at Birmingham.

A50 **710.8** Effects of Sphingosine-1-Phosphate on Endothelial Barrier Function Following Hypoxic Injury and Hemorrhagic Shock. **N.G. Alves, S.Y. Yuan, J.W. Breslin.** University of South Florida.

A51 **710.9** Myoblasts Enhance Collateral Capillary Arteriogenesis During Chronic Ischemia. **V. Hamzeinejad, L. Banuelos, T.R. Cardinal.** California Polytechnic State University.

A52 **710.10**

A53 **710.11** Evidence for Modulation of Heat Induced Changes in Erythrocytes by Cytochalasin D: Potential Role for Oxygen Nanobubbles in Aggregation. **S.D. Weber-Fishkin, J.F. Blasco, E.M. Gallegos, M.D. Frame.** Stony Brook University.

A54 **710.12** Mechanisms of Reduced Vascular Tone Following Collateral Arteriogenesis Induced by Femoral Artery Ligation. **C.J. Hatch, M.T. Chu, T.R. Cardinal.** California Polytechnic State University.

A55 **710.13** The Impact of Myogenic Cell Transplantation on Collateral Capillary Arteriogenesis. **P.M. Sivesind, V. Hamzeinejad, T.R. Cardinal.** California Polytechnic State University.

711. KALEY AWARD FEATURED TOPIC: CEREBRAL VASCULAR DYSFUNCTION AND IMPAIRED COGNITIVE FUNCTION (POSTERS)

Poster

(*Sponsored by:* APS Cardiovascular Section and The Microcirculatory Society)

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A56 **711.1** The Impact of Bariatric Surgery on Cerebral Vascular Reactivity. **W.J. Tucker, B.P. Thomas, N. Puzziferri, T.J. Samuel, V.G. Zaha, I. Lingvay, J. Almandoz, R.M. Brothers, M.D. Nelson.** The University of Texas at Arlington and The University of Texas Southwestern Medical Center.

A57 **711.2** Association Between Cerebrovascular Reactivity and Intravascular Cellular Activation in Postmenopausal Women Following Use of Menopausal Hormone Treatments. **A.G. Pearson, M. Jayachandran, B.D. Lahr, M.J. Joyner, V.M. Miller, J.N. Barnes.** University of Wisconsin—Madison and Mayo Clinic.

A58 **711.3** Elevated Aortic Stiffness Is Associated with Weaker Executive Function in Individuals with Lower Cognitive Reserve via Reductions in Frontal Cerebrovascular Reserve. **L.E. DuBose, D.J. Moser, L.L. Boles Ponto, G.L. Pierce.** University of Iowa.

A59 **711.4** Cyclooxygenase Inhibition and Cerebrovascular Reactivity: Interaction of Aging and Aerobic Fitness. **A.T. Corkery, K.B. Miller, A.J. Howery, A.E. Carl, M.L. Greisch, N.A. Eisenmann, J.N. Barnes.** University of Wisconsin—Madison.

A60 **711.5** Cerebral Blood Flow Responses to a Memory Test in Young and Older Habitual Exercisers. **A.E. Carl, K.B. Miller, A.J. Howery, N.A. Eisenmann, A.T. Corkery, J.N. Barnes.** University of Wisconsin—Madison.

A61 **711.6** Cerebrovascular Reactivity and Cognitive Function in Hypertensive and Non-Hypertensive Adults. **W. Lefferts, J.P. DeBlois, G.L. Mammolito, E.A. Dressel, C.N. Receno, K.S. Heffernan.** Syracuse University.

A62 **711.7** Obesity in Aging Exacerbates Neuroinflammation and Alters Eicosanoid Profiles in the Mouse Hippocampus: Potential Role in Impaired Synaptic Plasticity and Cognitive Decline. **T. Kiss, M.N. Valcarcel-Ares, A. Yabluchanskiy, S. Tarantini, F. Deak, Z. Ungvari, A. Csiszar.** University of Oklahoma Health Sciences Center.

A63 **711.8** IGF-1 Deficiency Promotes Pathological Remodeling of Cerebral Arteries: A Potential Mechanism Contributing to the Pathogenesis of Intracerebral Hemorrhages in Aging. **G.A. Fulop, F.I. Ramirez-Perez, T. Kiss, S. Tarantini, P. Toth, A. Yabluchanskiy, S.M. Conley, P. Ballabh, L.A. Martinez-Lemus, Z. Ungvari, A. Csiszar.** University of Oklahoma Health Sciences Center, University of Missouri and Albert Einstein College of Medicine.

A64 **711.9** Pharmacologically-Induced Impairment of Neurovascular Coupling Responses Alters Gait Coordination in Mice. **S. Tarantini, A. Yabluchanskiy, G.A. Fulop, P. Hertelendy, M.N. Valcarcel-Ares, T. Kiss, J.M. Bagwell, D. O'Connor, E. Farkas, F. Sorond, A. Csiszar, Z. Ungvari.** University of Oklahoma Health Sciences Center, University of Szeged, Hungary and Northwestern University.

A65 **711.10** Selective Disruption of IGF-1 Signaling in Astrocytes Impairs Neurovascular Coupling in Mice: Implications for Cerebromicrovascular Aging. **S. Tarantini, G.A. Fulop, A. Yabluchanskiy, T. Kiss, W.E. Sonntag, A. Csiszar, Z. Ungvari.** University of Oklahoma Health Sciences Center.

A66 **711.11** Role of Cerebral Vascular Dysfunction on Alzheimer-Like Cognitive Deficits in Diabetic T2DN Rats. **F. Fan, S. Wang, X. He, O. Travis, N. Do, L. Amaral, D. Cornelius, B. LaMarca.** University of Mississippi Medical Center.

A67 **711.12** Pyridoxamine Attenuates Age-Related Impairments in Cerebral Artery Endothelial Function. **A.E. Walker, A.E. Meza, A.E. Earl, D.R. Machin.** University of Oregon and University of Utah.

A68 **711.13** Endogenous Renin-Angiotensin System Activation Causes Accelerated Cerebral Vascular Dysfunction in Mice Expressing Dominant-Negative Mutations in PPARγ in Endothelium. **A.R. Nair, L.N. Agbor, M. Mukohda, X. Liu, C. Hu, J. Wu, C.D. Sigmund.** University of Iowa.

A69 **711.14** Mineralocorticoid Receptor Signaling Regulates Parenchymal Arteriole Vasodilation and Cognitive Function. **J.M. Diaz-Otero, T-C. Yen, C. Fisher, W.F. Jackson, A.M. Dorrance.** Michigan State University.

A70 **711.15** Selectively Impaired Vasodilation of Human White Matter Penetrating Cerebral Arterioles in Microvascular Brain Injury and Alzheimer's Disease. **Z. Bagi, D.D. Brander, P.D. Le, D.D. McNeal, X.D. Gong, H. Dou, D. Fulton, A. Beller, T.D. Ngyuen, E. Larson, T. Montine, D. Keene, S.D. Back.** Augusta University, Oregon Health & Science University and University of Washington.

A71 **711.16** Mechanism of Mitochondrial Dysfunction in Brain Vasculature During Ischemic Stroke: Role of Tetrahydrocurcumin. **N.K. Mondal, A. George, J.K. Behera, K. Kelly, N. Tyagi.** University of Louisville School of Medicine.

A72 **711.17** Cerebrovascular Hyper-Permeability and Memory Impairment After Cortical Contusion Injury During Hyperhomocysteinemia in Mice. **N. Muradashvili, S.C. Tyagi, D. Lominadze.** University of Louisville.

712. CEREBRAL CIRCULATION

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A73 **712.1** Activation of Cannabinoid (CB2) Receptors and Reactivity of Cerebral Arterioles. **W.G. Mayhan, D.M. Arrick.** University of South Dakota.

A74 **712.2** Inhibition of p70 Ribosomal S6 Kinase (S6K1) Reduces Infarct Size Without Improving Microregional Oxygen Supply/Consumption Balance After Cerebral Ischemia-Reperfusion. **H.R. Weiss, O.Z. Chi, X. Liu.** Rutgers Robert Wood Johnson Medical School.

A75 **712.3** The Impact of Grey Matter Normalization on Cerebrovascular Reactivity. **K.B. Katchen, K.B. Miller, A.J. Howery, A.T. Corkery, S.C. Johnson, H.A. Rowley, J.N. Barnes.** University of Wisconsin—Madison and University of Wisconsin—Madison School of Medicine and Public Health.

A76 **712.4** Antioxidant and Cerebroprotective Roles of Carbon Monoxide (CO) Against Cerebrovascular Injury Caused by Prolonged Neonatal Asphyxia. **J. Liu, C.W. Leffler, A.L. Fedinec, M. Pourcyrous, H. Parfenova.** University of Tennessee Health Science Center.

A77 **712.5** Cerebrovascular Control After Cardiac Rehabilitation in Ischemic Heart Disease Patients. **B.K. Al-Khazraji, N.R. Lingum, J.L. Vording, B.J. Matushewski, J.K. Shoemaker.** Western University, Canada.

A78 **712.6** Peripheral Adipose Arteriole Dilator Response to Amyloid Proteins and Palmitic Acid Recapitulates Central Leptomeningeal Arteriole Response: Validation of a Novel Human Tissue Model. **S. Truran, N. Karamanova, G. Serrano, J. Madine, H. Davies, T. Beach, R.Q. Migrino.** Phoenix VA Health Care System, Banner Sun Health Research Institute and University of Liverpool, United Kingdom.

A79 **712.7** Cerebral Blood Flow Characteristics Responses Following Acute Aerobic Exercise in Individuals with and Without Down Syndrome. **S.O. Wee, E.C. Schroeder, G. Grigoriadis, K. Bunsawat, A.J. Rosenberg, G. Griffith, T. Baynard, B. Fernhall.** California State University, San Bernardino, University of Illinois at Chicago and University of Utah.

A80 **712.8** Sodium Nitroglycerin Induces Cerebrovascular Vasodilation in Patients with Ischemic Heart Disease. **J.M. Schulz, B.K. Al-Khazraji, J.L. Vording, J.K. Shoemaker.** Western University, Canada.

A81 **712.9** Mental Stress Increases Cerebral Perfusion, More So During Hypercapnia. **L. Shoemaker, L. Wilson, S. Lucas, L. Machado, J. Cotter.** University of Otago, New Zealand and University of Birmingham, United Kingdom.

A82 **712.10** A Mathematical Model of Plasma Membrane Electrophysiology of a Brain Capillary Pericyte: Investigating Pericyte Contribution to the Electrical Properties of the Capillary Network. **A.M. Mirza, A. Moshkforoush, W.R. Giles, N. Tsoukias.** Florida International University and University of Calgary, Canada.

A83 **712.11** Excessive Shear Stress Sensing on the Arterial Endothelium Initiates Cerebral Aneurysm Formation. **M. Fukuda, S. Fukuda, J. Ando, K. Yamamoto, Y. Ito, T. Inoue, T. Tsukahara, N. Asahara, K. Hasegawa, A. Shimazu.** Kyoto Medical Center, Japan, Dokkyo Medical University, Japan and Tokyo University, Japan.

A84 **712.12** KIR Mediates Regenerative and Directional Conduction of Hyperpolarization in Brain Capillaries: Importance for Neurovascular Coupling. **A. Moshkforoush, T. Longden, F. Dabertrand, O.F. Harraz, M. Nelson, N. Tsoukias.** Florida International University and University of Vermont.

A85 **712.13**

A86 **712.14** Selective Brain Cooling with Transnasal Flow of Ambient Air for Pediatric Resuscitation. **R.C. Koehler, M. Reyes, J.S. Armstrong, C.D. Hopkins, E. Kulikowicz, H. Tandri.** Johns Hopkins University.

A87 **712.15** Partial Loss of Ca^{2+}-Activated K^+ Channel (KCa) in Rat Cerebral Arterial Muscle in Insulin-Dependent Diabetes Mellitus. **D. Gebremedhin, D.R. Harder.** Medical College of Wisconsin.

A88 **712.16** Cerebrovascular Regulation During an Insulin-Glucose Challenge: Contribution of Nitric Oxide. **A.T. Ward, K.J. Carter, C.J. Sauder, J.M. Kellawan, O. Weiben, W.G. Schrage.** University of Wisconsin—Madison and University of Oklahoma.

A89 **712.17** Cerebrovascular Reactivity in Obstructive Sleep Apnea: Impact of Physical Activity. **C.J. Sauder, K.J. Carter, A.T. Ward, B.J. Morgan, E.W. Hagen, P. Peppard, W.G. Schrage.** University of Wisconsin—Madison.

A90 **712.18** Prefrontal and Muscle Oxygenation Responses to Supraventricular Tachycardia. **K. Ishii, T. Machino, F. Yamagami, A. Nogami, K. Aonuma, H. Tsurushima, Y. Hatori, J. Gwak, N. Takahashi, H. Komine, S. Kitazaki, M. Akamatsu.** National Institute of Advanced Industrial Science and Technology, Japan and University of Tsukuba, Japan.

A91 **712.19** The Effects of Cardiac Contraction on Cerebral Oxygenation During Supraventricular and Ventricular Tachycardia. **H. Komine, T. Machino, F. Yamagami, A. Nogami, K. Aonuma, H. Tsurushima, K. Ishii, Y. Hatori, J. Gwak, N. Takahashi, S. Kitazaki, M. Akamatsu.** Automotive Human Factors Research Center, National Institute of Advanced Industrial Science and Tech, Japan, Cardiovascular Division, University of Tsukuba, Japan, Department of Neurosurgery and University of Tsukuba, Japan.

713. REGULATION OF BLOOD FLOW IN HEALTH AND DISEASE (POSTERS)

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A92 **713.1** Influence of Altered Physical Activity on Vascular Function in Older Adults: A Divergent Impact on the Conduit and Microvascular Systems. **R.M. Broxterman, J.D. Trinity, J.R. Gifford, S.H. Park, K.L. Shields, M.J. Drummond, R.S. Richardson.** University of Utah and Brigham Young University.

A93 **713.2** Smooth Muscle PPAR γ Mutation Causes Impaired Renal Blood Flow and Salt-Sensitive Hypertension. **J. Wu, L.N. Agbor, M. Mukohda, A. Nair, P. Nakagawa, D.A. Morgan, K. Rahmouni, R.M. Weiss, C.D. Sigmund.** University of Iowa.

A94 **713.3** Blood Pressure Predicts Endothelial Function and Effect of Ethinyl Estradiol in Young Obese and Lean Women. **T.E. Adler, C.W. Usselman, A. Takamata, N.S. Stachenfeld.** John B. Pierce Laboratory and Nara Women's University, Japan.

A95 **713.4** Hypercapnia-Induced Shear-Mediated Dilation in the Internal Carotid Arteries Is Blunted in Healthy Older Adults. **E. Iwamoto, J.M. Bock, D.P. Casey.** Sapporo Medical University, Japan and University of Iowa.

A96 **713.5** Acute Estrogen Does Not Augment the β_2-Adrenergic Receptor Mediated Vasodilation in Postmenopausal Women. **S.M. Ranadive, G.A. Dillon, M. Joyner.** University of Maryland, Pennsylvania State University and Mayo Clinic.

A97 **713.6** Opposing Vasomotor Roles of TRPV1 and TRPV2 Channels in the Human Adipose Microcirculation. **A.M. Korishettar, Y. Nishijima, D.X. Zhang.** Medical College of Wisconsin.

A98 **713.7** Flow-Mediated Dilation in Obese Adolescents: Correlation with Waist Circumference and Systolic Blood Pressure. **M.F. Hussid, C.P. Jordão, W.R. Lopes-Vicente, L. Virmondes, F. Cepeda, K. Katayama, L.V. Franco-de-Oliveira, E.F.D. Oliveira, F.C. Colombo, I.C. Trombetta.** Nove de Julho University, Brazil, Heart Institute and University of São Paulo Medical School, Brazil.

A99 **713.8** Carotid Arterial Stiffness Predicts White Matter Lesion Volume in Older Adults. **C.S. Balestrini, B.K. Al-Khazraji, N.R. Lingum, J.L. Vording, N. Suskin, J.K. Shoemaker.** Western University, Canada and London Health Sciences Centre, Canada.

A100 **713.9** The Role of Adiponectin in Exercise Training-Induced Vascular Adaptation. **J.L. Sepulveda, P. Ghosh, M. Delp, E. Pritchard, J. Maraj, J. Wahl, A. Restrepo, H. Morgan, B. Ulrich, C. Abeln, J. Nolan, M. Kenney, N. Patterson, S. Rosenthal, L. Vega-Figueroa, D. Sadowsky, C. McKinley-Caspanello, K. Schwartz, J. Muller-Delp.** Florida State University.

A101 **713.10** Blood Pressure in Wild-Type and Ts65Dn Mice at 6 Months of Age. **L.R. DeRuisseau, H. Buchholz, R. Purdy, C. Receno, C. Cunningham.** Le Moyne College.

A102 **713.11** Impaired ATP Release in Individuals with Type 2 Diabetes Assessed by the Intravascular Microdialysis Technique. **S.P. Mortensen, M.B. Groen, T.A. Knudsen, S. Finsen, B.K. Pedersen, Y. Hellsten.** University of Southern Denmark, Denmark, Rigshospitalet, Denmark and University of Copenhagen, Denmark.

A103 **713.12** Duty Cycle Impairs Functional Sympatholysis During Moderate Intensity Hand-Grip Exercise. **J.T. Caldwell, S.M. Hammer, H.K. Post, A.M. Alexander, K.K. Didier, G.M. Lovoy, C.J. Ade.** Kansas State University.

A104 **713.13** Insulin Sensitivity and Vascular Responses to Flow Mediated Dilation in Metabolic Syndrome Women. **A.A. Gomez, K.A. Szych, A.A. Rubio, S.A. Massey, A.A. Johnson, A. Gomez, S.A. Jackson, L.A. Juarez, J.M. Weaver, M.A. Barlow.** Eastern New Mexico University and University of New Mexico Health Sciences Center.

A105 **713.14** Dynamic Renal Blood Flow Autoregulation During Recovery from Acute Kidney Injury (AKI). **S.C. Thomson, H. Pham, P. Singh.** University of California, San Diego and Veterans Medical Research Foundation.

A106 **713.15** LPA-Induced Activation of LPA_1 Receptor Leads to the Loss of NO-Mediated Flow-Induced Dilation in Human Microvessels. **D.S. Chabowski, K. Ait-Aissa, A.O. Kadlec, J.H. Hockenberry, A.M. Beyer, D.D. Gutterman.** Medical College of Wisconsin.

A107 **713.16** Quantitative Capillary Blood Flow Spatial Analysis in Skeletal Muscle During Sepsis. **N.A. Mignemi, K.V. Kilchrist, M.A. McClatchey, I.M. Williams, C.L. Duvall, D.H. Wasserman, O.P. McGuinness.** Vanderbilt University.

A108 **713.17** Reconstitution of Autophagy Improves Vascular Reactivity in Spontaneously Hypertensive Rats. **C.G. McCarthy, C.F. Wenceslau, P. Martinez-Quinones, F.B. Calmasini, R.C. Webb.** Augusta University.

A109 **713.18** The Influence of Aging on Central Artery Stiffness and Cerebral Vascular Function Following an Acute Hypertensive Stimulus. **A.J. Rosenberg, E.C. Shroeder, G. Grigoriadis, S.O. Wee, G.J. Griffith, B. Fernhall, T. Baynard.** Integrative Physiology Laboratory, University of Illinois at Chicago, California State University and San Bernardino.

A110 **713.19** In Vivo Visualization of Mitochondria in the Cerebral Endothelium of Mice. **I. Rutkai, T. Salter-Cid, A. Adivi, W.R. Evans, T.C. Dean, P.V.G. Katakam, D.W. Busija.** Tulane University.

714. BLOOD PRESSURE REGULATION

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 10:00 AM–12:00 PM

A111 **714.1** Early Exercise Training Postpones Hypertension Progression *via* Activation of Central ACE2-Ang(1-7)-Mas Axis in Prehypertensive Rats. **Y. Pan, W. Peng, X. Zhao, L. Gao, C. Lin, X. Cheng.** Fujian Medical University, People's Republic of China and University of Nebraska Medical Center.

A112 **714.2** The Association of Bilateral Pulse Wave Velocity and Inter-Arm Systolic Blood Pressure Difference in Apparently Healthy Individuals. **B.T. Jensen, M.A. Walsh, M.M. Clarke, S.R. Allen, T.N. Wikert, A.C. Brush, M.E. Holmstrup.** Slippery Rock University.

A113 **714.3** Arterial Smooth Muscle Cell PKD2 (TRPP1) Channels Control Systemic Blood Pressure. **C. Fernandez-Pena, S. Bulley, R. Hasan, M.D. Leo, P. Muralidharan, C. Mackay, K.W. Evanson, S.K. Burris, Q. Wang, K.P. Kuruvilla, J.H. Jaggar.** University of Tennessee Health Science Center.

A114 **714.4** Inhibition of Renin-Angiotensin System from Conception to Young Mature Life Induces Salt-Sensitive Increased Blood Pressure via Angiotensin II-Induced Sympathetic Overactivity in Adult Male Rats. **S. Roysommuti, T. Bualeong, J.M. Wyss.** Khon Kaen University, Thailand and University of Alabama at Birmingham.

A115 **714.5** His and Her Computational Models of Long-Term Blood Pressure Regulation. **J. Leete, A. Layton.** Duke University.

A116 **714.6** Contribution of Non-Catecholaminergic Rostral Ventrolateral Medulla Neurons to Blood Pressure Control. **B. Holloway, D. Stornetta, R. Stornetta, P. Guyenet.** University of Virginia.

A117 **714.7** Sympathetic Nervous System Reactivity in Women Following Preeclamptic Pregnancies. **C.W. Usselman, T.E. Adler, C. Leone, M.J. Paidas, N.S. Stachenfeld.** John B. Pierce Laboratory, Yale Women and Children's Center for Blood Disorders and Yale University School of Medicine.

A118 **714.8** Central Interaction Between the Apelinergic and Vasopressinergic Systems in the Regulation of the Hemodynamics Parameters in Rats Maintained on High Fat Diet. **A. Cudnoch-Jedrzejwska, O. Wojno, K. Czarzasta, M. Kowalczyk.** Medical University of Warsaw, Poland.

A119 **714.9** Central Nucleus of the Amygdala Mediates Sympathoinhibitory Responses to Activation of Paraventricular Nucleus of the Thalamus. **M.E. Puigbonet, Z. Li, J. Ciriello.** University of Western Ontario, Canada.

A120 **714.10** Effects of Fragrance Inhalation of Essential Oil on Control of Blood Pressure and Muscle Sympathetic Nerve Activity in Humans. **E. Kawai, G. Hanno, R. Takeda, A. Ota, E. Morita, D. Imai, Y. Suzuki, H. Yokoyama, K. Okazaki.** Osaka City University Graduate School, Japan and Osaka City University, Japan.

A121 **714.11** Denervation of Peripheral Chemoreceptors Decreases Heart Rate During Bilateral Carotid Occlusion in Unanesthetized Rats. **F. Brognara, J.A. Castania, D.P.M. Dias, A. Kanashiro, L. Ulloa, R. Fazan; Jr., H.C. Salgado.** Ribeirão Preto Medical School, University of São Paulo, Brazil, Federal University of São Carlos, Brazil and Rutgers New Jersey Medical School.

A122 **714.12** Deciphering the Neural Signature of Human Blood Pressure Control. **J. Manuel, N. Nazarenko, K. Heusser, J. Tank, J. Jordan, F. Beissner.** Hannover Medical School, Germany and German Aerospace Center (DLR), Germany.

A123 **714.13** Hemodynamic Hyper-Reactivity to Acute Stress in Individuals Reporting Adversity During Childhood: Role of Endothelin-1. **M.A. Tucker, J. Looney, M. Blackburn, J.S. Pollock, D.M. Pollock, R.A. Harris.** Augusta University and University of Alabama at Birmingham.

A124 **714.14** Role of Corin in Neuro-Circulatory and Renal-Adrenal Control During Pregnancy in Humans. **M.B. Badrov, S. Park, J-K. Yoo, M. Hieda, Y. Okada, S.S. Jarvis, A.S. Stickford, S.A. Best, Q. Fu.** Institute for Exercise and Environmental Medicine and Texas Health Presbyterian Hospital Dallas.

A125 **714.15** Mouse Strains, Sex, Salt Intake, AT_1R Activity and Blood Pressure. **X. Wang, X. Ma, L. Asico, I. Armando, P. Jose.** George Washington University.

A126 **714.16** Effect of Dietary Sodium Intake on Blood Pressure Variability. **K.U. Migdal, J.C. Watso, M.C. Babcock, A.T. Robinson, M.M. Wenner, S.D. Stocker, W.B. Farquhar.** University of Delaware and University of Pittsburgh.

A127 **714.17** Activation of Bradykinin-Sensitive Pericardial Afferents Increases Systemic Venous Tone and Cardiac Output. **D. Martin, C. Reihe.** University of South Dakota.

A128 **714.18** Female Mice Are Not Protected from Elevation in Blood Pressure Due to High Fructose Consumption. **C. Waturuocha, D. Delaney, L. Fan, A. Rouch.** Oklahoma State University Center for Health Sciences.

A129 **714.19** Single Session Mindfulness Meditation Reduces Aortic Pulsatile Load and Anxiety in Mild to Moderately Anxious Adults. **J.J. Durocher, H. Marti, B. Morin, T.R. Wakeham.** Michigan Technological University.

A130 **714.20** Hypertension in Serotonin-Deficient Male Rats Is Associated with Reduced Sympathetic Drive to the Vasculature. **J.L. Magnusson, K.J. Cummings.** University of Missouri.

A131 **714.21** Effects of Acute Antioxidant Cocktail Combined with a High Sodium Meal on Arterial Stiffness and Wave Reflection. **K. Smiljanec, A.U. Mbakwe, S.L. Lennon.** University of Delaware.

A132 **714.22** Time Course of Blueberry Ingestion on Measures of Arterial Stiffness and Blood Pressure. **L. McAnulty, J. Pike, S.R. Collier, K.L. Thompson, S.R. McAnulty.** Appalachian State University.

A133 **714.23** Low-Level Laser Therapy Reduced Blood Pressure Response to Maximum Exercise in Police Officers. **J.R. De Moura, C.R. Alves, J.R. Lemos; Jr., C.P. Jordão, W.R. Vicente, M.A. Dalboni, I.C. Trombetta.** Universidade Nove de Julho, Brazil, School of Physical Education, Military Police of São Paulo State, Brazil, Heart Institute and University of São Paulo Medical School, Brazil.

A134 **714.24** Effect of Salt Taste Threshold on Cardiovascular Response to Isotonic Exercise in Young Adults. **S.O. Elias, T.O. Quadri, S.A. Bamiro, G.A. Umoren.** Lagos State University College of Medicine, Nigeria.

A135 **714.25** High Resolution Ultrasound Imaging Reveals Cardiac and Vascular Dysfunction in the 3xTG Mouse Model of Alzheimer's Disease. **B. Hoxha, N. Talley, M. Anderson, M. Alkhouli, M. Squire, M. Esfandiarei, T.L. Broderick.** Midwestern University.

715. HYPERTENSION I

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A136 **715.1** Protective Effects of the Polyphenol-Rich Fraction of *Azadirachta indica* Methanol-Leaf Extract on N^{ω}-Nitro-L-Arginine Methyl Ester-Induced Hypertension and Cardiorenal Dysfunction. **T. Omobowale, A. Oyagbemi, B. Ogunpolu, A. Adedapo.** University of Ibadan, Nigeria.

A137 **715.2** Role of A_1 and A_{2b} Adenosine Receptors in Angiotensin II Dependent Hypertension in Mice. **V.R. Yadav, Z. Zhou, B. Teng, S.J.S. Mustafa.** West Virginia University, Karolinska Institutet, Sweden and U.S. Army Institute of Surgical Research.

A138 **715.3** Effect of Glucagon-Like Peptide-1 Receptor Agonist (GLP1RA) on Hypertension-Induced Atrial Remodelling. **Z.Y. Zhang.** The University of Hong Kong, Hong Kong.

A139 **715.4** A Novel Mechanism of NO Synthase Uncoupling Involving Isolevuglandin Adduction. **W. Chen, L. Xiao, N.R. Barbaro, A. Kirabo, S. Dikalov, R.L. Mernaugh, S.S. Davies, D. Röth, M. Kalkum, D.G. Harrison.** Vanderbilt University, City of Hope Beckman Research Institute and City of Hope.

A140 **715.5** Chronic High Salt Intake Reduces Protein Expression of Tumor Necrosis Factor-Alpha Receptor Type 1 in Renal Cortical Tissue of Mice Lacking the Gene for Endothelial Nitric Oxide Synthase. **D.S.A. Majid, M.C. Prieto, C.M. Chamberlain, A. Castillo.** Tulane University School of Medicine.

A141 **715.6** Beneficial Effects of Nrf2 Activation on Vascular Function and Detrimental Effects of Nrf2 Activation on Renal Function in Dahl Salt-Sensitive Rats. **J.H. Lombard, K. Fink, D. Cloutier, J. Bukowy, K. Kozak, J. McCord.** Medical College of Wisconsin and University of Colorado Denver.

A142 **715.7** MRI Characterization of Age-Associated Changes to the Cerebral Arteries in a Rodent Model of Aging and Hypertension. **R.L. McPherson, A. Naraine, D. Lee, A. Rejimon, K.W. Fishbein, R.G. Spencer, E.G. Lakatta, O.V. Fedorova.** National Institute on Aging and National Institutes of Health.

A143 **715.8** Sex Differences in the Role of the Smooth Muscle Cell Mineralocorticoid Receptor in Cardiovascular Aging. **J.J. DuPont, S.K. Kim, Z. Sun, M.J. Aronovitz, W.E. Baur, G.A. Meininger, M.A. Hill, I.Z. Jaffe.** Tufts Medical Center and University of Missouri.

A144 **715.9** Stress-Induced Salt Sensitivity Is Modulated by Angiotensin II. **J.H. Jeong, R.A. Harris, C. Hanevold, G. Harshfiled.** Augusta University and University of Washington.

A145 **715.10** Effect of Aging and Hypertension on Cerebral Artery Volume as Measured by MRI in Dahl-Salt Sensitive Rats. **A.S. Naraine, R.L. McPherson, D. Lee, A. Rejimon, K.W. Fishbein, R.G. Spencer, E.G. Lakatta, O.V. Fedorova.** National Institute on Aging and National Institutes of Health.

A146 **715.11** Microvascular Endothelial Dysfunction Is Evident in Adults with Stage 1 Hypertension as Defined by the 2017 ACC/AHA Guidelines. **S. Shank, J. Greaney, L. Alexander.** Pennsylvania State University.

A147 **715.12** Preventing Hypertension After Ischemic Stroke in the Spontaneously Hypertensive Rat. **P.C. Thakkar, C.J. Barrett, S-J. Guild, A. McGregor, J.F.R. Paton, F.D. McBryde.** The University of Auckland, New Zealand and University of Otago, New Zealand.

A148 **715.13** Arterial Stiffness but Not Physical Activity Levels and Vascular Endothelial Function Are Altered in Early/Mid Pregnancy in Women Who Develop Preeclampsia. **R.J. Magee, M.K. Santillan, A.M. Betz, L.E. DuBose, A. O'Deen, S.W. Holwerda, A.K. Stroud, D.S. Brandt, N. Jensen, R.E. Luehrs, D.A. Santillan, J.L. Grobe, C.D. Sigmund, G.L. Pierce.** University of Iowa.

A149 **715.14** Fructose-Induced Salt-Sensitive Hypertension Increases Aortic Stiffness and Induces Changes in Systemic and Renal Hemodynamics. **D. Komnenov, J. Gaudette, Z. Zenner, H. Chen, N. Rossi.** Wayne State University

A150 **715.15** Effect of Lowering Blood Pressure on Circulating Danger-Associated Molecular Patterns in Hypertensive Adults. **K.A. Stockelman, T.D. Bammert, C.A. Dow, K.J. Diehl, V.P. Garcia, J.J. Greiner, B.L. Stauffer, C.A. DeSouza.** University of Colorado Boulder and University of Colorado Denver.

A151 **715.16** *Plantago asiatica* Seed Extracts Alleviated Blood Pressure of Phase I–Spontaneous Hypertension Rats. **C-C. Chou, S-I. Lue, Y-S. Fu, C-F. Weng.** National Dong Hwa University, Taiwan and Kaohsiung Medical University, Taiwan.

A152 **715.17** Effects of Essential Oil of *Blepharocalyx salicifolius* on Cardiovascular Function of Rats. **C.M. Moreira, M.B. Fernandes, K.T. Santos, L.A. Schneider, S.E.B. Da Silva, L.S. Sant'Anna, F.R. Paula.** Cleci Menezes Moreira, Brazil and Federal University of Pampa, Brazil.

716. KIDNEY AND IMMUNITY IN HYPERTENSION

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A153 **716.1** Afferent Renal Nerves Mediate Hypertension and Renal Cystogenesis in a Preclinical Model of Polycystic Kidney Disease. **C.T. Banek, M.M. Gauthier, J.W. Osborn.** University of Minnesota.

A154 **716.2** Inhibtion of mTORC2 Signaling Prevents and Reverses Salt-Induced Hypertension and Kidney Injury in Dahl Salt-Sensitive Rats. **V. Kumar, E.C. Louise, T. Kurth, C. Wollner, A.W. Cowley.** Medical College of Wisconsin.

A155 **716.3** The Effect of Combined Inhibition of mTORC1+2 on Sodium Handling in Dahl Salt-Sensitive Rats. **L.C. Evans, C. Wollner, T. Kurth, A. Cowley; Jr.** Medical College of Wisconsin.

A156 **716.4** Nephron-Wide Deletion of NOS3 Impairs Salt Excretion and Causes Hypertension During High Salt Intake via Altered NKCC2 Activity. **Y. Gao, D. Stuart, T. Takahishi, D.E. Kohan.** University of Utah and Vanderbilt University.

A157 **716.5** L-Lysine Control of Albumin Reabsorption by the Renal Proximal Tubule Prevents the Development of Salt-Sensitive Hypertension. **V. Levchenko, O. Palygin, J.D. Bukowy, A.W. Cowley; Jr., A. El-Meanawy, A. Staruschenko.** Medical College of Wisconsin and The Medical College of Wisconsin.

A158 **716.6** Overexpression of Elabela in the Renal Medulla Attenuated DOCA/salt-Induced Hypertension in Sprague Dawley Rats. **M. Deng, Z. Fu, Y. Chen, J. Hu, W. Wang, T. Yang, L. Wang, Q. Zhu.** Sun Yat-sen University, People's Republic of China.

A159 **716.7** Intrarenal Silencing of TNF Facilitates Salt-Dependent Increases in Blood Pressure. **S. Hao, M. Hao, N.R. Ferreri.** New York Medical College.

A160 **716.8** Renal Nitric Oxide-Dependent Mechanisms in Early Sunitinib-Induced Hypertension. **J. Witte, M. Mühlbauer, D. Braun, A. Steinbach, R. Rettig, O. Grisk.** University of Greifswald, Germany.

A161 **716.9** Striking Differences in Urinary Uromodulin, Salt-Sensitive Hypertension and Proteinuria in Dahl SS vs. SS.BN1 Consomic Rats. **A.J. Polichnowski, R. Jones, J. Potter, S. Allen, C. Miles, R. Dykes, M. Duffourc, P. O'Connor.** East Tennessee State University and Augusta University.

A162 **716.10** Dual Gain and Loss of Cullin 3 Function Mediates Familial Hyperkalemic Hypertension. **R.J. Cornelius, C. Zhang, K.J. Erspamer, J.D. Singer, C-L. Yang, D.H. Ellison.** Oregon Health & Science University, Shanghai Jiao Tong University School of Medicine, People's Republic of China and Portland State University.

A163 **716.11** Elevated Superoxide Production in Response to Angiotensin II by Proximal Tubules of Rats Consuming a Moderately Enriched Fructose Diet. **A. Gonzalez-Vicente, N. Yang, A. Morris, J.L. Garvin.** Case Western Reserve University.

A164 **716.12** Kidney-Specific COP9 Signalosome (CSN) Deletion Mimics FHHt Effects on WNK/NCC Signaling. **R.J. Cornelius, C-L. Yang, D.H. Ellison.** Oregon Health & Science University.

A165 **716.13** Renal Mechanism for Regulation of Blood Pressure by the Circadian Clock Protein PER1. **L. G. Douma, M. Holzworth, K. Solocinski, K-Y. Cheng, S. Masten, I.J. Lynch, B.D. Cain, C.S. Wingo, M.L. Gumz.** University of Florida.

A166 **716.14** Linking Toll-Like Receptor 4, Gut Microbiota, and Doxycycline in the Hypertensive Kidney. **G. Weber, S. Pushpakumar, U. Sen.** University of Louisville.

A167 **716.15** Effects of Low Dose Ouabain on Blood Pressure: Role of Angiotensin II Type 1 Receptor (AT2R1). **D.L. Lee, S.J. Khundmiri.** Howard University.

A168 **716.16** High Fat Diet Increases Salt Sensitivity and Promotes Hypertension and Kidney Inflammation/Injury in Dahl Salt Sensitive Rats. **R. Fernandes, H. Garver, J.J. Harkema, J.J. Galligan, G.D. Fink, H. Xu.** Michigan State University.

A169 **716.17** Does T Cell Specific Knockdown of Estrogen Receptor-α Eliminate Premenopausal Protection from Angiotensin II-Induced Hypertension? **J. Uhlorn, N.A. Husband, M.J. Romero-Aleshire, D.P. Pollow, J.L. Uhrlaub, J. Nikolich-Zugich, H.L. Brooks.** University of Arizona.

A170 **716.18** Differential Responses in the Splenic $CD4^+$ T Cell Proteome Following Ang II-Induced Hypertension in Vcd-Treated Menopausal Mice. **N.A. Husband, C. Moffett, M.J. Romero-Aleshire, J.A. Uhlorn, J. Uhrlaub, N. Barker, F. Nunez, J. Nikolich-Zugich, P. Langlais, H.L. Brooks.** University of Arizona.

A171 **716.19** DJ-1 Protects Against Renal Mitochondrial Oxidative Stress and T Cell Infiltration. **C. De Miguel, W.C. Hamrick, L. Assico, P.A. Jose, S. Cuevas.** University of Alabama at Birmingham and The George Washington University.

A172 **716.20** Increased Susceptibility to Hypertensive Renal Disease in Spontaneously Hypertensive Rats Due to a Mutation in *STIM1*. **I.S. Dhande, S.C. Kneedler, Y. Zhu, M. Mamenko, M.J. Hicks, O. Pochynyuk, S.E. Wenderfer, M.C. Braun, P.A. Doris.** The University of Texas Health Science Center at Houston and Baylor College of Medicine.

717. MYOCARDIAL ISCHEMIA AND INFARCTION

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A173 **717.1** Reduced Arrhythmogenic Potential of Ventricular Paired Pacing During Myocardial Infarction. **P.M. Stein.** Ederstrom Enterprises.

A174 **717.2** Elevated Counts of Naïve and Memory B Cells Might Be Associated with the Severity of Myocardial Damage in the Setting of Acute Myocardial Infarction. **R. Feldtmann, A. Kümmel, E. Abdiu, B. Chamling, S. Groß, S.B. Felix, R. Busch, A. Strohbach.** University of Greifswald Medical School, Germany.

A175 **717.3** FTO Deficiency Reduces Infarct Size and Improves Heart Function After Acute Myocardial Infarction. **M. Wehmöller, S. Gorressen, D. Semmler, U. Rüther.** Heinrich-Heine University of Düsseldorf, Germany.

A176 **717.4** Effect of Membrane Sealing Copolymer Poloxamer188 on Cardiac Mitochondrial Subpopulations in a Porcine Model of Acute Myocardial Infarction. **K. Chandra Shekar, S. McKnite, T. Matsuura, M. Olocco, P. Sebastian, J. Bartos, M. Vuda, J. Rees, D. Yannopoulos.** University of Minnesota Twin Cities and University of Pennsylvania.

A177 **717.5** Treatment with Hyperbaric Oxygenation After 6 Hours of an Acute Myocardial Infarction in Rats. **V. Don Juan-Dominguez, E.C. Rios-Garcia, L.A. Gutierrez-Martinez, G. Guevara-Balcazar, M.C. Castillo-Hernandez.** Escuela Superior de Medicina and Instituto Politecnico Nacional, Mexico.

A178 **717.6** Effect of Hyperbaric Oxygen on the Rat Cardiomyocyte After 6 Hours of an Acute Myocardial Infarction. **L.A. Gutierrez-Martinez, V. Don Juan-Dominguez, A. Kormanovski-Kovzova, M.C. Castillo-Hernandez, G. Guevara-Balcazar.** Escuela Superior de Medicina and Instituto Politecnico Nacional, Mexico.

A179 **717.7** Circulating Cardiac miRNAs Distinguish Ischemic vs. Non-Ischemic Myocardial Injury in Swine. **K.M. Wong, M.J. Rodman, R.F. Young, C. Smith, J.M. Canty; Jr., B.R. Weil.** University at Buffalo and State University of New York.

A180 **717.8** Expression of Cardiac Troponin-T in Cardiac H9C2 Cells During Co-Culture with Mesenchymal Stem Cells. **R.A. Boomsma, J. Jousma.** Trinity Christian College and University of Chicago.

A181 **717.9** C1qbp, a Novel Cyclophilin-D Interacting Protein, Regulates Mitochondrial Permeability Transition and Injury in the Heart. **C.P. Baines, L. Alex, M. Gutierrez-Aguilar, P. Klutho.** University of Missouri

A182 **717.10** Effect of Shikonin on Cardiac Wound Healing in Mice. **A. Cai, Z. Cai.** Cardiovascular Research Laboratory LLC.

A183 **717.11** Day 1 Post-Myocardial Infarction Cardiac Macrophage Transcriptomic Signatures that Link to LV Infarct Wall Thinning. **A.J. Mouton, Y. Ma, K. DeLeon-Pennell, M. Garrett, M. Lindsey.** University of Mississippi Medical Center.

A184 **717.12** Myocardial Infarction (MI) Remodeling in Insulin Resistance Models: Goto Kakizaki and High Fat Diet Fed Rats. **C. Malfitano, T. Alba-Loureiro, W.M. Kuwabara, L.E. de Souza, P.M. Martins Dourado, M.C. Irigoyen, R. Curi.** Federal University of Lavras, Brazil, University of São Paulo, Brazil, Heart Institute, Brazil and Cruzeiro do Sul University, Brazil.

A185 **717.13** The Role of Myofibroblast Senescence in Arrhythmogenesis of the Aged Infarcted Heart. **B.C. Baggett, K. Murphy, Y. Cao, N. Turan, Y. Lu, J. Sedivy, G. Koren.** Brown University and Rhode Island Hospital.

A186 **717.14** Effects of Hyperglycemia on Remodeling of Acute Myocardial Infarction in Rats. **G.M. Ruiz, A.L. de Souza Junior, L.E. de Souza, K. De Angelis, R. Curi, M.C. Irigoyen, C. Malfitano.** Federal University of Lavras, Brazil, State University of Mato Grosso, Brazil, Heart Institute, Brazil, Federal University of São Paulo, Brazil and Cruzeiro do Sul University, Brazil.

A187 **717.15** Myocardial Hypersensitivity to Ischemic Injury Is Not Blocked by Clonidine or Propranolol in a Predator-Based Model of PTSD. **B.R. Rorabaugh, T. Stoops, R.M. Rose, B.A. Kohls, M.E. Heikkila, B.J. Hertenstein, K.L. Robinson, K.E. Mucher, M.R. Huntley, P.A. D'Alessio, P.R. Zoladz.** Ohio Northern University College of Pharmacy and Ohio Northern University.

A188 **717.16** Previously Exercise Training in Ovariectomized Rats Prevents Inflammatory Status of Myocardial Infarction by Vagal Tonus Increase. **O.M. Ruberti, E.M. de Paula, A.S. Souza, L.R. Viana, M.A. Delbin, B. Rodrigues.** Institute of Biology—UNICAMP, Brazil and Faculty of Physical Education—UNICAMP, Brazil.

A189 **717.17** The Association Between Suppressed Transformation of Fibroblasts to Myofibroblasts and Fibrolysis Induced by Copper Supplementation in Monkeys of Myocardial Ischemic Infarction. **Y. Xiao, Y. Liu, P. Han, Q. Luo, H. Wang, Y.J. Kang.** Regenerative Medicine Research Center and Sichuan University West China Hospital, People's Republic of China.

A190 **717.18** Urine Connectin/Titin Is Increased in Patients After Heart Surgery with Cardiopulmonary Bypass. **J. Tanihata, N. Nishioka, T. Inoue, K. Bando, S. Minamisawa.** The Jikei University School of Medicine, Japan.

A191 **717.19** Genetic Insufficiency of 12/15LOX in Mice-Facilitated Angiogenic Response Post-Myocardial Infarction. **M. Collier, G.V. Halade.** The University of Alabama at Birmingham.

A192 **717.20** Myocardial Ischemia/Reperfusion in Rats: Characterization of Cardiac Injuries. **A.C.M. Omoto, F.N. Gava, F.S. Fazan, C.A.A. Silva, H.B. Silva, C.R. Nappi, J.M. Parente, R.M. da Costa, H.C. Salgado, R. Fazan; Jr.** Ribeirão Preto Medical School, University of São Paulo, Brazil and University of Mississippi Medical Center.

A193 **717.21** The Role of Autophagy During Myocardial Ischemia/Reperfusion Injury. **A.C. Ibe, A. McIntyre, A. Kim, H. Kim, A. Castellano, L. Young, R. Barsotti, Q. Chen.** Philadelphia College of Osteopathic Medicine.

A194 **717.22** Characterization of Neuronal Discharge in the Thoracic Spinal Cord During Cardiac Stress in a Porcine Model. **E.A. Dale, J.P. Kipke, M.D. Sunshine, Y. Kubo, P.A. Castro, J.L. Ardell, A. Mahajan.** University of California, Los Angeles and University of Florida-Gainesville.

A195 **717.23** Cardioprotective Effects by a Novel Opioid Peptide in Myocardial Ischemia/Reperfusion Injury. **H. Kim, A. McIntyre, J. Woodley, A. Lopez, T. Dittakavi, M. Finnegan, K. Amuquandoh, M. Ambrosino, K. Walker, H. Patel, Q. Chen, R. Barsotti, L.H. Young.** Philadelphia College of Osteopathic Medicine.

A196 **717.24** Rapamycin Alters MicroRNA Signature Profile in Diabetic Rabbit Following Myocardial Ischemia Reperfusion Injury: A Preclinical Approach for Cardioprotection. **A. Samidurai, R. Ockaili, S.K. Roh, R.C. Kukreja, A. Das.** Virginia Commonwealth University.

A197 **717.25** Comparing the Efficacy of Pharmacological Preconditioning with Myristic Acid-Conjugated, Tat- Conjugated and Native Protein Kinase C Epsilon Peptide Activator in Myocardial Ischemia/Reperfusion (MI/R) Models. **A. McIntyre, H. Kim, M. Finnegan, K. Amuquandoh, Q. Chen, R. Barsotti, L. Young.** Philadelphia College of Osteopathic Medicine.

A198 **717.26** Inhibition of the RNA Binding Protein HuR Reduces Cardiac Cell Death Following Ischemia/Reperfusion Injury. **S. Slone, S.R. Anthony, L. Lanzillotta, M.L. Nieman, L.C. Green, J.N. Lorenz, M. Tranter.** University of Cincinnati.

A199 **717.27** Crosstalk Between Thyroid Hormone Signaling and β-Adrenergic Signaling in Myocardial Infarction. **K. Zhang, Y. Tang, Y. Zhang, K. Ojamaa, A.S. Saini, M.A. Carrillo-Sepulveda, A.M. Gerdes.** Fuwai Hospital, National Center for Cardiovascular Diseases of China, People's Republic of China and New York Institute of Technology College of Osteopathic Medicine.

718. INNATE AND ADAPTIVE IMMUNITY IN CARDIOVASCULAR PHYSIOLOGY (POSTERS)

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A200 **718.1** Regulatory Role of Sectm1a in Macrophages to Treat Diabetes-Induced Cardiac Dysfunction. **Y. Li, S. Deng, X. Wang, N. Robbins, X. Mu, K. Essandoh, J. Rubinstein, G-C. Fan.** University of Cincinnati.

A201 **718.2** Maresin-1 Activates Resolution Sensor and Improves Left Ventricle Function in Acute Heart Failure. **G.V. Halade, R. Travis, V. Kain, J.K. Jadapalli.** The University of Alabama at Birmingham

A202 **718.3** Endoplasmic Reticulum Stress Mediated Inflammation May Involve in Doxorubicin-Induced Cardiomyopathy. **A.K. Bagchi, V. Vashisht, G. Akolkar, P.K. Singal.** Institute of Cardiovascular Sciences, St. Boniface Hospital and Research Centre and Max Rady College of, Canada.

A203 **718.4** Knockdown of GPER in Cardiomyocytes Activates NLRP3 Pathways. **L. Groban, H. Wang, X. Sun, C.M. Ferrario.** Wake Forest School of Medicine.

A204 **718.5** CD8 T-Cells Have a Biphasic Role During Post-Myocardial Infarction Cardiac Remodeling. **K.Y. DeLeon-Pennell, M.L. Lindsey, E. Flynn, D.R. Menick.** University of Mississippi Medical Center and Medical University of South Carolina.

A205 **718.6** The Cardioprotective Effect of Breg Cells Induced by Methotrexate. **D. Brenes-Castro, E.C. Castillo, E. Vázquez-Garza, H. Chapoy-Villanueva, G. Torre-Amione, G. García-Rivas.** Tecnológico de Monterrey, Escuela de Medicina y Ciencias de la Salud and Medicina Cardiovascular, Mexico.

A206 **718.7** Intracardiac Tuberculoma in the Immunocompromised Population—a Review. **C. Nwora.** Texas Southern University.

A207 **718.8** Resuscitation Fluids Modulate Sterile Inflammation in a Rodent Model of Hemorrhagic Shock. **L.N. Torres, C.L. Salgado, M.A. Dubick, I.P. Torres Filho.** U.S. Army Institute of Surgical Research.

A208 **718.9** Leptin Restores Endothelial Function, Reduces Vascular Inflammation but Not Vascular Remodeling in Mouse Models of Congenital and Acquired Lipodystrophy via Anti-Oxidant Properties. **T. Bruder do Nascimento, J. Faulkner, W. Chen, E.J. Belin de Chantemèle.** Augusta University.

A209 **718.10** The NLRP3 Mediates the Recruitment of Lymphocytes in the Cavernosal Tissue and Erectile Function Impairment in DOCA/salt Mice. **R.S. Fais, F.L. Rodrigues, J.F. da Silva, R.C. Tostes, F.S. Carneiro.** Ribeirão Preto Medical School and University of São Paulo, Brazil.

A210 **718.11** Hypertension Induces an Exaggerated Immune Response by Increasing CD86 Expression on Antigen Presenting Cells. **T. Zhao, Y. Li, K.E. Bernstein, X. Z. Shen.** Zhejiang University, People's Republic of China and Cedars-Sinai Medical Center.

A211 **718.12** Neutrophil Depletion Influences Renal Outcomes in Male 129Svlm/J Mice with Chronic Angiotensin II Infusion. **K. Smith, H. Ter Harr, B. Browning, J.C. Gigliotti.** Liberty University.

A212 **718.13** Altered Immune Cell Programming in the Kidneys of Obese Dahl Salt-Sensitive Leptin Receptor Mutant Rats Prior to Puberty. **C.A. Shields, B. Poudel, K. McPherson, M. Garrett, J.M. Williams.** University of Mississippi Medical Center.

A213 **718.14** Aldosterone-Induced Hypertension Is T Lymphocyte-Dependent and Attenuated by Activation of the G Protein-Coupled Estrogen Receptor 1 **Q.N. Dinh, A. Vinh, H.A. Kim, H. Diep, B. Broughton, S. Chrissobolis, G. Drummond, C. Sobey.** La Trobe University, Australia, Monash University, Australia and Ohio Northern University.

A214 **718.15** A Crucial Role for Interleukin-18/IL-18R Signalling Axis in the Development of Renal Inflammation and Elevated Blood Pressure in 1 Kidney/DOCA/Salt-Induced Hypertension. **J.M. Thomas, Y.H. Ling, S. Murali Krishnan, D. Ferens, S. Masters, B. Kemp-Harper, A. Mansell, C. Sobey, A. Vinh, G. Drummond.** La Trobe University, Australia, Monash University, Australia, Walter and Eliza Hall Institute of Medical Research, Australia and Hudson Institute of Medical Research, Australia.

A215 **718.16** Direct Effects of High Sodium on Histone Deacetylases in RAW264.7 Macrophages. **P.A. Molina, C. De Miguel, L. Dunaway, J.S. Pollock.** University of Alabama at Birmingham.

A216 **718.17** High Salt Promotes Human Monocytes Activation in Vitro and in Vivo. **N. Ruggeri Barbaro, J.D. Foss, A. Alsouqi, R. Loperena, J. Van Beusecum, M. Ao, F. Elijovich, C.L. Laffer, W. Chen, A. Ikizler, D.G. Harrison, A. Kirabo.** Vanderbilt University.

A217 **718.18** The Role of Salt, Serum Glucocorticoid Kinase 1, and NADPH Oxidase in Salt-Sensitive Hypertension. **J.P. Van Beusecum, J. Foss, N.R. Barbaro, L. Xiao, D.G. Harrison, A. Kirabo.** Vanderbilt University Medical Center.

A218 **718.19** Isolevuglandin Peptide Modification and Proteasomal Processing Contribute to Autoimmune-Mediated Hypertension. **D.M. Patrick, L. Xiao, N.R. Barbaro, M. Ao, M.J. Ormseth, C.M. Stein, A. Kirabo, D.G. Harrison.** Vanderbilt University Medical Center.

719. DIABETES, INSULIN RESISTANCE AND OBESITY II

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A219 **719.1** High Fat Fed NR4A1 Knock out Mouse Has Significant Modulation of Mitochondrial Respiration Across Various Tissues. **A.G. Wynn, K.G. Garland, K.B. Kener, K.S. Weber, B.T. Bikman, C.R. Hancock, J.S. Tessem.** Brigham Young University.

A220 **719.2** Insulin Signaling Displayed a Differential Tissue Specific Response to Low Dose Dihydrotestosterone in Female Mice. **S. Andrisse, S. Wu.** Howard University College of Medicine and Johns Hopkins University School of Medicine.

A221 **719.3** Small Molecule Inhibition of Protein Phosphatase 2A *in Vivo* Does Not Disrupt Glucose Homeostasis in Mice. **J. Lee, L.P. Bharath, J-S. Kim, J. Cho, S-K. Park, T. Ruan, J.D. Symons.** University of Utah.

A222 **719.4** Central and Peripheral Body Fat Distribution on Insulin Resistance of Young Obese Women. **W.R.P. Lopes-Vicente, F.X. Cepeda, M.F. Hussid, L.V. Silva, C.R. Alves, J.R. De Moura, F.M. Consolim-Colombo, T. Tinucci, I.C. Trombetta.** Universidade Nove de Julho , Brazil, Heart Institute and University of São Paulo Medical School, Brazil.

A223 **719.5** Novel Organometallic Complex Prevents Metabolic Risk Factors in Male Adolescent Rats Consuming a High Fat Diet for 10 Weeks. **M.S. Crawford, W. Clark, K.L. Sweazea.** Arizona State University.

A224 **719.6** db/db Obese Mice Exhibit Enhanced Phosphorylation of p38, ERK1/2 and Akt in the Kidney. **M.Z. Haque, V. Kumar, I. Bettahi, S.S. Palaniyandi, M.S. Young, R.M. Mohammad, A.B. Abou Samra.** Hamad Medical Corporation, Qatar and Henry Ford Hospital.

A225 **719.7** High-Intensity Interval Exercise Decreases IP6K1 Muscle Contentand Improves Insulin Sensitivity (S_I^{2*}) in Pre-Diabetic Individuals. **J. Naufahu, B. Elliott, O. Ancu, F. Draicchio, A. Markiv, N.M. Hurren, D. Howard, P. Watt, R.W.A. Mackenzie.** University of Westminster, United Kingdom, University of Roehampton, United Kingdom, King's College, United Kingdom, Imperial NHS Trust Hospitals, United Kingdom and University of Brighton, United Kingdom.

A226 **719.8** High Glucose Induces Glucose Transporter-2 (GLUT2), but Not Na-Glucose Cotransporter-1 (SGLT1) Mediated Glucose Absorption. **N. Walton, R. Sun Rhodes, V.M. Rajendran, S.D. Coon.** Fort Peck Community College and West Virginia University.

A227 **719.9** The Beneficial Effects of Low-Dose Carbon Monoxide and Moderate Intensity Endurance Exercise on Metabolic and Skeletal Properties. **H.G. Gasier, T. Yu, M.R. Allen, J.M. Swift.** Uniformed Services University of the Health Sciences, Indiana University School of Medicine and Naval Medical Research Center.

A228 **719.10** DOC2B Enhanced Muscle Insulin Sensitivity by Interacting with Cytoskeletal Proteins. **J. Zhang.** City of Hope Beckman Research Institute.

A229 **719.11** The Effects of Metformin on Methylglyoxal-Induced Cardiomyocytes Cell Damage. **R. Sandhu, D. Lefkovitz, A. Kim, P. Wieczorek, R. Barsotti, L. Young, Q. Chen.** Philadelphia College of Osteopathic Medicine.

A230 **719.12** MPLA-Induced Endotoxin Tolerance Does Not Protect Against LPS Insulin Resistance. **K.E. Syring, N.A. Mignemi, E.R. Sherwood, O.P. McGuinness.** Vanderbilt University.

A231 **719.13** AT1 Receptor Blockade Improves Mitochondrial Activity in Insulin Resistant but Not Type II Diabetic Hearts. M.**A. Thorwald, R. Rodriguez, D. Nakano, A. Nishiyama, R. Ortiz.** University of California, Merced and Kagawa University Medical School, Japan.

A232 **719.14** TXNIP as a Mediator of Palmitic Acid-Induced Programmed Cell-Death in Cardiomyocytes. **K.M. D'Souza, C. Oh, W. Zhang, P.D. Reaven.** VA Medical Center.

A233 **719.15** Assay of Insulin-Stimulated Signaling by Flow Cytometry: Key Points of Regulation. **S. Melendy, B. Hetrick, C. McCurdy.** University of Oregon.

A234 **719.16** Inducible Heterozygous Knockout of PIK3R1 in Adipocytes Reverses Glucose Intolerance and Enhances Adipocyte Insulin Signaling in Obese Mice. **Z.S. Clayton, C.E. McCurdy.** University of Oregon.

A235 **719.17** Role of Reactive Oxygen Species in Gestational Diabetes and the Impact on the Developing Fetus. **D. Arriaga.** California State University and Los Angeles.

A236 **719.18** Effects of Extracellular Vesicles Released by Hypoxic Adipocytes in Insulin Action. **S. Mora, J. Mleczklo, F. Ortega, J.M. FernandezReal, J.M. Falcon-Perez.** University of Liverpool, United Kingdom, IDIBGI, Spain and CIC BIOGUNE, Spain.

A237 **719.19** A Butyrate and Niacin Supplemented Diet Reduces Corporal Fat Gain and Induces Severe Kidney Damage in a Murine Model (C57BL/6). **C. Plata, A. Reyes-Camacho, A.A. López-Barradas, V. Ramírez-González, L. Noriega, C. Cruz, N. Vázquez, G. Gamba, N. Torres, A. Tovar-Palacio.** Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico.

720. DIABETIC RENAL DISEASE

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 10:00 AM–12:00 PM

A238 **720.1** The Protective Role of TRPC6 Knockout in the Progression of Diabetic Nephropathy. **D. Spires, D.V. Ilatovskaya, V. Levchenko, O. Palygin, A. Staruschenko.** Medical College of Wisconsin and Medical University of South Carolina

A239 **720.2** ATP-Citrate Lyase Is an Epigenetic Regulator to Promote Nephropathy in Obesity and Type 2 Diabetes. **Y.C. Li, Y. Chen, D.K. Deb.** University of Chicago.

A240 **720.3** Renal Olfactory Receptor 1393 Contributes to the Progression of Diabetes. **B.D. Shepard, H. Koepsell, J.L. Pluznick.** Georgetown University, University of Würzburg, Germany and Johns Hopkins University School of Medicine.

A241 **720.4** Admixture Mapping of Diabetic Nephropathy Genetic Variants. **A.J. Melendez, J.C. Martinez, C. Winkler.** University of Puerto Rico at Mayaguez, Puerto Rico, National Cancer Institute and National Institutes of Health.

A242 **720.5** Undiagnosed Kidney Injury in Uninsured and Underinsured Diabetic African American Men and Putative Role of Meprin Metalloproteasses in Renal Pathology. **L. Cao, O.E. Jegede, S.H. Harrison, R.H. Newman, E.M. Ongeri.** North Carolina Agricultural and Technical State University and Cone Health

A243 **720.6** Inflammation and Kidney Injury in Diabetic African American Men. **L. Cao, A.M. Boston, O.E. Jegede, S.H. Harrison, R.H. Newman, E.M. Ongeri.** North Carolina Agricultural and Technical State University and Cone Health.

A244 **720.7** Metabolic Flux Analysis Reveals Effects of Fatty Acid Metabolism on the Urea Cycle in Diabetic Kidney Disease. **N.S. Jagannathan, J. Ching, J-P. Kovalik, L. Tucker-Kellogg.** National University of Singapore, Singapore.

721. RENAL HEMODYNAMICS AND GFR

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A245 **721.1** High-Resolution Optical Imaging of Synchronization in the Renal Circulation. **D. Postnov, D.J. Marsh, N-H. Holstein-Rathlou, W. Cupples, O. Sosnovtseva.** Boston University, Brown University, Copenhagen University, Denmark and Simon Fraser University, Canada.

A246 **721.2** An *in Situ* Kidney Slice Model for Studying Angiotensin II- and TrpC5-Mediated Calcium Signaling. **J. Schleifenbaum, G.W. Hennig, M.T. Nelson.** University of Vermont.

A247 **721.3** Interaction Between Angiotensin AT1 Receptors and Purinergic P2X Receptors in Regulating the Preglomerular Renal Microcirculation Under Elevated Angiotensin II and High Renal Perfusion Pressure Environments. **S. Kulthinee, W. Shao, M. Franco, L.G. Navar.** Tulane University and Instituto Nacional de Cardiología Ignacio Chávez, Mexico.

A248 **721.4** The Role of Renal Vascular Reactivity in the Development of Renal Dysfunction During the Phase of Compensated and Decompensated Congestive Heart Failure. **V. Kratky, L. Kopkan, J. Sadowski, L. Cervenka.** Institute for Clinical and Experimental Medicine, Czech Republic, Mossakowski Medical Research Centre and Polish Academy of Science, Poland.

A249 **721.5** Rho Kinase Inhibitors Are Involved in L-Type Voltage-Dependent Calcium Channel Pathway in Vascular Smooth Muscle Cells. **Z. Guan, J. Baty, S. Zhang, E.W. Inscho.** University of Alabama at Birmingham.

A250 **721.6** KIM-1 as a New Biomarker for Glomerular Hyperfiltration and Chronic Kidney Disease in Humanized Sickle Cell Disease Mice. **M. Kasztan, B.M. Fox, J.S. Speed, T.M. Townes, D.M. Pollock.** University of Alabama at Birmingham.

A251 **721.7** Renal V_{1a} Receptor Does Not Increase Na^+ Excretion in the Rat Isolated Kidney Perfused at Constant Pressure. **B. Lindstrom, S. Kalina, K. Wisniewski, R. Laporte.** Ferring Research Institute and Inc.

A252 **721.8** Renal Denervation Sensitizes Renal Resistance Arteries to L-Type Ca^{2+} Channel Activation. **O. Grisk, S. Pfannkuch, V. Veltum, J. Witte.** University of Greifswald, Germany.

A253 **721.9** Aging Impairs Renal Autoregulation. **J. Wei, J. Zhang, S. Jiang, L. Wang, R. Liu.** University of South Florida College of Medicine.

A254 **721.10** Down-Regulation of Gamma-Adducin Disrupts the Actin Cytoskeleton in FHH Rats and May Contribute to the Development of Hypertension-Induced Renal Injury. **S. Wang, O. Travis, X. He, F. Fan, R. Roman.** University of Mississippi Medical Center.

A255 **721.11** Renal Function and Integrity Are Preserved When Hydroxyethyl Starch Is Dosed to Acutely Restore Blood Pressure After Blood Loss in Rats. **R. Patel, Y. Fu, W. Huang, B. Freeman, S. Honndorf, V. Vallon.** University of California, San Diego and VA San Diego Healthcare System and Fresenius Kabi Deutschland GmbH, Germany.

A256 **721.12** Vasopressor Administration During Fluid Resuscitation Alters Renal Hemodynamics and Expression of Epigenetic Enzymes of Renal Artery in a Pig Model of Hemorrhagic Shock. **J.M. Piaggione, L-A.M. Murata, R. Laczko, C.F.T. Uyehara, D.H. Ho.** Tripler Army Medical Center.

A257 **721.13** The Influence of Connexin 45 on Renal Autoregulation. **S. Moller, J.C.B. Jacobsen, N-H. Holstein-Rathlou, C.M. Sorensen.** University of Copenhagen, Denmark.

A258 **721.14** Wnt Signaling Regulates Macula Densa Structure and Function. **U.N. Shroff, G. Gyarmati, A. Izuhara, A. Riquier-Brison, J. Peti-Peterdi.** University of Southern California.

A259 **721.15** Enhanced Hydrogen Peroxide and Renin Release in Primary Cultures of Juxtaglomerular (JG) Cells from Diabetic Mice. **M. Mendez.** Henry Ford Hospital.

A260 **721.16** Calcium Spark Activity Is Modulated by Perfusion Pressure in Vascular Smooth Muscle of Afferent Arterioles. **K-P. Yip, L. Balasuramanian, L. Wang, R. Liu, L. Ribeiro-Silva, J. Sham.** University of South Florida and Johns Hopkins University School of Medicine.

A261 **721.17** nNOS in Embryonic Kidney Contributes to Glomerular Maturation. **B. Der, G. Gyarmati, A. Riquier-Brison, U. Shroff, J. Peti-Peterdi.** Zilkha Neurogenetic Institute, Keck School of Medicine and University of Southern California.

A262 **721.18** Glomerular Endothelial Cell Calcium Dynamics Visualized in Vivo. **I.M. Schiessl, G. Gyarmati, J. Peti-Peterdi.** University of Southern California.

A263 **721.19** Mutant ACTN4 Alters the Distribution of Intracellular Stress Within Podocytes and Contributes to Their Mechanical Failure in Response to Stretch. **D. Feng, J. Notbohm, S. He, M. Wang, R. Krishnan, M. Pollak.** Beth Israel Deaconess Medical Center and Harvard Medical School, University of Wisconsin—Madison and Harvard T.H. Chan School of Public Health.

A264 **721.20** Protective Role of AMPK in Sepsis-Associated AKI. **Y. Li, E. Hall, H. Pham, P. Singh.** University of California and San Diego and VA San Diego Healthcare System.

A265 **721.21** Thin Limbs of Henle and Inner Medullary Collecting Ducts Are the Major Points of Flow Resistance Along the Renal Tubule. **G. Gilmer, V. Deshpande, J. Schnermann, M. Knepper.** National Heart, Lung, and Blood Institute, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases and National Institutes of Health.

A266 **721.22** Bowman's Capsule Corrected: Undiscovered Vascular Chambers in the Renal Glomerulus. **D.O. Bates, K.P. Arkill, J.S. Bell, C.P. Winlove, S.J. Harper, C.R. Neal.** University of Nottingham, United Kingdom, University of Exeter, United Kingdom and University of Bristol, United Kingdom.

722. VASCULAR RESPONSES TO EXERCISE AND ENVIROMENTAL STRESS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A267 **722.1** Countdown Before Voluntary Exercise Induces Muscle Vasodilation with Decreased Muscle Sympathetic Nerve Activity in Humans. **K. Manabe, S. Masuki, Y. Ogawa, K. Uchida, Y-I. Kamijo, Y. Kataoka, E. Sumiyoshi, T. Aida, H. Nose.** Shinshu University Graduate School of Medicine, Japan.

A268 **722.2** Carotid Baroreflex Responses to Simulated Hypotension Are Blunted During Passive Whole-Body Heat Stress in Young Women. **D. Allen, M. Huang, K. Lenz, U. Bezan Petric, D. Keller, S.L. Davis.** Southern Methodist University, The University of Texas Southwestern Medical Center and The University of Texas at Arlington.

A269 **722.3** The Influence of Heat Shock Protein 90 on Sweating and Cutaneous Vasodilation in Older Adults Exercising in the Heat. **G.W. McGarr, N. Fujii, K. Hatam, N. Chandran, G.P. Kenny.** University of Ottawa, Canada and University of Tsukuba, Japan.

A270 **722.4** Administration of Atrial Natriuretic Peptide Does Not Modulate Sweating or Cutaneous Vasodilation in Young Men Exercising in the Heat. **G.W. McGarr, N. Fujii, G.P. Kenny.** University of Ottawa, Canada and University of Tsukuba, Japan.

A271 **722.5** Predicting Cardiovascular Hemodynamics in Cold and Warm Environments at Rest with Skin and Core Temperature. **N.T. Beckett-Brown, S.C. Dorman, T. Merritt, D.D. Gagnon.** Laurentian University, Canada.

A272 **722.6** Discordant Vasomotor and Sudomotor Activity During Heat Stress in Persons with Spinal Cord Injury. **M. Trbovich, Y. Wu, D. Kellogg.** The University of Texas Health Science Center at San Antonio.

A273 **722.7** Thermoregulatory and Cardiovascular Adjustments to Acute Passive Heat Exposure in Low-Level Spinal Cord Injury. **E.A. Larson, B.R. Ely, M.A. Francisco, E.S. Wright, J.R. Halliwill, C.T. Minson.** University of Oregon.

A274 **722.8** Workplace Standing Desks and Arterial Stiffness. **I.M. Greenlund, P.E. Kimmes, M. Wang, J.J. Durocher.** Michigan Technological University.

A275 **722.9** No Effect of Head Up Tilt on Tumor Perfusion in a Rat Pre-Clinical Model of Prostate Cancer. **T. Rand, J. Pyle, D. Baumfalk, A. Opoku-Acheampong, T. Musch, B. Behnke.** Kansas State University.

A276 **722.10** Investigation of Early Effects of Combination of Mild Aerobic Exercise and Angiotensin-II Type-I Receptor Blocker Losartan on Aortic Function in a Mouse Model of Marfan Syndrome. **T. Alexander, B. Hoxha, N. Talley, E.L. Cameron, K. Cooper, T.L. Broderick, J. Vallejo-Elias, M. Esfandiarei.** Midwestern University.

A277 **722.11** From Rest to Stressed: Adults with Type 2 Diabetes Exhibit a Greater Exercise-Induced Increase in Arterial Stiffness and Vessel Hemodynamics. **A.B. Cooke, K. Dasgupta, S.S. Daskalopoulou.** McGill University, Canada.

A278 **722.12** The Effects of a High-Volume and High-Intensity Resistance Training Program on Arterial Stiffness. **T. Pellinger, T. Werner, N. Boutagy.** Salisbury University and Yale University.

A279 **722.13** The Effects of Sex and Histamine Receptor Blockade on Carotid Wave Intensity Before and After Exercise. **K.M. Melendez-Rosado, H. Yan.** University of Massachusetts Boston

A280 **722.14** Internal Carotid Blood Flow Responses to the Diving Response in Humans. **S.E. Alsalahi, J.P. Fisher.** University of Birmingham, United Kingdom.

A281 **722.15** Effects of Isolated Muscle Training on Vasomotor Response and Peripheral Blood Flow. **A.V. Bisconti, M. Venturelli, E. Cè, S. Longo, A. Fantauzzi, F. Esposito.** Università degli Studi di Milano, Italy and University of Verona, Italy.

A282 **722.16** Nitric Oxide and Sympatholysis in Rat Soleus Feed Arteries. **M. Whitaker, T. Heckle, J. Jasperse.** Pepperdine University.

A283 **722.17** Partitioning Key Determinants of Oxygen Consumption: Novel Insight from Dual Wavelength Diffuse Correlation Spectroscopy. **R. Rosenberry, C-G. Bangalore-Yagananda, S. Chung, M. Munson, W. Tucker, Y. Zhu, M.J. Haykowsky, F. Tian, M.D. Nelson.** The University of Texas at Arlington and The University of Texas Southwestern Medical Center.

A284 **722.18** Does Obesity Differentially Impact Male and Female Responses to Skeletal Muscle Vasodilation During Exercise? **K.J. Carter, J.M. Kellawan, A.T. Ward, R.E. Johansson, J.W. Harrell, G.L. Peltonen, C.J. Sauder, M.W. Eldridge, W.G. Schrage.** University of Wisconsin—Madison and University of Oklahoma.

A285 **722.19** Measurement of Nitric Oxide Bioavailability During Dynamic Handgrip Exercise in Women with Metabolic Syndrome. **K. Szych, A. Gomez, A. Rubio, S. Massey, A. Johnson, A. Gomez, S. Jackson, L. Juarez, J.M. Weaver, M.A. Barlow.** Eastern New Mexico University and University of New Mexico Health Sciences Center.

A286 **722.20** Five Nights of Sleep Restriction Attenuates Microvascular Endothelial Function. **D.H. Craighead, N.G. Nahmod, O.M. Buxton, A-M.M. Chang, L.M. Alexander.** Pennsylvania State University and Harvard T.H. Chan School of Public Health.

A287 **722.21** Seven Consecutive Days of Remote Ischemic Preconditioning Improved Cutaneous Vascular Reactivity Induced by Post Occlusive Reactive Hyperemia. **J. Kim, L. Vianna, W. Franke, J. Lang.** Iowa State University and University of Brasilia, Brazil.

A288 **722.22** Time Course of Antioxidant and Vascular Function in Rat Aortas Following Acute, Exhaustive Exercise. **M.C. Bucknor, T.H. Embry, D.D. Kling, J.T. Jackson, S. Kodali, M.B. Harris.** College of William and Mary.

A289 **722.23** Acute Exposure to Nano-TIO_2 Particles Causes Severe Endothelium-dependent Dysfunction in the Middle Cerebral Artery. **K.D. Branyan, E. DeVallance, A. Abukabda, K. Kelley, T.R. Nurkiewicz, P.D. Chantler.** West Virginia University.

A290 **722.24** NO/NOS-Dependent Modulation of Inflammation in Acrolein-Induced Vascular Toxicity. **T. Brown, M. Joseph, K. Ranganna, D. Xiao, M.A. Newaz, Z. Yousefipour.** Texas Southern University, Milton Academy and Chicago State University.

A291 **722.25** Racial Differences in Forearm Vascular Conductance Response During Dynamic Handgrip Exercise. **T.C. Barbosa, J. Kaur, B.Y. Stephens, J.D. Akins, R.M. Brothers, P.J. Fadel.** The University of Texas at Arlington.

A292 **722.26** Potential Effects of Sex on Vascular Dysfunction in Young Black Individuals. **J.D. Akins, J.C. Patik, B.M. Curtis, A. Nasirian, G. Olvera, P.J. Fadel, R.M. Brothers.** The University of Texas at Arlington.

A293 **722.27** Apocynin and Allopurinol Ameliorate Racial Differences in Cutaneous Microvascular Thermal Reactivity in Young Black Men but Not Black Women. **J.C. Patik, B.M. Curtis, J.D. Akins, A. Nasirian, G. Olvera, R.M. Brothers.** The University of Texas at Arlington.

A294 **722.28** Impact of Aerobic Capacity, Age and Duration of Disease on Arterial Function in Individuals with Multiple Sclerosis. **B.A. Hibner, G. Griffith, E.C. Schroeder, A.J. Rosenberg, T.I.M. Hilgenkamp, R.E. Bollaert, R.W. Motl, T. Baynard, B. Fernhall.** Integrative Physiology Laboratory, University of Illinois at Chicago, Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, UAB/Lakeshore Research Collaborative and University of Alabama at Birmingham.

A295 **722.29** Cerebrovascular Reactivity in Habitually Exercising Healthy Adults. **K.B. Miller, R.E. Harvey, A.J. Howery, M.L. Greisch, A.E. Carl, M.J. Joyner, J.N. Barnes.** University of Wisconsin—Madison and Mayo Clinic.

A296 **722.30** The Influence of Protease-Activated Receptor 2 Stimulation on Cutaneous Vascular and Sweating Responses During Exercise in the Heat in Older Males. **R.D. Meade, K. Hatam, N. Fujii, G.W. McGarr, P. Boulay, R.J. Sigal, G.P. Kenny.** University of Ottawa, Canada, University of Tsukuba, Japan, University of Sherbrooke, Canada and University of Calgary, Canada.

A297 **722.31** Effect of Chronic Lower Limb Heating on Cutaneous Microvascular Function in Aged Humans. **S.A. Romero, D. Gagnon, A. Adams, M. Jaffery, C.G. Crandall.** University of North Texas Health Science Center, Montreal Heart Institute, Université de Montréal, Canada, Institute for Exercise and Environmental Medicine, Texas Health Presbyterian Hospital Dallas and The University of Texas Southwestern Medical Center.

A298 **722.32** Vascular Function After Sauna Bathing in Healthy Older Adults. **H. Gravel, H. Barry, P.Y. Behzadi, D. Gagnon.** Montreal Heart Institute, Canada.

A299 **722.33** Passive Mobilization-Induced Vascular Function Adaptations in Bedridden Oldest-Old. **A. Pedrinolla, S. Pogliaghi, A. Colosio, E. Muti, E. Cè, S. Longo, F. Espositio, F. Schena, M. Venturelli.** University of Verona, Italy, Mazzali Fundation, Italy and University of Milan, Italy.

723. ERGOGENICS AND DETECTION

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A300 **723.1** Effect of Chronic Xenon Supplementation on Hematological Parameters, Cardiorespiratory Fitness, and Athletic Performance. **K.A. Dias, J.S. Lawley, C.M. Hearon; Jr., M. Hieda, S. Sarma, M. Hendrix, B.D. Levine.** Institute for Exercise and Environmental Medicine, Texas Health Presbyterian Hospital Dallas and The University of Texas Southwestern Medical Center.

A301 **723.2** Histamine-Receptor Antagonists Affect Endurance Exercise Performance in Highly Competitive Cyclists. **M.R. Ely, D.C. Sieck, J.E. Mangum, E.A. Larson, L.C. Brito, C.T. Minson, J.R. Halliwill.** University of Oregon and University of São Paulo, Brazil.

724. EXERCISE AND NUTRITION

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A302 **724.1** Western Diet (WD) and Ketogenic Diet (KD) Implication on Voluntary Wheel Running. **T.J. Kelty, G.N. Ruegsegger, K.B. Grigsbee, F.W. Booth.** University of Missouri.

A303 **724.2** Effects of the High Pressure Processed Rice Intake During Interval Walking Training on Glycemic Control and *nfkb2* Gene Methylation in Lifestyle-Related Disease Patients. **T. Aida, S. Masuki, K. Uchida, K. Manabe, M. Morikawa, M. Furihata, T. Fujita, H. Nose.** Shinshu University Graduate School of Medicine, Japan, Jukunen Taiikudaigaku Research Center, Japan and Shinshu University, Japan.

A304 **724.3** Effects of L-Citrulline on Blood Pressure Response to Exercise in Older and Younger Adults. **J.D. Ashley, J.M. Kellawan, J.U. Gonzales.** University of Oklahoma and Texas Tech University.

A305 **724.4** Evaluation of Dietary Intakes and Supplement Use in Elite Paralympic Athletes. **R.F. Madden, J. Shearer, J. Parnell.** University of Calgary, Canada and Mount Royal University, Canada.

A306 **724.5** Exploring Perception and Acceptance of Edible Insects as a Protein Source. **S.S. Atakan, B. Wansink.** Cornell University.

A307 **724.6** Milk Plus Carbohydrate Supplementation During Interval Walking Training Enhanced the Improvement of Blood Glucose and Blood Pressure Regulations in Older People. **K. Uchida, S. Masuki, M. Morikawa, M. Furihata, K. Manabe, Y. Ogawa, Y. Kataoka, T. Aida, S. Nakano, H. Nose.** Shinshu University Graduate School of Medicine, Japan.

A308 **724.7** The Effects of Acute and Chronic Beetroot Juice Supplementation on Exercise Economy and Time Trial Performance in Recreationally Active Females. **K.A. Wickham, D.G. McCarthy, D.T. Cervone, L.B. Verdijk, L.J.C. van Loon, L.L. Spriet.** University of Guelph , Canada and Maastricht University, Netherlands.

A309 **724.8** Short-Term Ingestion of Virgin Coconut Oil Improves Endothelial-Dependent Dilation but Not Exercise-Mediated Hyperemia in Healthy Young Adults. **S. Robinson, M.W. O'Brien, D. Kimmerly.** Dalhousie University, Canada.

A310 **724.9** Exercise and Tart Cherry Increase Antioxidant Capacity After High-Fat Meal Consumption. **K.R. Polley, R.B. Pegg, J.A. Cooper.** University of Georgia.

A311 **724.10** Weight Maintenance Diets Prevent Short-Term Physical Inactivity-Induced Glycemic Dysregulation in Young Healthy Subjects. **N.C. Winn, R. Pettit-Mee, L.K. Walsh, R.M. Restaino, S.T. Ready, J. Padilla, J.A. Kanaley.** University of Missouri.

A312 **724.11** The Impact of Chronic Omega-3 Polyunsaturated Fatty Acids Supplementation and Aerobic Training on Oxidative Stress Markers in Obese Women. **M.S. Koozehchian, A. Abdi, J. Mehrabani, M. Kaveh B., C.P. Earnest.** Jacksonville State University, Azad University, Iran, University of Guilan, Iran, Karnataka College of Pharmacy, India and Texas A&M University.

A313 **724.12** An Evaluation of the Effect of Inositol-Stabilized Arginine Silicate on Heart Rate and Blood Pressure. **S. Sylla, S. Perez Ojalvo, J. Komorowski.** Nutrition 21 and LLC.

A314 **724.13** Effect of Amlexin (*Acacia catechu* and *Morus alba*) on Redox Balance and Subjective Pain in Healthy Runners. **S.M. Talbott, J.A. Talbott, D. Hantla.** EQQIL and Treehouse Athletic Club.

A315 **724.14** Comparing Physical Activity Measurements of Wrist-Worn Accelerometer-Based Neofit Devices Among Different Locations. **S. Lee, K-S. Hong, N-H. Lee, S. Jeon, Y. Bae, M. Kang.** Texas A&M University—San Antonio, University of Virginia, Georgia Institute of Technology, MEDIPLUS SOLUTION, Republic of Korea and University of Mississippi.

725. NEURAL CONTROL OF THE CIRCULATION DURING EXERCISE

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A316 **725.1** Augmented Exercise Pressor Response During Static Handgrip in Women with PTSD. **J-K. Yoo, R.S. Parker, E.H. Anderson, M.B. Badrov, A.M. Suris, Q. Fu.** The University of Texas Southwestern Medical Center, Institute for Exercise and Environmental Medicine, Texas Health Presbyterian Hospital Dallas and VA North Texas Health Care System.

A317 **725.2** Oral Contraceptives Attenuate Metaboreflex in Young Women. **N. Asirvatham-Jeyaraj, D. Chantigian, M.L. Keller-Ross.** University of Minnesota.

A318 **725.3** The Effect of Acute High Phosphate Intake on Muscle Metaboreflex Activation in Young, Healthy Men. **B.Y. Stephens, J. Kaur, J.R. Vranish, T.C. Barbosa, A.L. Johnson, J.K. Blankenship, W. Vongpatanasin, S.A. Smith, P.J. Fadel.** The University of Texas at Arlington and The University of Texas Southwestern Medical Center.

A319 **725.4** Blocking Interleukin-6 Signal Pathway Attenuates Exaggerated Exercise Pressor Reflex in Rats with Femoral Artery Occlusion. **J. Lu, J. Xing, J. Li.** Pennsylvania State University and The First Hospital of Jilin University, People's Republic of China.

A320 **725.5** Mu Opioid Receptors Inhibit the Exercise Pressor Reflex by Closing N-Type Calcium Channels but Not by Opening GIRK in Rats. **J.A. Estrada, M.A. Kaufman.** Heart & Vascular Institute and Penn State College of Medicine.

A321 **725.6** Blood Pressure Responses to Hindlimb Arterial Bradykinin Injection Are Mediated by Bradykinin 2 Receptors in Decerebrate Rats. **K.S. Rollins, A.L. Butenas, E.A. Kempf, T.D. Hopkins, B.C. Sanderson, S.W. Copp.** Kansas State University.

A322 **725.7** Peripheral Damgo Decreases Group III and IV Afferents' Responses to Contraction in Rats Whose Femoral Arteries Are Occluded. **J.E. Harms, A.J. Stone, M.P. Kaufman.** Pennsylvania State University.

A323 **725.8** GsMTx4 Reduces the Pressor Response During Dynamic Hindlimb Muscle Stretch in Decerebrate Rats. **B.C. Sanderson, K.S. Rollins, E.A. Kempf, T.D. Hopkins, A.L. Butenas, C.J. Ade, S.W. Copp.** Kansas State University.

A324 **725.9** Inflammatory Cytokines and Biomarkers in Aging Type 2 Diabetic Rats. **H. Huo, M.L. Harrison, A-K. Grotle, J. Graham, K.L. Stanhope, P.J. Havel, A.J. Stone.** The University of Texas at Austin, University of California and Davis.

A325 **725.10** Type 2 Diabetic Rats Develop Exercise Pressor Reflex Dysfunction Over Time: New Insight into Aging with Diabetes. **A-K. Grotle, Y. Huo, M.L. Harrison, J. Graham, K.L. Stanhope, P.J. Havel, P.J. Fadel, A.J. Stone.** The University of Texas at Austin, University of California, Davis and The University of Texas at Arlington.

A326 **725.11** Does Treadmill Walking Affect Neurovascular Coupling During Cognitive Activation in Healthy Individuals? **M.E. Favre, S.B. Douglas, S.J. Wood, J.M. Serrador.** Rutgers University and Azusa Pacific University.

726. GETTING BLOOD TO WHERE IT NEEDS TO GO: EMERGING MECHANSISMS REGULATING SKELETAL MUSCLE BLOOD FLOW IN HEALTH AND DISEASE (POSTERS)

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A327 **726.1** Cardiovascular Responses to Dynamic Handgrip Exercise in Patients with Heart Failure with Preserved Ejection Fraction. **S.M. Ratchford, H.L. Clifton, D.T. La Salle, R.M. Broxterman, J.F. Lee, J.J. Ryan, R.S. Richardson, J.D. Trinity, D.W. Wray.** George E. Whalen VA Medical Center and University of Utah.

A328 **726.2** Effect of Increased Skeletal Muscle Temperature on Intramuscular Histamine Concentrations. **J. Mangum, D. Sieck, M. Ely, E. Larson, C. Minson, J. Halliwill.** University of Oregon.

A329 **726.3** Augmented Skeletal Muscle Vasodilation to Intravascular ATP During Exercise and Systemic Hypoxia in Humans. **J.D. Terwoord, M.L. Racine, C.M. Hearon; Jr., J.C. Richards, G.J. Luckasen, M.J. Joyner, F.A. Dinenno.** Colorado State University, University of Colorado Health and Mayo Clinic and Foundation.

A330 **726.4** ZEB1 Regulates Multiple Aspects of Endothelial Quiescence During Vascular Remodelling. **D.O. Bates, C.S. Fernandes, K. Yacqub Usman, J. Bourne, P. Collier, S. Ali, S. Kaira, S. Gregory, V. Pang, C. Allen, A.M. Grabowska, C. Denning, A.V. Benest.** University of Nottingham, United Kingdom.

A331 **726.5** Endothelium Mediated Dilation Does Not Blunt α_1-adrenergic Vasoconstriction in First Order Arterioles. **B.S. Ferguson, E. Kozina, M.A. Hill, P.S. Clifford.** University of Illinois at Chicago and University of Missouri.

A332 **726.6** Sustained Skeletal Muscle Blood Flow Elevations Following Prolonged Passive Leg Movement. **D.C. Sieck, M.R. Ely, J.E. Mangum, J.R. Halliwill.** University of Oregon.

A333 **726.7** Mechanisms of Age-Related Compensatory Vasodilation: Insight from Passive Leg Movement. **J.D. Trinity, R.M. Broxterman, J.R. Gifford, O.S. Kwon, J.R. Hydren, A.C. Kithas, A.D. Nelson, D.E. Morgan, J.E. Jessop, A. Bledsoe, R.S. Richardson.** Salt Lake City VA Medical Center and University of Utah.

A334 **726.8** Prolonged Leg Vasodilator Kinetics Across an Exercise Transient in Older Adults. **W.E. Hughes, N.T. Kruse, D.P. Casey.** University of Iowa.

727. INTERMITTENT HYPOXIA AND OXIDATIVE STRESS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A335 **727.1** Mild Intermittent Hypoxia Improves Cardiovascular and Neurocognitive Function in Obstructive Sleep Apnea Patients. **R.M. Alex, G.S. Panza, H-S. Lin, J.H. Mateika.** Wayne State University School of Medicine and John D. Dingell VA Medical Center.

A336 **727.2** Microbiota and Cardiorespiratory Control: Chronic Intermittent Hypoxia Related Cardio-Respiratory Dysfunction in Rat. **K.M. O'Connor, E.F. Lucking, G. Clarke, J.F. Cryan, K.D. O'Halloran.** University College Cork, Ireland.

A337 **727.3** Chronic Intermittent Hypoxia Enhances Respiratory Muscle Weakness in Dystrophin-Deficient *mdx* Mice. **D.P. Burns, D. Edge, K. Murphy, K.D. O'Halloran.** University College Cork, Ireland, Trinity Biomedical Sciences Institute and Trinity College Dublin, Ireland.

A338 **727.4** NADPH Oxidase 2 Knockout Prevents Chronic Intermittent Hypoxia Induced Sternohyoid Muscle Weakness in Adult Male Mice. **S.E. Drummond, D.P. Burns, V. Healy, K.D. O'Halloran.** University College Cork, Ireland.

A339 **727.5** Three Days of Chronic Intermittent Hypoxia Is Sufficient to Induce β_1-Adrenoceptor Dependent Increases in Left Ventricular Contractility. **E.F. Lucking, P. Dhaliwal, K.D. O'Halloran.** University College Cork, Ireland.

A340 **727.6** Role of Melanocortin-4 Receptor Activation in Hypertension Induced by Chronic Intermittent Hypoxia. **S.P. Maok, A.A. da Silva, J.E. Hall, J.M. do Carmo.** University of Mississippi Medical Center.

A341 **727.7** Duration Dependent Effects of Intermittent Hypoxia (IH) on Adult Hippocampal Neurogenesis. **T. Nallamothu, M.A. Khuu, A.J. Garcia.** University of Chicago.

A342 **727.8** A Role for Hypoxia-Inducible Factor 1-Alpha (HIF1A) Signaling in Suppressing Synaptic Plasticity and Spatial Memory During Intermittent Hypoxia. **C.U. Nwakudu, J. Barnard, M.A. Khuu, A.J. Garcia.** University of Chicago.

A343 **727.9** Chronic Intermittent Hypoxia Causes Cellular Hypoxia in the Hippocampus. **M.A. Khuu, T. Nallamothu, A.J. Garcia.** University of Chicago.

A344 **727.10** Remote Ischemic Conditioning in Rodents: Tourniquet vs. Cuff Occlusion. **Y.S.H. El Dabagh, S. Mohanakumar, M.K. Hagensen, M. Pedersen.** Aarhus University Hospital, Denmark.

728. CELLULAR RESPONSES TO HYPOXIA

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A345 **728.1** Intermittent Normobaric Hypoxic Training Protects the Brain by Regulating Microglia Phenotype. **A. Joshi, H. Han, S. Lewis, M-g. Ryou.** Tarleton State University.

729. PLACENTAL HYPOXIA AND ISCHEMIA

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A346 **729.1** Role of Sphingosine-1-Phosphate on Expression of MAPK and Akt Signaling Pathways in Hypoxic Human Extravillous Trophoblasts. **K.F. Swan, G. Pridjian, T. Swayze III, B.R. Gagen, S. Intapad.** Tulane School of Medicine.

A347 **729.2** Bromine Exposure in Pregnant Mice May Reduce VEGF Signaling via Increased Circulating VEGF Decoy Receptor sFlt-1. **J. Lambert, S. Aggarwal, D. Ford, R. Patel, T. Jilling, S. Matalon.** University of Alabama at Birmingham and Saint Louis University.

A348 **729.3** Alternative Administration Routes of a Biopolymer-Stabilized VEGF Chimera to Optimize Therapeutic Efficacy in Treating a Rodent Model of Placental Ischemia. **O.C. Logue, F. Madhi, E.M. George, G.L. Bidwell.** University of Mississippi Medical Center.

A349 **729.4** Depletion of B1 and B2 Lymphocytes in Placental Ischemia-Induced Hypertension in the Rat. **C.F. Laule, E.J. Odean, C.R. Wing, J.S. Gilbert, S.D. Fleming, J.F. Regal.** University of Minnesota Medical School, Duluth Campus, Division of Biology and Kansas State University.

A350 **729.5** Progesterone Induced Blocking Factor Improves Fetal Growth Restriction Possibly by Reducing Inflammation and Placental Cytolytic NK Cells in Response to Placental Ischemia During Pregnancy. **L.M. Amaral, J.N. Cottrell, D.C. Cornelius, M.W. Cunningham; Jr., T. Ibrahim, B. LaMarca.** University of Mississippi Medical Center.

A351 **729.6** Placental Ischemia-Stimulated T_h17 Cells Induce Preeclampsia-Associated Cytolytic Natural Killer Cells During Pregnancy. **D.C. Cornelius, C.A. Shields, M. McCalmon, D.L. White, T. Ibrahim, B. LaMarca.** University of Mississippi Medical Center.

A352 **729.7** The Role of Mitochondrial Oxidative Stress in the Pathophysiology of Preeclampsia. **V.R. Vaka, K. McMaster, T. Ibrahim, D. Cornelius, L. Amaral, K. Wallace, B. LaMarca.** University of Mississippi Medical Center.

A353 **729.8** Placental Ischemia-Induced Hypertension Is Abolished by Adrenergic Receptor Blockade. **F.T. Spradley.** University of Mississippi Medical Center.

A354 **729.9** Soluble Guanylate Cyclase Stimulators and Activators Attenuate Placental Production of sFlt-1. **B.A. Bakrania, A.B. Travis, J.P. Granger.** University of Mississippi Medical Center.

730. DIFFERENCES IN AUTONOMIC REGULATION IN AGING OR SEX

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A355 **730.1** Differences in Autonomic Recovery Following Maximal Resistance Exercise in Young and Older Adults. **E.C. Schroeder, A.J. Rosenberg, G. Grigoriadis, S.O. Wee, B. Fernhall, T. Baynard.** University of Illinois at Chicago, California State University and San Bernardino.

A356 **730.2** Muscle Metaboreflex Modulation of Spontaneous Cardiac Baroreflex Sensitivity: Does Sex Matter? **M. Samora, A.L. Teixeira, J.L. Sabino-Carvalho, L.C. Vianna.** University of Brasília, Brazil.

A357 **730.3** Stellate Ganglion Transcriptomics in Mice Reveal Sex Differences. **R. Bayles, S.S. Fei, L. Gao, B. Habecker.** Oregon Health & Science University.

A358 **730.4** Sex Differences in the Contribution of Sensory Nerves to Rapid Cutaneous Vasodilation During Local Heating in Young Humans. **Z.T. Martin, K.M. Soave, A.T. Del Pozzi.** Ball State University.

A359 **730.5** Sleep Deprivation and Sympathetic Neural Control in Older Adults. **I.T. Fonkoue, I.M. Greenlund, C.E. Schwartz, C.A. Smoot, B. Mokhlesi, J.R. Carter.** Michigan Technological University and University of Chicago.

A360 **730.6** The Effects of Oral Contraceptive Use on Ergoreflex Control of Blood Pressure and Heart Rate During Steady-State Cycling in Healthy, Young Women. **D. Chantigian, N. Asirvatham-Jeyraj, M. Keller-Ross.** University of Minnesota.

A361 **730.7** Elevated PBMC-Derived Oxidative Stress in Healthy Young African American Women. **A.L. Johnson, J.R. Vranish, J. Kaur, X. Liu, J.K. Blankenship, Z. Pan, P.J. Fadel.** The University of Texas at Arlington.

731. AUTONOMIC BALANCE: SYMPATHETIC AND PARASYMPATHETIC

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A362 **731.1** Diet Associated with Exercise Training Improves Heart Rate Recovery and Autonomic Control in Metabolic Syndrome Subjects. **F.X. Cepeda, S. Rodrigues, A.C.B. Dutra-Marques, E. Toschi-Dias, J.C. Carvalho, G.L. Carvalho, M.U.P.B. Rondon, M.J.N.N. Alves, I.C. Trombetta.** Heart Institute, University of São Paulo Medical School, Brazil, School of Physical Education and Sports, University of São Paulo, Brazil and Universidade Nove de Julho , Brazil.

A363 **731.2** Progressive Face Cooling Does Not Reveal a Critical Temperature Eliciting Elevations in Cardiac Parasympathetic Activity. **M.M. Mcbryde, M.C. O'Leary, J. Sackett, C.L. Chapman, Z.J. Schlader, B.D. Johnson.** University at Buffalo and State University of New York.

A364 **731.3** Mozart's and Bach's Music Yielded Little Relaxation Effect as Indicated HR, BP, and Autonomic Nervous Activity. **J. Hoshi, H. Yang, X. Sun, H. Tanno, E. Kanno, R. Maruyama.** Tohoku University Graduate School of Medicine, Japan.

A365 **731.4** The Effects of Subconcussive Impacts on Heart Rate Variability in Female Youth Soccer Players. **M. Bonn, A. Harriss, J.P. Dickey.** Western University, Canada.

A366 **731.5** Autonomic Function and Blood Pressure in Adolescents Born Preterm. **R. Harradine, K. Haraldsdottir, D. Pegelow, K. Goss, A. Watson, M. Eldridge.** University of Wisconsin—Madison.

A367 **731.6** Influence of Liposome Encapsulated Vitamin C on the Cardiac Autonomic Response to a High-Calorie Meal. **C. Bell, M.R. Hanson, J.R. Fleck, N.C. Grimm.** Colorado State University.

732. CENTRAL REGULATION OF AUTONOMIC CONTROL: HYPOTHALAMUS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A368 **732.1** Blockade of Glutamate Receptors Abolishes the Sensitization of the Angiotensin II-Elicited Hypertensive Response in Rats. **B. Xue, T.G. Beltz, F. Guo, A.K. Johnson.** University of Iowa.

A369 **732.2** AT1AR Dependent GABAA Inhibition in the MnPO Following Chronic Intermittent Hypoxia. **G.E. Farmer, J.T. Little, A.B. Marciante, J.T. Cunningham.** University of North Texas Health Science Center.

A370 **732.3** Epidermal Growth Factor Receptor in the Hypothalamic Paraventricular Nucleus Contributes to Tumor Necrosis Factor-α-Induced Sympathetic Excitation in Rat. **S-G. Wei, Y. Yu, R.B. Felder.** University of Iowa Carver College of Medicine.

A371 **732.4** $\alpha 2\delta$-1 Is Essential for Angiotensin II-Induced Sympathoexcitation and NMDA Receptor Hyperactivity in the Hypothalamus. **H. Ma, S-R. Chen, H. Chen, J-J. Zhou, D-P. Li, H-L. Pan.** The University of Texas MD Anderson Cancer Center.

A372 **732.5** Kinin B1 Receptor Knockdown Prevents DOCA-Salt Hypertension by Modulating Mitochondrial Oxidative Stress in the Brain. **S. Sriramula.** Brody School of Medicine and East Carolina University.

A373 **732.6** CVS Role of TRPV: From Single Channels to HRV Assessment. **F. O'Brien, R. Barrett-Jolley.** University of Liverpool, United Kingdom.

A374 **732.7** Tonic Glutamate Neurotransmission by Nmda Receptors in Paraventricular Nucleus Is Increased in Conscious Rats Induced to 6-OHDA Parkinsonism. **M.C. Martins-Pinge, E.D.T. Amorim, A.T. Rodrigues, D. Ariza, C.C. Crestani.** State University of Londrina, Brazil and São Paulo State University, Brazil.

A375 **732.8** Role of Suppressor of Cytokine Signaling 3 (SOCS3) in Pomc Neurons in Metabolic and Cardiovascular Regulation During Chronic Leptin Infusion. **Z. Wang, S.P. Moak, J.M. do Carmo, K.C. Bailey, J.E. Hall.** University of Mississippi Medical Center.

A376 **732.9** Ectonucleotidases in the Hypothalamus of Salt-Induced Hypertensive Rats: Transcriptional Profile and Functional Implications. **R.W.M. Sá, N. Ribeiro, L.M. Ribeiro, J.M. Mendonça, K.M. Santos, V.R. Antunes.** University of São Paulo, Brazil.

A377 **732.10** Arcuate Nucleus Angiotensin II Increases Arterial Pressure and Sympathetic Nerve Activity in Part via Inhibition of Neuropeptide Y Projections to the Hypothalamic Paraventricular Nucleus. **Z. Shi, V.L. Brooks.** Oregon Health & Science University.

A378 **732.11** Functional Interaction Between Nmda Receptors and Sk Channels in Hypothalamic Magnocellular Neurons: Role in Heart Failure. **H. Candido Ferreira-Neto, J.E. Stern.** Georgia State University.

A379 **732.12** Hypothalamic Paraventricular Nucleus Angiotensin II-Mediated Microglial Activation Through AT1R-TLR4 Crosstalk in Neurogenic Hypertension. **F.E. Mowry, M.A. Silva-Cutini, S.C. Peaden, D.D. Schwartz, V.C. Biancardi.** Auburn University.

A380 **732.13** Norepinephrine Increases Cytosolic Ca^{2+} in Neurons of the Paraventricular Nucleus of the Hypothalamus. **W.J. Milanick, H.A. Dantzler, L. Polo-Parada, D.D. Kline.** University of Missouri.

A381 **732.14** Norepinephrine Modulation of Parvocellular Neurons of the Hypothalamic Paraventricular Nucleus (PVN) During Normoxia and Chronic Intermittent Hypoxia. **G.D. da Silva Souza, D. Kline.** University of Missouri.

A382 **732.15** Bdnf Downregulates Adrenergic B-Receptor-Mediated Hypotensive Mechanisms in the Paraventricular Nucleus of the Hypothalamus (PVN). **D. Thorsdottir, N.C. Cruickshank, Z.D. Einwag, R. Dutko, B. Erdos.** University of Vermont.

733. CENTRAL REGULATION OF AUTONOMIC CONTROL: BRAIN STEM

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A383 **733.1** Effects of Recurrent Hypoglycaemia on the Activation of Insulin-Responsive Medullary and Spinal Neurons Controlling Adrenaline Release. **I.J. Llewellyn-Smith, M. Senthilkumaran, A.J.M. Verberne, L. Bobrovskaya.** Flinders University, Australia, University of Melbourne, Australia and University of South Australia, Australia.

A384 **733.2** The Vagal Response to Dopamine Is Altered in a Model of Parkinsonism. **C. Bove, L. Anselmi, R.A. Travagli.** Pennsylvania State University.

A385 **733.3** Second Hand Smoke Exposure Depresses Neuronal Excitability and Enhances 4-AP Sensitive Channel Function of Cardiac Vagal Neurons in the Nucleus Ambiguus. **J-Q. Sun, S-Y. Pan, E. Karey, C-Y. Chen.** University of California and Davis.

A386 **733.4** The Response of Vagal Motoneurons to Brainstem Oxytocin Stimulation Depends on Sex and Stress Levels. **Y. Jiang, J. Zimmermann, R.A. Travagli.** Pennsylvania State University.

734. CENTRAL REGULATION OF AUTONOMIC CONTROL: CNS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A387 **734.1** Brain-Heart Coupling Response During Auditory Startle. **X. Wang, Y. Luan, S. Dang, M. Li, J. Zhang.** Xi'an Jiaotong University, People's Republic of China.

A388 **734.2** A Novel Role of the Descending Analgesia System in the Regulation of Vagal Reflexes. **A. McGovern, N. Kerr, M. Farrell, S. Mazzone.** University of Melbourne, Australia and Monash University, Australia.

A389 **734.3** 'Identifying Brain Networks Controlling Micturition and Continence in Mouse'. **A.M.J. Verstegen, N. Klymko, J.C. Geerling, J. Mathai, V.G. VanderHorst, P.M. Fuller, M.L. Zeidel.** Beth Israel Deaconess Medical Center and University of Iowa Hospitals and Clinics.

A390 **734.4** Hippocampal CA1 Neuronal and Sympathetic Nerve Activities in Response to Restraint Water-Immersion Stress in Conscious Rats. **K. Nagao, H. Ukita, M. Yoshimoto, K. Miki.** Nara Women's University, Japan.

A391 **734.5** Blockade of Central Angiotensin II AT1 Receptors Attenuates Acute Intermittent Hypoxia-Induced Sympathetic Long-Term Facilitation (S-LTF). **C. Gusson Shimoura, M.A. Andrade, G.M. Toney.** The University of Texas Health Science Center at San Antonio.

A392 **734.6** Ionotropic Glutamate Receptors in the Paraventricular Nucleus (PVN) Are Required to Trigger, but Not Sustain, Sympathoexcitation by TNF Alpha. **A.A. Mourao, C.G. Shimoura, G.R. Pedrino, G.M. Toney.** The University of Texas Health Science Center at San Antonio and Federal University of Goias, Brazil.

735. INFLAMMATION AND AUTONOMIC REGULATION

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A393 **735.1** CCL2-CCR2 Signalling in the Hypothalamic Paraventricular Nucleus Elicits Sympathetic-Mediated Blood Pressure Elevations Through Monocyte and Lymphocyte Recruitment. **K. Elsaafien, W.S. Korim, C.N. May, S.T. Yao.** The Florey Institute of Neuroscience and Mental Health, Australia.

A394 **735.2** Central Fractalkine Induces Systemic Inflammation Independently of Hypothalamic Prostaglandin. E2 **C.M.D. Mota, M.J.A. da Rocha, J. Antunes-Rodrigues, L.G.D.S. Branco.** Ribeirão Preto Medical School, University of São Paulo, Brazil and University of Sao Paulo, Brazil.

A395 **735.3** Chronic Effects of Inflammatory Cytokines on the Protein Expression of Voltage-Gated Potassium Channels in a Dorsal Root Ganglion Cell Line. **J. Hong, R.J. Adam, Z. Xia, G.J. Rozanski, I.H. Zuker, H. Wang.** University of Nebraska Medical Center.

A396 **735.4** Effects of Neurogenic CGRP on Renal Afferent Peptidergic Neurons. **K. Rodionova, G. Raschke, T. Ditting, M. Hindermann, C. Ott, R. Schmieder, K. Amann, R. Veelken.** University of Erlangen-Nuremberg, Germany.

736. SYMPATHETIC ACTIVATION IN KIDNEY DISEASE

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A397 **736.1** Angiotensin II Acts in the Hypothalamic Paraventricular Nucleus to Differentially Regulate Blood Pressure and Sympathetic Nerve Activity in a Rodent Model of Polycystic Kidney Disease. **C.F. Underwood, A.A. Rahman, J.K. Phillips, C.M. Hildreth.** Macquarie University, Australia.

A398 **736.2** Renal Sympathetic Nerves and Inflammation in Hypertension: Assessing Temporal Renal Inflammation Responses to Renal Denervation by Urinary Cytokine Excretion in the DOCA-Salt Rat. **C.T. Banek, J.W. Osborn.** University of Minnesota.

A399 **736.3** Augmented Vascular α_1-Adrenergic Receptor Sensitivity in Humans with Chronic Kidney Disease. **D.G. Morison, Y. Li, I. Fonkoue, M. Kankam, D. DaCosta, D. Rapista, R.M. Downey, J. Park.** Emory University School of Medicine and Emory University

A400 **736.4** Splenic 6-Hydroxydopamine Worsens Renal Inflammation and Injury in a Murine Model of Systemic Lupus Erythematosus. **G.S. Pham, B. Osazuwa, O. Thomas, S.S. Vedantam, D.L. Fancher, K.W. Mathis.** University of North Texas Health Science Center, Texas Southern University and Texas Christian University.

737. PSYCHOLOGICAL STRESS DISORDERS: NOVEL CONCEPTS AND MECHANISMS (POSTERS)

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A401 **737.1** Redox-Driven Lymphocyte Inflammation Sensitizes Mice to Psychological Stress-Mediated Hypertension. **A.J. Case, C.W. Collins, A.J. Kohl, C.M. Moshfegh, S. Elkhatib.** University of Nebraska Medical Center.

A402 **737.2** Centrally Administered Ang-(1-7) via Mas Receptors Reverses Psychosocial Stress-Induced Cardiovascular Responses in Mice with Muscular Dystrophy. **L. Yang, H.W. Pang, R.C. Speth, N. Narayanan, R.M. Weiss, R. Sabharwal.** University of Iowa and Nova Southeastern University.

A403 **737.3** Effects of Device-Guided Slow Breathing on Hemodynamics in Pre-Hypertensive Post-Traumatic Stress Disorder Patients. **J. Kang, I.T. Fonkoue, M. Kankam, D. DaCosta, J. Park.** Emory University School of Medicine.

A404 **737.4** Extinction of Blood Pressure and Heart Rate Responses to Conditioned Fear. **A.P. Swiercz, J. Park, C.N. Young, P.J. Marvar.** The George Washington University and Emory University School of Medicine and Atlanta VA Medical Center.

A405 **737.5** Self-Reported Everyday Psychosocial Stressors Are Associated with Greater Impairments in Endothelial Function in Young Adults with Major Depressive Disorder. **J.L. Greaney, R.E. Koffer, E.F. Saunders, D.M. Almeida, L.M. Alexander.** Pennsylvania State University.

A406 **737.6** T Cell Inhibition During Pregnancy Prevents Post-Partum Anxiety-Like Behavior in Rats with a History of Severe Preeclampsia/HELLP Syndrome. **K. Wallace, T. Bowles, S-K. Spencer, C. Bean.** University of Mississippi Medical Center.

A407 **737.7** Stress Dampening and Anxiolytic Effects of Overexpressing Angiotensin Converting Enzyme 2 in Female Mice. **K.M. Cahill, A.R. Alleyne, M.D. Smeltzer, M.K. Raizada, A.D. de Kloet, E.G. Krause.** University of Florida.

A408 **737.8** Prehypertension Augments Autonomic Imbalance in Post-Traumatic Stress Disorder (PTSD). **I.T. Fonkoue, J. Kang, P. Marvar, J. Park.** Emory University and George Washington University.

A409 **737.9** Differences in Excitatory and Inhibitory Balance Within the Paraventricular Nucleus Reflects Response Variability to Acute Stress. **M.M. Knuepfer, H. Zheng, N.B. Hoffman-Schepers, N.M. Sharma, K.P. Patel.** St. Louis University School of Medicine and University of Nebraska Medical Center.

A410 **737.10** Knockdown of Corticotropin Releasing Hormone Receptor 1 (CRF1) in the Rostral Peri-Cellular Region of the Locus Coeruleus (LC) Normalizes Anxiety-Like Behavior in Female Rats Subjected to Coronary Ischemia and Reperfusion (IR). **K.E. Scrogin, M. Ordonez, M. Bollnow, C. Reed.** Loyola University Chicago.

A411 **737.11** Activation of Angiotensin Type 2 Receptor (AT_2R) Contributes to Fear Memory. **Z. Yu, A.P. Swiercz, L. Hopkins, E.G. Krause, P.J. Marvar.** George Washington University and University of Florida.

A412 **737.12** Intense Fear Induces Low-Frequency Oscillation of Cerebral Blood Flow, Arterial Pressure, and Sympathetic Nerve Activity in Conscious Rats. **K. Miki, Y. Akiyama, H. Ukita, K. Nagao, S. Kataoka, M. Yoshimoto.** Nara Women's University, Japan.

738. ASTROCYTE AND NEUROGLIAL INTERACTIONS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A413 **738.1** Thrombin Action on NST Astrocytes Disrupts Glycemic and Respiratory Control. **G.E. Hermann, R.C. Rogers.** Pennington Biomedical Research Center.

A414 **738.2** Glucoprivic Sensitivity of Hindbrain Catecholamine Neurons Is Astrocyte-Dependent. **R.C. Rogers, D. McDougal, S. Ritter, E. Qualls-Creekmore, G.E. Hermann.** Pennington Biomedical Research Center and Washington State University

A415 **738.3** Alterations in the Endocannabinoid System in Astrocytes Related to Commercial Sweetener Intake. **M. Aguirre-Fuerte, I. Contreras, J.A. Estrada.** Universidad Autonoma del Estado de Mexico, Mexico.

A416 **738.4** Placental Ischemia Leads to Regional Astrocyte Activation: Role of TNFα. **A.B. Giambrone, Q. Shao, J.P. Warrington.** University of Mississippi Medical Center.

739. BRAIN DEVELOPMENT AND AGING

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 10:00 AM–12:00 PM

A417 **739.1** The Role of MicroRNA-195 in Age-Dependent Impairment of Cognitive Function. **J.Y. Chan, Y-M. Chao, S-H. Juo.** Kaohsiung Chang Gung Memorial Hospital, Taiwan and China Medical University, Taiwan.

A418 **739.2** Differential Consequences of Early SSRI Exposure Upon the Developing Nervous System of *Xenopus laevis*. **K. Liu, C. Aizenman.** Brown University.

A419 **739.3** Isolation Stress During the Adolescence Exacerbates the Locomotor Activity Effects of Cocaine in Rats. **E.U. Perez-Cardona, C. Rivero, J. Freire, N. Ortiz, G. Sacarello, I. Santiago, R. Torres, A. Mendez, A. Diaz, E. Rodriguez, A. Segarra.** University of Puerto Rico, Medical Sciences Campus, University of Puerto Rico, Rio Piedras Campus, University of Puerto Rico, Humacao Campus, Inter American University of Puerto Rico and University of Puerto Rico at Mayaguez.

A420 **739.4** Exercise Training Protects Against Aging-Induced Cognitive Dysfunction via Activation of Hippocampal PGC-1α/FNDC5/BDNF Pathway. **M. Belviranli, N. Okudan.** Selcuk University Faculty of Medicine, Turkey.

A421 **739.5** Evaluation of the Cognitive Functions of Rat Pulps and Mothers Exposed to Environmental Enrichment, Exercise Training or Social Isolation Before and During Pregnancy. **N. Okudan, M. Belviranli.** Selcuk University Faculty of Medicine, Turkey.

740. NEUROINFLAMMATION/NEUROPROTECTION AND ISCHEMIA

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 10:00 AM–12:00 PM

A422 **740.1** Human Placental Derived Stem Cells Protection in Stroke Injury. **S.G. Cananzi, M. Barzegar, Y. Wang, A. Minegar, C. Boyer, K. Knowles, J.S. Alexander.** Louisiana State University Health Sciences Center—Shreveport.

A423 **740.2** The Caffeine Effects on Rotenone-Induced Parkinson's Disease Model *in Vitro* and *in Vivo*. **T-H. Liu, C-L. Luo, B. Huang, T-S. Lu, Y-S. Fu.** Kaohsiung Medical University, Taiwan and Brigham and Women's Hospital and Harvard Medical School.

A424 **740.3** Analysis of the Antioxidant Enzyme-Mimetic Activity and Neuroprotective Effects of Cerium Oxide Nanoparticles Stabilized with Varying Ratios of Citric Acid and EDTA. **A.Y. Estevez, Y. Boateng, J. Lipps, B. Stadler, J.S. Erlichman.** St. Lawrence University and Cerion.

A425 **740.4** Selective Degradation of BET Proteins with dBET1 Attenuates Lipopolysaccharide-Induced Pro-Inflammatory Response in Microglia. **C.I. Castro-Rivera, C.C. Yang, K.M. DeMars, E.C. Candelario-Jalil.** University of Puerto Rico at Mayaguez, Puerto Rico and University of Florida.

A426 **740.5** Effects of Aerobic Exercise on Isoproterenol-Induced Cardiac Damaged Rats Associated with Brain Functions. **K. Toth, C. Nyakas, E.A. van der Zee, R.G. Schoemaker.** University of Physical Education, Hungary, Eszterhazy Karoly University, Hungary and University of Groningen, Netherlands.

A427 **740.6** Acute Exercise and Brain BACE1 Protein Content: A Time Course Study. **A.J. Yang, G.C. Hayward, R.E.K. MacPherson.** Brock University, Canada.

A428 **740.7** Differential Subregional Hippocampal Expression Patterns of MicroRNA-338 and Downstream Target INSM1 Following Global Cerebral Ischemia. **B.B. Griffiths, Y-B. Ouyang, R. Giffard, C. Stary.** Stanford University.

A429 **740.8** MicroRNA-181a Mediates Neuronal Differentiation and Modulates Microtubule Stability. **A.N. Rao, C. Stary.** Stanford University.

A430 **740.9** Influences of Ethanol on Inflammation and Apoptosis Following Transient Focal Cerebral Ischemia. **C. Li, G. Xu, A.L. Parsiola, J. Li, K.D. McCarter, H. Sun.** Louisiana State University Health Sciences Center—Shreveport.

A431 **740.10** Effect of High Fat High Fructose Diet on Peripheral Immune Cell Trafficking into the Brain in CCR2 Mouse Model. **L.J. Sniffen, L.N. Eidson, M.K. Herrick, K.P. MacPherson, M.E. de Sousa Rodrigues, M.G. Tansey.** Emory University.

A432 **740.11** Neuroprotective Signaling Mechanisms of Telomerase in Neuronal Cells Against Oxidative Stress. **S. Park, Y. Hong.** Inje University, Republic of Korea.

A433 **740.12** Placental Ischemia Leads to Postpartum Cerebral Inflammation and Edema in Rats. **A.M. Clayton, Q. Shao, N.D. Paauw, J.P. Granger, J.P. Warrington.** University of Mississippi Medical Center and University Medical Center Utrecht, Netherlands.

741. NEUROENDOCRINOLOGY/ NEUROIMMUNOLOGY

Poster

MON. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 10:00 AM–12:00 PM

A434 **741.1** MASP-3 Aggregation and Its Blood to Cerebrospinal Fluid Diffusion. **A.A. Padrón-González, C. González-Losada, J. Lumpuy-Castillo, J.A. Rodriguez-Pérez, A. Ramos-Robledo, W. Castillo-González, A.J. Dorta-Contreras.** LABCEL, Cuba.

A435 **741.2** Intrathecal Activation of the Lectin Pathway in Patients with Eosinophilic Meningitis by Angiostrongylus Cantonensis. **C. González-Losada, A.A. Padrón-González, J. Lumpuy-Castillo, A. Rodriguez-Pérez, W. Castillo-González, A.J. Dorta-Contreras.** LABCEL, Cuba.

A436 **741.3** C1q Intrathecal Synthesis in Patients Without Inflammatory Diseases with Blood-Brain Dysfunction. **J. Lumpuy-Castillo, C. González-Losada, M. Schmitz, A. Gudmann Hansen, J.C. Jensenius, A.J. Dorta-Contreras.** LABCEL, Cuba, Department of Neurology, University Medical Center Göttingen and German Center for Neurodegener, Germany and Aarhus University, Denmark.

A437 **741.4** M Ficolin: Diffusion Dynamics from Blood to Cerebrospinal Fluid. **W. Castillo-González, C. González-Losada, J. Lumpuy-Castillo, J.A. Rodriguez-Pérez, J.C. Jensenius, I. Zerr, M. Schmitz, A.J. Dorta-Contreras.** LABCEL, Cuba, Aarhus University, Denmark and University Medical Center Göttingen and German Center for Neurodegenerative Diseases (DZNE), Germany.

A438 **741.5** MASP-3: A New Leptomeningeal Protein in the Lectin Pathway. **A.J. Dorta-Contreras, A.A. Padrón-González, C. González-Losada, J. Lumpuy-Castillo, J.A. Rodriguez-Pérez, A. Ramos-Robledo, J. Martínez-Reyes, M. Schmitz, I. Zerr, A. Gudmann Hansen, J.C. Jensenius.** LABCEL, Cuba, Department of Neurology, University Medical Center Göttingen and German Center for Neurodegener, Germany and Aarhus University, Denmark.

A439 **741.6** The Effect of Flutamide on Spatial Working Memory and Serum Estrogen Levels in Female Rats. **J.D. Pletsch, R. Hershkowitz, G. Mueller-Luckey, P. Niepoetter, A. Sanchez, H. Rahn, C. Gopalan.** Southern Illinois University Edwardsville.

A440 **741.7** Effects of Arginine Vasopressin (AVP) Deficiency, Conivaptan and Desmopressin on Clinical Symptoms and Blood Cytokine Levels in Rats with Experimental Autoimmune Encephalomyelitis. **A. Quintanar-Stephano, V. Viñuela-Berni, N. Macías-Segura, F. Valdez-Urias, K.T. Kovacs.** Universidad Autonoma de Aguascalientes, Mexico and St. Michael's Hospital, Canada.

742. CONTROL OF BREATHING: DEVELOPMENT

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A441 **742.1** Consequences of Postnatal Myo-Inositol Supplementation on Respiratory Control and Nucleus Tractus Solitarius (NTS) Neurons. **C.A. Mayer, J.M. Difiore, P.M. MacFarlane.** Case Western Reserve University.

A442 **742.2** Leptin Stabilizes Breathing but Does Not Affect CO_2 Chemosensitivity in Newborn Rat Pups. **L. Tamir Hostovsky, J. Ivanovska, J. Belik, G. Montadon, E.B. Gauda.** The Hospital for Sick Children , Canada, The Hospital for Sick Children Research Institute , Canada, Keenan Research Centre for Biomedical Science and St. Michael's Hospital, Canada.

A443 **742.3** Developmental Changes in Hypoglossal Motoneuron Morphology in Neonatal Rat. **P.A. Williams, D. Bellinger, C.G. Wilson.** Loma Linda University.

A444 **742.4** Influence of GABA Receptor Antagonists on the Biphasic Hypoxic Ventilatory Response of Newborn Rats. **P.L. Cottingham, R.J. March, R.W. Bavis.** Bates College.

A445 **742.5** Developmental Consequences of Intra-Uterine Exposure to Cannabinoids: Impact on the Ventilatory System of Newborns Rats. **L.G.A. Patrone, K.C. Bicego, L.H. Gargaglioni.** Sao Paulo State University, Brazil.

A446 **742.6** Role of Central Hypercapnia in Rhythmic Spontaneous Neural Activity and Breathing Rhythms in the Developing Avian Medulla. **J.R. Whitaker-Fornek, C.W. Lybbert, J.K. Nelson, J.Q. Pilarski.** Idaho State University.

A447 **742.7** Reduced HIF1A Signaling Enhances Apneas During Perinatal Development. **A.J. Garcia, E.J. Moody, J. Xiao.** The University of Chicago.

A448 **742.8** Chemoreflex Responses to LPS Exposure During a Critical Window of Development in the *in Situ* Arterially Perfused Working Heart Brainstem Preparation. **G. Kola, P. Chadha, C.A. Mayer, T.E. Dick, M. Dutschmann, S.J. Lewis, P.M. MacFarlane.** Case Western Reserve University and The University of Melbourne, Australia.

A449 **742.9** Role of pH in Rhythmic Spontaneous Neural Activity and Breathing Rhythm in the Developing Avian Medulla. **C.W. Lybbert, J.R. Whitaker-Fornek, J.K. Nelson, J.Q. Pilarski.** Idaho State University.

A450 **742.10** Hyperoxia-Induced Bronchopulmonary Dysplasia in Neonatal Rats Acutely and Chronically Alters the Control of Breathing. **G.C. Mouradian, S. Argote-Alvarez, G. Thuku, R. Gorzek, A. Brannon, A. Mui, G.G. Konduri, M. Hodges.** Medical College of Wisconsin.

743. CONTROL OF BREATHING: RESPIRATORY MOTONEURONS AND MUSCLES

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A451 **743.1** Functional Impact of Diaphragm Muscle Sarcopenia in Fischer 344 Rats. T**.L. Sarrafian, O.U. Khurram, M.J. Fogarty, A. Bhatt, C.B. Mantilla, G.C. Sieck.** Mayo Clinic.

A452 **743.2** Phrenic-to-Intercostal Reflex Activity in Response to High Frequency Spinal Cord Stimulation (HF-SCS). **K.E. Kowalski, A.F. DiMarco.** MetroHealth Medical Center, Case Western Reserve University, Louis Stokes Cleveland VA Medical Cente, MetroHealth Medical Center and Case Western Reserve University.

A453 **743.3** Differential Activation of Respiratory Muscles During Lower Thoracic High Frequency Spinal Cord Stimulation (HF-SCS). **K.E. Kowalski, J.R. Romaniuk, G. Pawlowski, A.F. DiMarco.** MetroHealth Medical Center, Case Western Reserve University, Cleveland VA Medical Center, Louis Stokes Cleveland VA Medical Center, MetroHealth Medical Center, MetroHealth Medical Center and Case Western Reserve University.

A454 **743.4** Measurement of Maximum Tongue Protrusion Force (MTPF) in Healthy Normal Adults. **J.Y. Kim, K. Hegland, W. Vann, P.W. Davenport.** University of Florida.

A455 **743.5** Lipid Raft Uptake at Diaphragm Muscle Axon Terminals. **M.A. Gonzalez Porras, M.J. Fogarty, G.C. Sieck, C.B. Mantilla.** Mayo Clinic.

A456 **743.6** Effect of BDNF on Mitochondrial Morphology and Protein Expression in NSC-34 Cells. **C.A. Duffey, S. Nicholls, C.B. Mantilla, M.J. Fogarty, G.C. Sieck.** Mayo Clinic.

A457 **743.7** Impact of Intralingual AAVrh10-miRSOD1 Injection on Respiratory Function in $SOD1^{G93A}$ Mice. **L.A. Lind, K.A. Johnson, A.L. McCall, C. Mueller, R.H. Brown, T.E. Lever, M.K. Elmallah, N.L. Nichols.** University of Missouri, Duke University and University of Massachusetts Medical School.

A458 **743.8** $5\text{-}HT_{2B}$Receptor Expression in the Phrenic Motor Nucleus of Rats with Intrapleural CTB-Saporin-Induced Phrenic Motor Neuron Death. **L.F. Borkowski, N.L. Nichols.** University of Missouri.

A459 **743.9** Developmental Nicotine Exposure: Diaphragm Contractility and Neuromuscular Transmission in Neonatal Rats. **C.M. DeLucia, M. Whalen, R.F. Fregosi.** University of Arizona.

A460 **743.10** Respiratory Emg Responsiveness to Hypercapnic Hypoxia in *mdx* Mice. **K.H. Murphy, D.P. Burns, E. Lucking, K. O'Halloran.** University College Cork, Ireland.

A461 **743.11** Diaphragm Function Before and After Neuromuscular Blockade in Rats. **J.H. Buell, J.D. Avigliano, B.L. Schrant, W.L. Sexton.** A.T. Still University.

A462 **743.12** Phrenic Motor Neuron Survival Below a Cervical Spinal Cord Injury. **A.E. Holland, J.V. Santiago, L.L. Allen, Z.A. Asa, M.C. Ciesla, G.S. Mitchell, E.J. Gonzalez-Rothi.** University of Florida.

A463 **743.13** Aging Effects on Diaphragm Muscle Sarcopenia. **P. Vang, W.Z. Zhan, H. Gransee, G. Sieck, C. Mantilla.** Mayo Clinic Graduate School.

A464 **743.14** Aspects of Respiratory Control in the Dystrophin-Deficient *mdx* Mouse. **D.P. Burns, E. O'Driscoll, D. Edge, E.F. Lucking, K.D. O'Halloran.** University College Cork, Ireland and Trinity College Dublin, Ireland.

744. LUNG PHYSIOLOGY: AIRWAY EPITHELIAL CELL BIOLOGY

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A465 **744.1** The Neuroepithelial Body Microenvironment as a Postnatal Airway Epithelial Stem Cell Niche: Critical Role for BMP Signaling. **L. Verckist, R. Lembrechts, I. Pintelon, J-P. Timmermans, I. Brouns, D. Adriaensen.** University of Antwerp, Belgium.

A466 **744.2** Inflammation Increases the Opening State of Channels in the Epithelium, Releasing High Levels of ATP That Resulted in a Decrease on Mucociliary Transport Velocity in the Airways. **L. Arzola Martínez, M. Rios, K. Droguett, M.J. Villalon.** Pontificia Universidad Católica de Chile, Chile.

A467 **744.3** Lung Epithelial PDIA3 Plays a Critical Role in Influenza Infection. **N. Chamberlain, B. Mihavics, E. Nakada, S. Bruno, D. Heppner, D. Chapman, S. Hoffman, J. Siddesha, A. van der Vliet, B. Suratt, O. Dienz, J. Alcorn, V. Anathy.** University of Vermont and University of Pittsburgh.

745. LUNG PHYSIOLOGY: ALVEOLAR EPITHELIAL CELL BIOLOGY

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A468 **745.1** Amino Acid Transporter SNAT2 Is Critical for Resolution of Pulmonary Edema and Regulation of Er Stress- and Autophagy-Induced Apoptosis in ARDS. **S. Weidenfeld, W.M. Kuebler.** Charité-Universitätsmedizin Berlin, Germany.

A469 **745.2** Tissue Factor Enhances the Alveolar Epithelial Barrier Integrity During Acute Lung Injury. **H. Sucharski, N. Putz, C. Shaver, L. Ware, J. Bastarache.** Vanderbilt University.

A470 **745.3** Interactions of Inhaled Nanoparticles with Rat Alveolar Epithelial Cell Monolayers. **A. Sipos, K-J. Kim, R.H. Chow, Z. Borok, E.D. Crandall.** University of Southern California.

746. LUNG PHYSIOLOGY: SIGNAL TRANSDUCTION AND INTERCELLULAR COMMUNICATION IN LUNG PLASTICITY, INJURY AND REPAIR

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A471 **746.1** Extracellular Vesicles: An Additional Compartment for the Second Messenger, Cyclic Adenosine Monophosphate (cAMP) S.**L. Sayner, M. Maulucci, A. Scruggs, C. Zhou, N. Bauer.** University of South Alabama.

A472 **746.2** Ceramide Containing Microparticles from Aged Stored Platelets Recapitulate Aspects of Murine Transfusion Related Acute Lung Injury. **M.J. McVey, M. Maishan, W.L. Lee, C. Spring, J.W. Semple, W.M. Kuebler.** University of Toronto, Canada, Keenan Research Centre for Biomedical Science, St. Michael's Hospital, Canada and Charité-Universitätsmedizin Berlin, Germany.

A473 **746.3** Endothelial Caveolin-1 Positive Microvesicles and Apoptotic Bodies as Early Biomarkers of Acute Lung Injury and Possible Mediators of TGF-β-Mediated Repair/Remodeling. **S.D.S. Oliveira, M. Castellon, R. Machado, M.G. Bonini, R. Minshall.** University of Illinois at Chicago and Indiana University.

A474 **746.4** Modulation of Myeloid Cell Recruitment and Activation by Alveolar Epithelial Type 2 Cells Drives Early Inflammation in a Murine Model of Mutant Surfactant Protein-C Pulmonary Fibrosis. **A. Venosa, Y. Tomer, M. Kopp, S. Jamil, M.F. Beer.** University of Pennsylvania.

A475 **746.5** Protease Activated Receptor 2 Deficiency in Alveolar Macrophages Impairs cAMP Generation Leading to Nfat-Dependent Pro-Inflammatory Signalling and Lung Injury. **R.R. Sheikh, J.C. Joshi, T. Mohammad, I. Rochford, S. Baweja, M. Koichiro, M. Hollenberg, D. Mehta.** University of Illinois at Chicago, Chicago State University and University of Calgary, Canada.

A476 **746.6** Role of Mitochondrial Reactive Oxygen Species (ROS) and TRPV4 Activation in Microvascular Endothelial Cell Dysfunction in PAH. **K. Suresh, L. Servinsky, H. Jiang, Z. Bigham, J. Zaldumbide, J. Huetsch, C. Kliment, M. Damarla, L. Shimoda.** Johns Hopkins University.

A477 **746.7** Lung Immune Regulation by Vectorial Transport of Endothelial Mitochondria. **M.N. Islam, D.J. Rowlands, G. Gusarova, J. Bhattacharya.** Columbia University and Novartis Institute of Biomedical Research.

A478 **746.8** Pannexin 1 and a Venous-Specific Purinergic Cascade Induces Endothelial Leak in Response to TNFα. **H.S. Comstra, D. Begandt, S. Molina, N. Krüger, L. Biwer, S.R. Johnstone, A. Lohman, M.E. Good, L.J. DeLalio, H. Bacon, B.E. Isakson, M. Koval.** Emory University, Walter and Eliza Hall Institute of Medical Research, Germany and University of Virginia School of Medicine.

A479 **746.9** PTEN Suppresses Epigenetic Modulation of ERG Transcription Factor to Maintain Endothelial Lineage and Vascular Integrity. **V.A.B.R., M. Anwar, J.C. Joshi, T. Mohammad, F. Mohammad, L. Yue, D. Mehta.** University of Illinois at Chicago.

747. EPITHELIAL TRANSPORT GROUP II

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A480 **747.1** SLC26A3 (DRA) Deficient Mice Display an Acidic Colonic pH-Microclimate, Develop a Strongly Altered Microbiome and Colonic Inflammation. **A. Kini, M. Basic, A.K. Singh, B. Riederer, D. Römermann, S. Suerbaum, A. Bleich, T. Strowig, U. Seidler.** Hannover Medical School, Germany and Helmholtz Center for Infection Research, Germany.

A481 **747.2** Inducible Intestinal Epithelial Cell-Specific NHE3 Knockout Causes Diarrhea and More Alkaline Luminal Content. **J. Xue, A. Valdez, J. Dominguez Rieg, T. Rieg.** University of South Florida.

A482 **747.3** The Gβγ-Subunit Interacts Directly with Aquaporin-2 (AQP2) and Regulates Its Membrane Targeting. **E.T.B. Olesen, S.B. Poulsen, M.M. Rosenkilde, C.M. Sørensen, R.A. Fenton.** Copenhagen University, Denmark and Aarhus University, Denmark.

A483 **747.4** Na^+ Transporters, Electrolyte Excretion and Renal Injury in Female and Male C57BL/6 and IL17a$^{-/-}$ Mice During AngII Hypertension. **B.E. McFarlin, J.C. McDonough, D.L. Ralph, L.C. Veiras, M.S. Madhur, A.A. McDonough.** Keck School of Medicine of the University of Southern California and Vanderbilt University Medical Center.

A484 **747.5** Coexpression of Proximal Tubule Claudins-2 and -10a Increases Conductance and Decreases Permselectivity in a Renal Epithelial Cell Line. **J.N. Curry, J. Li, M. Zhuo, A. Yu.** University of Kansas Medical Center, Brigham Women's Hospital/Massachusetts General Hospital and Beth Israel Deaconess Medical Center.

A485 **747.6** Tryptamine Activates 5-HT4 GPCR to Increase Secretion in the Mouse Proximal Colon. **Y. Bhattarai, B. Williams, E.J. Battaglioli, M. Grover, W.R. Whitaker, D.R. Linden, Y. Akiba, K. Kandimalla, N. Zachos, J.D. Kaunitz, J.L. Sonnenburg, M.A. Fischbach, G. Farrugia, P.C. Kashyap.** Mayo Clinic, Stanford University, University of California, University of Minnesota and Johns Hopkins University

A486 **747.7** The Calcium-Sensing Receptor Increases Activity of the Renal Na-Cl Cotransporter Through the WNK4-SPAK Pathway. **S. Bazúa-Valenti, L. Rojas-Vega, M. Castañeda-Bueno, J. Barrera-Chimal, R. Bautista, N. Vázquez, D.H. Ellison, D. Riccardi, N.A. Bobadilla, G. Gamba.** Instituto de Investigaciones Biomédicas-UNAM, Mexico, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico, Instituto Nacional de Cardiología Ignacio Chávez, Mexico, Oregon Health & Science University, VA Medical Center—Portland and Cardiff School of Biosciences, United Kingdom.

A487 **747.8** The NEDD8 CO-E3 DCNL4 Is Regulated by Dietary Potassium in Renal Intercalated Cells and Promotes WNK Kinase Degradation via the KLHL3/CUL3 Complex. **L.J. Nkashama, A. Roy, R. Carrisoza-Gaytan, E.C. Ray, A. Marciszyn, T.R. Kleyman, L.M. Satlin, A.R. Subramanya.** University of Pittsburgh and Icahn School of Medicine at Mount Sinai.

A488 **747.9** β_1Pix Stabilizes NEDD4-2 and Plays a Critical Role in ENaC Regulation by AMPK in Kidney Epithelial Cells. **P-Y. Ho, H. Li, T.S. Pavlov, A. Staruschenko, K.R. Hallows.** University of Southern California, Henry Ford Health System and Medical College of Wisconsin.

A489 **747.10** Increased Epithelial Sodium Channel (ENaC) Activity Protects Preterm Lungs from Hyperoxia-Induced Lung Injury. **E. Goh, C. Coca, M. Helms.** University of Utah.

A490 **747.11** Tumor Necrosis Factor Alpha (TNFα) Reduces Intestinal Ascorbic Acid (AA) Uptake. **V.S. Subramanian, S. Sabui, G.A. Subramenium, J.S. Marchant, H.M. Said.** University of California and Medical College of Wisconsin.

A491 **747.12** Basolateral FFA2 of Enterochromaffin Cells Contributes to 5-HT Release in Rat and Mouse Duodenum. **Y. Akiba, T. Takajo, J.D. Kaunitz.** University of California and Los Angeles.

A492 **747.13** Intestinal Epithelial-Specific NHE3 Knockout Causes Metabolic Acidosis. **A. Valdez, J.A. Dominguez Rieg, R.A. Fenton, T. Rieg.** University of South Florida and Aarhus University, Denmark.

A493 **747.14** Novel Mouse Model of a Human Mutation in NKCC1 Confirms Its Mistargeting in Epithelia. **R. Koumangoye, S. Omer, E. Delpire.** Vanderbilt University School of Medicine.

A494 **747.15** The Sodium/Hydrogen Exchanger 2 (SLC9A2/NHE2) Is Involved in the Differentiation of Colonic Intestinal Epithelial Cells. **K. Nikolovska, C. Li, Y. Yu, Z. Yuan, A. Seidler, A. Kini, S. Yeruva, A.K. Singh, B. Riederer, U. Seidler.** Hannover Medical School , Germany.

A495 **747.16** Evidence That Zinc Deficiency Impairs Gut Epithelial Barrier and Intestinal Immunity. **P. Sarkar, T. Saha, J. Aoun, S.H. Chakraborty, M.K. Chakrabarti, S.K. Dutta, K.M. Hoque.** National Institute of Cholera and Enteric Diseases, India and Johns Hopkins Bloomberg School of Public Health.

A496 **747.17** Mechanism of Absorption and Transportation of Ovotransferrin in the Intestine. **R. Shirkhani, E.J. Lee, J. Talukder.** University of Wisconsin—Stout.

A497 **747.18** Malabsorption of Copper and Other Nutrients as Well as Intestinal Parasite Infections Cause Health Problems and Lower Birthrates in the American Bison. **R. Sun Rhodes, C.L. Topliff, C.L. Kelling, S. Coon.** Fort Peck Community College, University of Nebraska and School of Veterinary Medicine and Biomedical Sciences.

A498 **747.19** Fluoresceinamine-Tagged Chenodeoxycholic Acid (CDCA-FA) Causes Epithelial Barrier Dysfunction and Moves Paracellularly in Human Colonic T84 Cells. **Y. Kim, E.S. Gornick, M. Haq, U. Dinsmonaite, S. Checco, H. Malik, M. Rao, D.M. Rubush, J. Sarathy.** Benedictine University and University of Illinois at Chicago.

A499 **747.20** Silencing of NHE2 Enhances Migratory Speed in Colonic Epithelial Cells. **K. Nikolovska, L. Cao, Y. Yu, Z. Yuan, A. Seidler, S. Yeruva, A.K. Singh, B. Riederer, U. Seidler.** Hannover Medical School, Germany.

A500 **747.21** Evidence for Altered Non-Canonical Wnt Signaling and Increased Tight Junction Remodeling in CFTR Knockout (KO) Mouse Small Intestine. **L.L. Clarke, R.A. Woode, J.L. Liu, N.M. Walker, A.M. Strubberg.** University of Missouri.

A501 **747.22** Transcellular and Paracellular Permeability for Phosphate Along the Intestinal Epithelia. **N. Hernando, T. Knöpfel, N. Himmerkus, D. Günzel, M. Bleich, C.A. Wagner.** University of Zurich, Switzerland, Christian-Albrechts-University of Kiel, Germany and Charité-Universitätsmedizin Berlin: Campus Benjamin Franklin, Germany.

A502 **747.23** Anion and Fluid Secretory Response of the Murine Jejunum to the Heat-Stable *Eschericia coli* Enterotoxin (STA) Analogue Linaclotide: Involvement of NHE3, SLC26A6, CFTR, Proteinkinase GII (cGKII) and NHERF1-3. **U.E. Seidler, Y. Liu, J. Qian, Q. Tan, B. Riederer, F. Hofmann, H. de Jonge.** Hannover Medical School, Germany, Technical University of Munich, Germany and Erasmus Medical Center, Netherlands.

A503 **747.24** Cholera Toxin Decreases SLC26A3 Expression and Function in Intestinal Epithelial Cells. **A. Natarajan Anbazhagan, H. Coffing, S. Priyamvada, A. Kumar, W.A. Alrefai, S. Saksena, R.K. Gill, A. Borthakur, P.K. Dudeja.** University of Illinois at Chicago.

A504 **747.25** Profiling of the Exosomal Cargo of Bovine Milk Reveals the Presence of Immune- and Growth-Modulatory ncRNAs. **E.D. Testroet, S. Shome, A. Testroet, J. Reecy, R.L. Jernigan, M. Zhu, M. Du, S. Clark, D. Beitz.** Washington State University and Iowa State University.

A505 **747.26** Phenotypic Differences Between Tissues and Sex Observed in Mice with Human Gout Causing ABCG2 Variant. **K.M. Hoque, R.M. Lewis, O.M. Woodward.** University of Maryland School of Medicine.

A506 **747.27** Concurrent Airway Surface Liquid Absorption and Secretion in Human Bronchioles. **A.K.M. Shamsuddin, P.M. Quinton.** University of California and San Diego.

A507 **747.28** Acid Sensing Ion Channel-2 Localizes with α-and γ-, but Not β-ENaC Subunits in Ciliated Airways. **G. Flores-Delgado, P.M. Quinton.** University of California and San Diego.

748. PHYSIOLOGY AND PATHOPHYSIOLOGY OF BARRIERS IN ENDOTHELIA, EPITHELIA, AND THE BLOOD BRAIN BARRIER

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A508 **748.1** Scleraxis Regulation of Snail1 and Twist1 Gene Expression in Epithelial—Mesenchymal Transition. **M.P. Czubryt, D.S. Al-Hattab, H.A. Safi, R.S. Nagalingam.** University of Manitoba, Canada and St. Boniface Hospital Albrechtsen Research Centre, Canada.

A509 **748.2** Manipulation of Actin Cytoskeleton and Tight Junction Protein Knockdown Differentially Interact to Modulate Basal and H_2O_2-Induced Paracellular Permeability of Renal Epithelial Cells. **S. Bilal, R. Sharma, A. Voronina, J. Axis, K. Amsler.** New York Institute of Technology College of Osteopathic Medicine.

A510 **748.3** The Effects of Hypoxia and Inflammation on Claudin-1 in Caco-2 Cells as a Model Intestinal Epithelium. **G.E. Largoza, C.E. Cole, N.B. Alana, N.R. Carr, J.M. King.** Trinity University and Brooke Army Medical Center.

A511 **748.4** Role of GPR40/120 Omega-3 Fatty Acid Receptors on Barrier Function of Airway Epithelial Cells. **P. Wattanaphichet, A. Moonwiriyakit, C. Muanprasat.** Faculty of Medicine Ramathibodi Hospital, Mahidol University, Thailand, Faculty of Science and Mahidol University, Thailand.

A512 **748.5** Role of Hydrogen Sulfide (H_2S) on Homocysteine Mediated Glutamate Excitotoxicity, Endoplasmic Reticulum Stress and Pyroptosis in Retina. **A.K. George, M. Singh, R.P. Homme, A. Majumder, S. Tyagi.** Eye and Vision Science Laboratory, Department of Physiology University of Louisville , Biochemistry and Molecular Biology and University of Louisville.

749. TRANSPORTERS FOR TRANSMITTERS, NUTRIENTS, METABOLITES, AND DRUGS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A513 **749.1** Chlorogenic Acid Enriched in Coffee Pulp Extract Attenuates Hepatic Steatosis by Modulating Gene-Regulated Lipid Metabolism and Lipid Transporters. **A. Ontawong, T. Pasachan, S. Soodvilai, A. Duangjai, A. Pongchaidecha, D. Amornlerdpison, C. Srimareong.** Chiang Mai University, Thailand, Mahidol University, Thailand, University of Phayao, Thailand and Maejo University, Thailand.

A514 **749.2** *Tiliacora triandra* (Colebr.) Diels Ameliorates Hepatic Steatosis by Inhibition of HMGR and Down-Regulation of FAT/CD36. **T. Pasachan, A. Ontawong, S. Soodvilai, A. Duangjai, A. Pongchaidecha, D. Amornlerdpison, C. Srimaroeng.** Chiang Mai University, Thailand, Mahidol University, Thailand, University of Phayao, Thailand and Maejo University, Thailand.

750. ION CHANNELS, TRANSPORTERS, AND PUMPS IN HEALTH AND DISEASE

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A515 **750.1** Migraines and Ionic Variances. **A.A. Stanton.** Independent Researcher.

A516 **750.2** GluN2A Haploinsufficiency: A Novel Pre-Clinical Model of Epilepsy. **D.J. Wyllie, S.A. Booker, F. Yasmin, G. Marshall, K.F. Marwick, E.R. Wood, P.C. Kind, G.E. Hardingham.** University of Edinburgh, United Kingdom.

A517 **750.3** Knockout of KCNJ16 (Kir5.1) in Dahl Salt-Sensitive Rats Produces Seizure Phenotype. **A.D. Manis, M.R. Hodges, T.S. Pavlov, A. Staruschenko, O. Palygin.** Medical College of Wisconsin and Henry Ford Hospital.

A518 **750.4** A Conserved Pain Syndrome Resulting from the Acute Activation of TRPA1 by Chemotherapy Drugs. **N. Boiko, E. Montano, K.M. Hargreaves, B.A. Eaton, J.D. Stockand.** The University of Texas Health Science Center at San Antonio.

A519 **750.5** Dysfunction of Acid-Sensing Ion Channel 5 (ASIC5) in Unipolar Brush Cells of the Vestibulocerebellum Causes Ataxia. **N. Boiko, V. Kucher, J.D. Stockand.** The University of Texas Health Science Center at San Antonio.

A520 **750.6** Dialysis of an Unknown Cytosolic Cofactor Results in Partial, Delayed Activation of TRPA1. **T. Parks.** University of South Florida.

A521 **750.7** The Local Environment of Cysteine 621 Determines the Rapid Electrophilic Adduction and Activation of hTRPA1. **P.K. Bahia, T.A. Parks, S.M. Stevens, S. Varma, T.E. Taylor-Clark.** University of South Florida.

A522 **750.8** Potassium Chloride Cotransporter-3 (KCC3) in Motor Neurons. **C.C. Schornak, E. Delpire.** Vanderbilt University School of Medicine.

A523 **750.9** The Na^+/Ca^{2+} Exchangers, NCX and NCKX, Contribute to the Synergistic $[Ca^{2+}]_i$ Overload Produced by Concurrent Ischemia and Acidosis in Neurons. **J. Cuevas, C. Katnik.** University of South Florida College of Medicine.

A524 **750.10** TRPV4 Activation-Implications in Hydrocephalic Neurodegenerative Disease. **S. Simpson, B. Blazer-Yost.** Indiana University—Purdue University Indianapolis.

A525 **750.11** Ameliorating Ventriculomegaly in the Wpk Rat Model of Postnatal Hydrocephalus. **C. Danko, D. Preston, S. Simpson, P. Territo, B. Blazer-Yost.** Indiana University—Purdue University Indianapolis and Indiana University School of Medicine.

A526 **750.12** Characterizing the Expression of TRPV4 in the Choroid Plexus Epithelia as a Prospective Component in the Development of Hydrocephalus in the $Gas8^{GT}$ Juvenile Mouse Model. **A.E. Hochstetler, L. Whitehouse, P. Antonellis, N.F. Berbari, B.L. Blazer-Yost.** Indiana University—Purdue University Indianapolis.

A527 **750.13** TRPV4 Activation Affects Transepithelial Ion Transport in the Choroid Plexus Epithelium. **D. Preston, S. Simpson, C. Schwerk, H. Schroten, B. Blazer-Yost.** Indiana University—Purdue University Indianapolis, Mannheim Medical Faculty and University of Heidelberg, Germany.

A528 **750.14** Oligomerization of Ferroportin and the Mechanism of Autosomal Dominance in Ferroportin Disease. **J.P. Bonamer, T.A. Ruwe, B. Qiao, K.R. Vieth, T. Ganz, E. Nemeth, B. Mackenzie.** University of Cincinnati College of Medicine, David Geffen School of Medicine at University of California and Los Angeles.

A529 **750.15** Enhanced Expression of Colonic Non-Heme Iron Transporters Divalent Metal Transporter-1 (DMT-1) and Ferroportin (FPN) in Patients with Ulcerative Colitis. **E. Minor, J. Kupec, A. Nickerson, T. Rottgen, V. Rajendran.** West Virginia University.

A530 **750.16** Copper Supplementation in Drinking Water Reverses Dietary Iron Overload-Induced Anemia and Cardiac Hypertrophy in Mice. **T. Wang, P. Xiang, J-H. Ha, C. Doguer, X. Wang, S. Flores, Y.J. Kang, J.F. Collins.** Sichuan University, People's Republic of China, Nanjing University, People's Republic of China and University of Florida.

A531 **750.17** Regulation of Intestinal Phosphate Transport in Humans and in a Rat Model of Chronic Kidney Disease. **K. Myakala, X. Wang, M. Levi.** Georgetown University.

A532 **750.18** SLC4A8 in the Kidney: Expression, Subcellular Localization and Role in Acid Base Homeostasis and Salt Reabsorption. **J. Xu, S. Barone, K. Zahedi, M. Brooks, M. Soleimani.** University of Cincinnati.

A533 **750.19** Piezo1 Regulation of Lung Endothelial Barrier Function in Left Heart Failure. **E. Friedrich, Z. Hong, M. Zhong, J. Rehman, Y. Komarova, A.B. Malik.** University of Illinois at Chicago.

A534 **750.20** Mitochondrial Calcium Influx-Mediated Superoxide Generation Induces Cardiac Fibroblast Proliferation Under Angiotensin II Stimulation. **B.S. Jhun, S.M. Adaniya, M.E. King, P. Zhang, J. O-Uchi.** Rhode Island Hospital and Brown University.

A535 **750.21** Impairment of Renal Organic Anion Transport Mediated by Organic Anion Transporter 1 (OAT1) and 3 (OAT3) in Acute Myocardial Ischemic and Reperfusion Injury in Rats. **C. Srimaroeng, K. Sirijariyawat, A. Ontawong, S. Palee, S. Thummasorn, C. Maneechot, O. Boonphang, V. Chatsudthipong, N. Chattipakorn.** Chiang Mai University, Thailand and Mahidol University, Thailand.

A536 **750.22** Cyclosporin A Induces Hypertension via a Cholesterol- and ENaC-Dependent Mechanism. **V. Linck, L. Zou, Y-J. Zhai, D.C. Eaton, H-P. Ma.** Emory University School of Medicine.

A537 **750.23** The Effect of Voltage-Sensitive Chloride Channel 6 on Development of Salt-Sensitive Hypertension. **C.A. Klemens, E. Chulkov, M.A. Hye Khan, V. Levchenko, M.J. Flister, J.D. Imig, O. Palygin, A. Staruschenko.** Medical College of Wisconsin.

A538 **750.24** Novel Cholesterol-Dependent Regulation of Cardioprotective K_{ATP} Subunit Expression in Hl-1 Cardiomyocytes. **R. Geiger, N. Fatima, T. Flagg.** Uniformed Services University.

A539 **750.25** Cytosolic Internalization of the Na/K ATPase Ouabain Receptor Complex (NORC). **J.L. Stricker, N.C. Adragna, P.K. Lauf.** Wright State University.

A540 **750.26** The Role of Exocyst Complex in the Fusion Process of KCa3.1 at the Basolateral Membrane of Epithelial Cells. **R.E. Farquhar, F.J. McDonald, K.L. Hamilton.** University of Otago, New Zealand.

A541 **750.27** Identification of a New Splice Variant of Large-Conductance Ca^{2+}-Activated K^+ (BK) Channel α Subunit from Human Chondrocyte. **Y. Suzuki, S. Ohya, H. Yamamura, W.R. Giles, Y. Imaizumi.** Nagoya City University, Japan and University of Calgary, Canada.

A542 **750.28** Porcine Epidemic Diarrhea Virus, a Member of the *Coronaviridae* Family, Increases Epithelial Secretion in the Jejunum by Up-Regulation of KCNN4. **C.B. Enns, J.C.S. Harding, M.E. Loewen.** University of Saskatchewan, Canada.

A543 **750.29** The ENaC-Targeted Therapeutic Peptide SPX-101 Is Resistant to Proteolytic Degradation in Diseased Sputum. **T.J. Stuhlmiller, J. Sesma, B. Wu, D.W. Scott.** Spyryx Biosciences.

A544 **750.30** Ion Channel Fingerprinting of Tracheal and Articular Cartilage. **L. Abdul Kadir, U. Sharif, F. O'Brien, K. Whysall, R. Barrett-Jolley.** University of Liverpool, United Kingdom.

A545 **750.31** Establishment of Microvillus Inclusion Disease (MVID) Human Models Using Small Intestinal Enteroids and Embryonic Stem Cells. **L.K. Figueroa-Hall, N. Ameen.** Yale University.

A546 **750.32** *In Vitro* and *in Silico* Characterization of Human Nasal Epithelial Ion and Liquid Transport Mechanisms. **F. Serrano Castillo, R.S. Parker, T.E. Corcoran, H.R. Meyer, M.E. Shapiro, C.A. Betrand.** University of Pittsburgh.

A547 **750.33** Subcellular Ca^{2+} Puffs Mediated by Different Inositol Trisphosphate Receptor Isoforms. **J.T. Lock, K.J. Alzayady, D.I. Yule, I. Parker.** University of California and University of Rochester

A548 **750.34** Proline-Rich Tyrosine Kinase 2 Phosphorylates Mitochondrial Calcium Uniporter and Regulates Mitochondrial Calcium Uptake. **J.L. Cao, S.M. Adaniya, D. Yang, M.E. King, B.S. Jhun, U. Mende, S-S. Sheu, J. O-Uchi.** Brown University and Thomas Jefferson University Medical College.

A549 **750.35** A Novel Role for the Na-K-2CL Cotransporter in Mitochondrial Respiration. **S. Omer, E. Delpire.** Vanderbilt University School of Medicine.

A550 **750.36** SLC4A11 Facilitates Glutamine Metabolism, Mitochondrial Function and ROS Prevention. **D.G. Ogando, M-J. Choi, E.T. Kim, W. Zhang, S. Li, J.A. Bonanno.** Indiana University, University of California and Los Angeles.

A551 **750.37** Hydrogen Sulfide Inhibits Store-Operated Calcium Influx by Selectively Targeting STIM1-ORAI3 Interactions. **A.M. Fresquez, C. White.** Rosalind Franklin University of Medicine & Science.

A552 **750.38** Targeting ORAI1-Mediated Store-Operated Ca^{2+} Entry by a Novel Compound RP4010 for Anti-Proliferative Activity Against Esophagus Squamous Cell Carcinoma. **Y. Chang, C. Cui, X. Zhang, K. Penmetsa, S. Viswanadha, L. Fu, Z. Pan.** The University of Texas at Arlington, Comprehensive Cancer Center, The Ohio State University Medical Center, Rhizen Pharmaceuticals S.A., Switzerland, Incozen Therapeutics Private Limited, India and State Key Laboratory of Oncology in South China, Collaborative Innovation Center for Cancer Medicine, People's Republic of China.

A553 **750.39** Pannexin Channels Regulate Cell-Cell Calcium Mobilization and Motility During Epithelial Wound Repair. **S.G. Gonzales, Y. Lee, V. Trinkaus-Randall.** California State University, San Marcos and Boston University.

A554 **750.40** IRBIT Expands Signaling Repertoire: Regulation of the Ca^{2+}-Activated Cl^- Channel Bestrophin 2 by Synergy Between Ca^{2+} and cAMP at Membrane Contact Sites. **W.Y. Chung, S. Park, S. Muallem.** National Institutes of Health, School of Medicine and Ewha Womans University, Republic of Korea.

A555 **750.41** IRBIT Stimulates Zebrafish NBCe1 (SLC4A4) Activity and Stimulates Functionally Impaired Human NBCe1-B cSNP Activity. **M. Chang, Y-F. Wang, M.F. Romero.** Mayo Clinic College of Medicine and Science and National Taiwan University, Taiwan.

751. TRAFFICKING, MEMBRANE DOMAINS, POLARITY, AND PROTEIN TARGETING

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A556 **751.1** Dynamic L-Type $Ca_v1.2$ Channel Trafficking Facilitates $Ca_v1.2$ Clustering and Cooperative Gating. **D. Ghosh, M. Nieves-Cintrón, S. Tajada, I. Brust-Mascher, M.C. Horne, L.F. Santana, M.F. Navedo.** Department of Pharmacology, University of California, Davis, Department of Physiology & Membrane Biology, University of California, Davis, Advanced Imaging Facility, School of Veterinary Medicine, University of California and Davis.

752. MICRORNAS IN HEALTH AND DISEASE

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A557 **752.1** The Regulation of Muscle Growth by miR-23a. **C.L. Beach, J. Petrocelli, N. Stott, J. Marino.** University of North Carolina at Charlotte.

A558 **752.2** The Effects of Palmitic Acid on Microrna-26a Expression and Skeletal Muscle Insulin Signaling. **J.J. Petrocelli, C. Beach, N. Stott, J. Marino.** University of North Carolina at Charlotte.

A559 **752.3** Renal Impact of Systemic Inhibition of miRNA-451 in a Mouse Model of Insulin Resistance. **M.B. Fluitt, L. Li, N. Shivapurkar, C.M. Ecelbarger.** Georgetown University.

A560 **752.4** Mechanistic Study of Four Co-Morbid Hyperlipidemia-Related Pathologies Reveals NF-κB and STAT3-Mediated miR-155 and miR-221 Potentially Serve as Master Regulators, and Elucidates Metabolically Healthy Obese Model. **C. Johnson, C. Drummer IV, A. Virtue, T. Gao, M. Hernandez, L. Singh, H. Wang, X-F. Yang.** Lewis Katz School of Medicine at Temple University.

A561 **752.5** Cardiac-Specific Overexpression of miR-133a in the Diabetic Heart Mitigates Mitochondrial Abnormality by Targeting Tim17A. **S.S. Nandi, P.K. Mishra.** University of Nebraska Medical Center.

A562 **752.6** MicroRNA-146a Deficiency Promotes Atherosclerosis by Dysregulating Cholesterol Homeostasis in Macrophages. **L-J. Chen, Y-H. Huang, T-Y. Shih, S. Chien, J-J. Chiu.** National Health Research Institutes, Taiwan, University of California and San Diego.

A563 **752.7** miR429 Regulates IL-17A Expression in Inflammatory Monocytes in Rheumatoid Arthritis. **T. Alpert, B.J. Rabquer.** Albion College.

A564 **752.8** Binding Potential Between miR-126 and Klotho to Inhibit Inflammation in U937 Monocytes. **T. Budd, B.J. Rabquer.** Albion College.

A565 **752.9** CTNNA1 Is Expressed in U937 Cells and Is Regulated by miR9. **N. Patel, B.J. Rabquer.** Albion College.

A566 **752.10** MicroRNA-944 Inhibits Migration and Invasion in Melanoma Cells by Targeting Notch2. **S.H. Kim.** Kyung Hee University, Republic of Korea.

A567 **752.11** miR144 Regulates Nrf2 Expression in Primary Alveolar Epithelial Cells Derived from HIV-1 Transgenic Rats. **X. Fan, B.B. Staitieh, R. Raynor, A. Kukoyi, D.M. Guidot.** Emory University School of Medicine.

753. NON-CODING RNA: MIRNA, SIRNA, AND LONG NCRNA

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A568 **753.1** Long Non-Coding RNAs Are Transcriptional Regulators of Contractile Protein-Coding Genes in Skeletal Muscle. **J.D. Resnick, C.A. Gilbert, A.J. Lowrey, M.C. Callier, C.E. Pandorf.** Mercer University and Mercer University School of Medicine.

A569 **753.2** MicroRNA Profile in Swimming Trained Female Rats and Its Therapeutic Potential in Spontaneously Hypertensive Rats. **U.P.R. Soci, C.P.R. Nobrega, T.M. Fernandes, V.G. Barauna, M.C.M. Irigoyen, E.M. Oliveira.** University of Sao Paulo, Brazil, Federal University of Espírito Santo, Brazil and Heart Institute, Brazil.

A570 **753.3** miR-21-5p Regulation of Cardiac Fatty Acid Oxidation and Mitochondrial Respiration. **V. Nasci, S. Chuppa, L. Griswold, A. Kriegel.** Medical College of Wisconsin.

A571 **753.4** Effect of 17β-Estradiol on Endothelial Cell Expression of Inflammation-Related miRNAs. **M.A.V. Levy, J.G. Hijmans, K.A. Stockelman, L.M. Brewster, W.R. Reiakvam, Z.A. Goldthwaite, J.J. Greiner, C.A. DeSouza.** University of Colorado Boulder.

A572 **753.5** Age-Dependent Changes in miRNA Profile in F344 Rat and C57BL/6J Mice: Role of Sodium Hydrogen Exchanger Regulatory Factor-1 (NHERF1). **A. Jain, J.I. Aubee, K.M. Thompson, D.L. Lee, S.J. Khundmiri.** Howard University

A573 **753.6** Induced Pluripotent Stem Cells (iPS)-Derived Extracellular Vesicles Improves Immune Dysfunction and Attenuates Splenomegaly in Aged Mice. **M. Ullah, R. Feng, Z. Sun.** University of Oklahoma Health Sciences Center.

A574 **753.7** Inhibition of miR-101-3p Prevents Human Aortic Valve Interstitial Cells Calcification Through Regulation of CDH11/Sox9 Expression. **J. Chen, Y. Lin, Z. Sun.** University of Oklahoma Health Sciences Center.

754. FROM GENE TO FUNCTION OF COMPLEX TRAITS: ANALYSIS OF GENES IDENTIFIED IN HUMAN GWAS AND ANIMAL MODELS (POSTERS)

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A575 **754.1** The IMPC: A Global Scientific Infrastructure for Understanding the Role of Genes in Complex Traits. **V. Muñoz-Fuentes, T.F. Meehan, K.C.K. Lloyd, A-M. Mallon, D. Smedley, H. Parkinson.** European Bioinformatics Institute, United Kingdom, University of California, Davis, Medical Research Council Harwell, United Kingdom and Queen Mary University of London, United Kingdom.

A576 **754.2** Characterization of Coding and Noncoding Variants for Human CKD Using Novel Strategies. **J.W. Prokop, N.C. Yeo, C. Ottmann, B.A. Link, E.M. Mendenhall, B.I. Freedman, J. Lazar, H.J. Jacob.** Michigan State University, Harvard Medical School, Eindhoven University of Technology, Netherlands, Medical College of Wisconsin, The University of Alabama in Huntsville, Wake Forest and HudsonAlpha Institute for Biotechnology.

A577 **754.3** GNAI2 Polymorphic Variance Associates with the Salt-Sensitivity of Blood Pressure. **A.A. Frame, R.D. Wainford.** Boston University School of Medicine.

A578 **754.4** *TPCN2* Knock-Out Mice Have Improved Insulin Sensitivity and Are Protected Against High-Fat Diet Induced Weight Gain. **L. Solberg Woods, K. Holl, H. He, S. DeBehnke, C.T. Yeo, P. Hansen, A. Gebre, S. Leone-Kabler, M. Ruas, J. Parks, J. Parrington.** Wake Forest Baptist Medical Center, Medical College of Wisconsin and University of Oxford, United Kingdom.

755. GENETICS, GENOMICS, GENE EXPRESSION, AND EPIGENETICS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A579 **755.1** Dark Chocolate (70% Cacao) Effects Human Gene Expression: Cacao Regulates Cellular Immune Response, Neural Signaling, and Sensory Perception. **L. Berk, K. Bruhjell, W. Peters, P. Bastian, E. Lohman, G. Bains, J. Arevalo, S. Cole.** Loma Linda University School of Allied Health Professions, Loma Linda University, University of California and Los Angeles School of Medicine.

A580 **755.2** ALDH2 rs671 Polymorphism Is Associated with Athletic Status and Muscle Phenotypes in the Japanese Population. **N. Kikuchi, T. Tajima, Y. Yamanaka, K. Menuki, T. Okamoto, M. Sakamaki-Sunaga, A. Sakai, K. Hiranuma, K. Nakazato.** Nippon Sport Science University, Japan and University of Occupational and Environmental Health, Japan.

A581 **755.3** The Human Immune Response to Rsv Includes a Loop Between the Tumor Suppressor p53 and Expression of APOBEC3 Genes. **W. Gladwell II, D. Menendez, H. Li, O. Yost, M.A. Resnick, S. Kleeberger.** National Institute of Environmental Health Sciences and National Institutes of Health.

A582 **755.4** Associations Between Early Pregnancy Maternal Body Mass Index (BMI) and Offspring Sex with Placental DNA Methylation at Term. **K.M. Thakali, Y. Zhong, A. Andres, K. Shankar.** Arkansas Children's Nutrition Center.

A583 **755.5** Whole-Genome DNA Hydroxymethylation Among Monozygotic Twins Discordant for Cardiovascular Death: The Prospective National Heart, Lung, and Blood Institute (NHLBI) Twin Study. **J. Dai, M. Leung, R. Krasnow, T. Reed, W. El-Rifai.** Des Moines University, SRI International, Indiana University School of Medicine, University of Miami and Miller School of Medicine.

A584 **755.6** Expression Profile of G Protein-Coupled Receptor 37l1 in Mouse. **X. Ma, I. Armando, P.A. Jose, P. Konkalmatt.** The George Washington University.

A585 **755.7** The Effect of SIRT1 Expression on Glucose Metabolism in Lean and Obese Mice. **K.L. Marshall, R.W. Bryner, C. Pitzer, A. Drake, M. Myers, J. Mohamed, S.E. Alway.** West Virginia School of Medicine.

756. GI HORMONES, PEPTIDES AND RECEPTORS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A586 **756.1** Effects of Urocortins on Intestinal Ion Secretion in the Mouse Colon. **S. Liu, A. Karo.** University of Wisconsin—La Crosse.

A587 **756.2** Characterizing the Appetite-Regulatory Response Throughout the Menstrual Cycle. **G.L. McKie.** Wilfrid Laurier University, Canada.

757. GASTROINTESTINAL NUTRIENT SENSORS

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A588 **757.1** Intestinal D-Allulose Transport Is Likely Mediated by Glucose Transporter Type 5 (GLUT5). **K. Kishida, T. Iida, T. Yamada, R.P. Ferraris, Y. Toyoda.** Kindai University, Japan, Matsutani Chemical Industry Company, Limited, Japan, Rutgers New Jersey Medical School and Meijo University, Japan.

A589 **757.2** Knockout of TXNIP in the Intestinal Epithelial Cells Abrogates the High Fat Diet-Induced Fructose Uptake in Mice. **A. Shah, S. Dagdeviren, H. Hundal, R.T. Lee.** Harvard University.

A590 **757.3** Enterocyte Lipid Droplet and Mitochondrial Interaction in Zebrafish (*Danio rerio*) Larvae During High Fat Diet Absorption. **J.W. Walters, G. Compton, L. Andrews.** Bluefield State College.

758. GASTRIC PHYSIOLOGY AND PATHOPHYSIOLOGY

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A591 **758.1** Environmental Factors Influence α-Synuclein Transport in the Gut-Brain Axis in a Rodent Model of Parkinsonism. **C. Bove, L. Anselmi, R.A. Travagli.** Pennsylvania State University.

759. EFFECTS OF DIET ON GI AND LIVER PHYSIOLOGY

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A592 **759.1** In the Absence of Weight Gain, Survival Rates of Df508-Cf Female Mice Are Increased by Genistein Diet. **L. Al-Nakkash, N. Fairbourn, C. Mylavarapu, A. Dbeis, R. Lord, A. Chandrashekar, T. Bowman, T. Banayat, C. Hodges.** Midwestern University and Case Western Reserve University.

A593 **759.2** C-SRC Mediates Intestinal Stem Cell Response to High Fat Diet. **A.L. Theiss, J. Han, D.L. Jackson, J. Park, K.H. Jung, B.A. Kaipparettu.** Baylor Scott & White Research Institute and Baylor College of Medicine.

A594 **759.3** Nutrients Acutely Modulate Intestinal Permeability Independently of the Enteric Nervous System. **J-B. Cavin, W.K. MacNaughton, K.A. Sharkey.** University of Calgary, Canada.

A595 **759.4** Do Omega-3 Fatty Acids Prevent the Development of Nonalcoholic Fatty Liver Disease? **A.N. Gagen, M.L. Schaller, J.C. Maciejewski, K.E. Sandoval, K.A. Witt, J.S. Wooten, B.L. Guilford.** Southern Illinios University Edwardsville.

A596 **759.5** Effects of Dates (Phoenix dactylifera L.) on Basal and Stimulated Gastric Acid Secretion Due to Histamine, Pentagastrin and Carbachol in Rats. **C. Onwuchekwa, B. Okon.** Usman Danfodiyo University, Sokoto, Nigeria and University of Ibadan, Nigeria.

A597 **759.6** G-Protein-Coupled Bile Acid Receptor Attenuates Liver Injury in a Murine Model of Acute Parenteral Nutrition. **C.K. Gomes, P. Rao, E. Stephenson, M. Puchowicz, L. Makowski, J.K. Han, D. Yin, E.B. Chang, J.F. Pierre.** University of Tennessee Health Science Center and University of Chicago.

A598 **759.7** Identifying Biomarkers Relevant to Functional Gastrointestinal Disorders Using a Systems Biology Approach. **N.C. Roy, K. Fraser, W. Young, W.C. McNabb, R. Gearry.** AgResearch, New Zealand, Massey University, New Zealand and University of Otago, New Zealand.

760. ALCOHOLIC AND NONALCOHOLIC FATTY LIVER DISEASES

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A599 **760.1** Biliverdin Reductase A (BVRA) Mediates the Gut Microbiome in Alcoholic Liver Disease. **A-R. Hamoud.** The University of Toledo Health Science Campus.

A600 **760.2** Effects of Voluntary Wheel Running on Markers of Nash During Weight-Loss in C57BL/6 Mice. **J.S. Wooten, K.E. Poole, M.P. Harris, B.L. Guilford, M.L. Schaller, D. Umbaugh, A. Seija.** Southern Illinois University Edwardsville.

A601 **760.3** Hepatocyte Specific Deletion of HIF-1α Affects Gut Microbiota Composition in HFD Fed Mice. **B. Luo, D. Xiang, D. Wu, P. Chen, Y. Hu.** Shanghai University of Sport, People's Republic of China and Second Military Medical University, People's Republic of China.

A602 **760.4** Cardiorespiratory Fitness Stipulates Presence and Normalization of NAFLD in a Community-Based Adults Enrolled in a Lifestyle Modification Program. **C.M. Tomeleri, H.T. Kano, L.P. Barros, R.C. Burini.** University of Campinas—UNICAMP, Brazil and Botucatu Medical School, Brazil.

A603 **760.5** Hepatic Gene Expression Changes in a Mouse Model of Alcoholic Liver Disease: Effect of the W-6:W-3 Polyunsaturated Fatty Acid Ratio. **D. Warner, S. Gosh Dastidar, Y. Song, J. Warner, C. McClain, I. Kirpich.** University of Louisville.

A604 **760.6** Tailgate Study: A Pilot Study Measuring the Impact of Food and Alcohol Intake on Whole-Body and Liver Metabolism. **M.M. Syed-Abdul, N.T. Le, M. Jacome-Sosa, Q. Hu, B.M. Oxler, K. Bingham, R. Arreola, A.M. Al Juboori, A.H. Gaballah, B.D. Bartholow, J.A. Ibdah, E.J. Parks.** University of Missouri.

A605 **760.7** Assessing the Impact of Ethanol on Developing and Adult Zebrafish *(Danio rerio)*. **J.B. Chiari, J.M. Charles, C.L. McGinnis.** Quinnipiac University.

A606 **760.8** Fish-Oils Protect Against Hepatic Inflammation Following LPS Stimulation. **M.L. Schaller, D.R. Kamm, M.P. Harris, K.A. Witt, K.E. Sandoval, J.S. Wooten.** Southern Illinois University Edwardsville.

A607 **760.9** Effects of Fish-Oils on Markers of Hepatic Steatosis and Cholesterol Homeostasis in C57BL/6 Mice. **D.R. Kamm, M.L. Schaller, D. Umbaugh, H.M. Altenburg, M.P. Harris, K.E. Sandoval, K.A. Witt, J.S. Wooten.** Southern Illinois University School of Medicine Edwardsville.

A608 **760.10** Canonical and Non-Canonical Inflammasomes Are Differentially Regulated in NAFLD, Which May Play Important Roles in Sensing Hyperlipidemic Damps and Initiating the Pathogenesis of the Disease and Liver Inflammation. **C.E. Drummer, C. Johnson, H. Wang, X-F. Yang.** Temple University.

A609 **760.11** Sub-Organ Fractionation of Hepatic Cells After Antisense Oligonucleotide Treatment in Mice. **H. Murray, R. Peralta, S. Damle, R. Lee, T. Prakash, P. Seth, W. Fu, S. Murray, S. Guo.** Ionis Pharmaceuticals Inc.

A610 **760.12** Prorenin Receptor Regulates Lipid Metabolism via Distinct Actions on PPARγ and SREBP-2 in Liver of Male Mice. **E.O. Gatineau, F. Yiannikouris.** University of Kentucky.

A611 **760.13** Effect of Gut Microbiota Modulation on Hepatic Lipid Metabolism. **L.T.G. Pereira, B.T.S. Beserra, D.F. Engel, G.C. de Paula, A.F. de Bema, A.A. Amato.** University of Brasilia, Brazil, Center for Biological Sciences and Federal University of Santa Catarina, Brazil.

761. BARRIER FUNCTION AND REPAIR

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A612 **761.1** Effect of Mucus Layer on the Transcellular Absorption of Lipophilic Drugs in Rat Small Intestine. **H. Kishimoto, K. Miyazaki, Y. Shirasaka, K. Inoue.** Department of Biopharmaceutics, School of Pharmacy and Tokyo University of Pharmacy and Life Sciences, Japan.

A613 **761.2** Marked Differences in Tight Junction Composition and Macromolecular Permeability Among Different Intestinal Cell Types. **S.C. Pearce, A. Al-Jawadi, K. Kishida, S. Yu, M. Hu, L.F. Fritzky, K.L. Edelblum, N. Gao, R.P. Ferraris.** Rutgers New Jersey Medical School and Rutgers University.

A614 **761.3** Actin Polymerization Triggers Gastric Epithelial Repair of Damage. **E. Aihara, A.L. Matthis, K.A. Engevik, J.R. Turner, T. Zhang, M.H. Montrose.** University of Cincinnati and Brigham and Women's Hospital and Harvard Medical School.

A615 **761.4** Hypoxia Inducible Factor (HIF)-1 Accelerates Epithelial Wound Healing Through Regulation of Integrin-$\alpha 5\beta 1$ **B. Goggins, K. Minahan, A. Mathe, G. Liu, M. Walker, J. Horvat, D. Knight, S. Keely.** University of Newcastle and Hunter Medical Research Institute, Australia.

762. NUTRIENT METABOLISM IN THE GUT

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A616 **762.1** Degree of Dietary Refinement Alters Apparent Gut Permeability. **T.R. Price, R.L. Walzem.** Texas A&M University.

763. IMPACT OF DIET AND ELECTROLYTES ON BLOOD PRESSURE REGULATION

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A617 **763.1** Superoxide-Dependent Redox Signaling in the Supraoptic Nucleus Is Associated with the Neuroendocrine Response to Water and Electrolyte Imbalance. **J.B.M.D. Lima, S.D.B.V.D. Morais, S.L. Schlichte, L.K. Debarba, R. Coletti, F.M.V. Vechiato, J. Antunes-Rodrigues, I.H. Zucker, M.C. Zimmerman.** University of Nebraska Medical Center, Ribeirão Preto Medical School and University of São Paulo, Brazil.

A618 **763.2** Small Differences in Rehydration Volume Affect 24h Urinary Concentration. **E.C. Johnson, A.E. Huffman, H.A. Yoder, A. Dolci, E.T. Perrier, D.E. Larson-Meyer.** University of Wyoming and Danone Research, France.

A619 **763.3** Effect of Short-Term Water Restriction on Blood Pressure Variability in Young Adults. **J.C. Watso, M.C. Babcock, A.T. Robinson, K.U. Migdal, S.D. Stocker, M.M. Wenner, W.B. Farquhar.** University of Delaware and University of Pittsburgh.

A620 **763.4** The Effects of 4-Weeks of Prolonged Nighttime Fasting on Biomarkers of Health and Longevity in Healthy Males. **A.J. Dirks-Naylor, J.A. Wilson, M. Bush, R. Waghel, J. Dresser, N. Gandhi, G. Hanseler.** Wingate University.

A621 **763.5** Renal Injury Is Worsened When Consuming a Caffeinated Soft-Drink During and After Exercise in the Heat. **C.L. Chapman, B.D. Johnson, J.R. Sackett, M.D. Parker, Z.J. Schlader.** University at Buffalo and State University of New York.

A622 **763.6** Effects of Whole Milk and Full-Fat Dairy Products on Vascular Function in Adults with Elevated Blood Pressure. **S. Roy, S. Lapierre, B. Baker, B. Fico, D. Gourley, J. Shah, L. Delfausse, H. Tanaka.** The University of Texas at Austin.

A623 **763.7** The DASH Diet Produces a Natriuretic Effect and Interacts with the Renin-Angiotensin-Aldosterone System. **S.A. Maris, S. Brown, P.R. Conlin, J.S. Williams.** Brigham & Women's Hospital and Harvard Medical School and Veterans Affairs Boston Healthcare System.

A624 **763.8** Differential Sympathetic and RAAS Responses to a Low Sodium Diet. **M.C. Babcock, A.T. Robinson, J.C. Watso, K.U. Migdal, M.M. Wenner, S.D. Stocker, W.B. Farquhar.** University of Delaware and University of Pittsburgh.

A625 **763.9** The Effects of Aerobic Fitness on Blood Pressure Reactivity During Controlled Low and High Sodium Diets. **A.T. Robinson, K.U. Migdal, M.C. Babcock, J.C. Watso, M.M. Wenner, S.D. Stocker, W.B. Farquhar.** University of Delaware and University of Pittsburgh.

A626 **763.10** Collecting Duct NOS1 Activation Is Necessary for Increased GFR in Response to High Salt Diet. **J.M. Allan, D.M. Pollock, K.A. Hydnman, J.S. Pollock.** University of Alabama at Birmingham.

A627 **763.11** High Dietary Salt Intake Drives Sympathetically Mediated Alpha-1 Adrenoceptor Regulation of NCC to Increase Renal Sodium Retention and Blood Pressure via an Oxsr1 Dependent Pathway. **F. Puleo, A.A. Frame, R.D. Wainford.** Boston University.

764. GASTROINTESTINAL MOTILITY

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A628 **764.1** Luteolin Relaxes Cholecystokinin-Induced Tension in Guinea Pig Gallbladder Strips. **L. Kline.** University of Alberta, Canada.

A629 **764.2** Multiple Tetrodotoxin(TTX)-Sensitive Nav1 Channels Regulate Action Potential Initiation in the Nerve Terminals of Vagal Nodose C-Fibers Innervating the Esophagus. **M. Kollarik, N. Pavelkova, J.S. McDermott, J.L. Krajewski, F. Ru.** Johns Hopkins University School of Medicine and Lilly Research Laboratories.

A630 **764.3** The Effect of Mitochondrial Inhibitors on Ca^{2+} Signalling and Pacemaking Conductances in Interstitial Cells of Cajal in the Mouse Small Intestine. **B.T. Drumm, T.S. Sung, S.A. Baker, S.D. Koh, K.M. Sanders.** University of Nevada and Reno.

A631 **764.4** The Effects of Short Chain Fatty Acid Mixtures on Colonic Motility. **D.M. Kendig, N. Hurst, A. Favreau.** Loyola University Maryland and Virginia Commonwealth University.

765. MICROBIOME OF THE GI TRACT

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A632 **765.1** The Impact of Antibiotics on the Intestinal Microbiome and the Gut-Brain Axis in Zebrafish. **E.A. Bell, A.G. Ball, K.L. Deprey, J.K. Uno.** Elon University.

A633 **765.2** Alterations in the Intestinal Microbiota Contribute to the Gastrointestinal Toxicity of the Anti-Rejection Drug Mycophenolate Mofetil. **K.L. Flannigan, S.K. Pereira, M.R. Taylor, L. Alston, X. Wang, K.P. Rioux, H.J. Galipeau, M.L. Workentine, S.C. Greenway, S.A. Hirota.** University of Calgary, Canada and McMaster University, Canada.

A634 **765.3** Comparative Study of the Intestinal Microbiota in Children from Mexican Mothers with or Without Gestational Diabetes. **A. Garcia de Leon-Solis, M. Torres-Trueba, B. Palacios-Gonzalez, J. Aguilar-Reyes, M.D.C. Garcia de Leon-Mendez, M. Lara-Anaya, F. Vadillo-Ortega, N. Meraz-Cruz.** National Institute of Genomic Medicine, Mexico, Hospital de la Niñez Oaxaqueña, Mexico and Universidad Nacional Autónoma de México, Mexico.

A635 **765.4** Exploring the Link Between Irritable Bowel Syndrome and the Microbiome. **W. Young, R. Gearry, P.D. Cotter, K. Fraser, W.C. McNabb, N.C. Roy.** AgResearch, New Zealand, High-Value Nutrition National Science Challenge, New Zealand and Teagasc, Ireland.

A636 **765.5** Short Chain Fatty Acid Delivery: Assessing Exogenous Administration of the Microbiome Metabolite Acetate in Mice. **T.B. Shubitowski, J.L. Pluznick.** Johns Hopkins University.

A637 **765.6** Improvement in Glucose Tolerance in Mice Fed a High-Fat Diet with a Low Omega-6:Omega-3 Ratio Is Associated with Changes in Gut Microbiota. **C.P.d. Almeida-Suhett, J. Crott, A. Graham, P. Deuster.** Uniformed Services University of the Health Sciences, United States Department of Agriculture Human Nutrition Research Center on Aging and Tufts University.

A638 **765.7** High Fat Diet Impacts Gut Microbiome Differently in Male and Female Sprague Dawley Rats. **A.P. Gonzalez, C.D. Rodriguez, S. Brofen-Quiñones, L. Sambolin-Escobales, M. Cruz, C.B. Appleyard, G. Chompre.** Pontifical Catholic University of Puerto Rico and Ponce Health Sciences University Medical School and Research Institute.

A639 **765.8** Using a Zebrafish Model to Study the Gut Microbiota's Effect on the Brain's Neurochemistry and Behavior. **A.G. Ball, E.A. Bell, K. Sienerth, J.K. Uno.** Elon University

766. GUT-BRAIN INTERACTIONS AND CONTROL OF FEEDING BEHAVIOR (POSTERS)

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A640 **766.1** CART-GPR160 Regulation of Food Intake. **C.J. Haddock, G.L.C. Yosten, G.R. Kolar, W.K. Samson.** Saint Louis University.

A641 **766.2** Metabolic Syndrome and the Role of GLP1 Receptor Agonists in a Model of Postmenopausal Pcos. **E.D. Torres Fernandez, D.G. Romero, L.L. Yanes Cardozo.** University of Mississippi Medical Center.

A642 **766.3** Coordination of Homeostatic Functions by Intrascapular Brown Adipose Tissue- and Pancreas-Related Command Neurons. **S.M. Butcher, B.V. Hamling, L.D. Desmoulins, A. Zsombok.** Tulane University and Tulane University School of Medicine

A643 **766.4** Central Fructose Impairs Exendin 4-Mediated Anorexia in the Ventromedial Hypothalamus in Male C57bl/6 Mice. **M. Burmeister, J.E. Ayala.** Sanford Burnham Prebys Medical Discovery Institute and Vanderbilt University.

767. NUTRITION AND NUTRIENT METABOLISM I

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A644 **767.1** Four Weeks of Intermittent Fasting Improves Sleep Quality, Decreases Stress Levels, Improves Quality of Life, and Enhances Body Composition in a Middle Aged Male: A Case Study. **G. Bains, S. Silver, C. Wilson, H. Garcia, E. Lohman, L. Berk.** Loma Linda University.

A645 **767.2** Dietary Coated Cysteamine Improves Antioxidant Status of Muscle in Pig Model. **H. Liu, M. Bai, Y. Yin.** Institute of Subtropical Agriculture and Chinese Academy of Sciences, People's Republic of China.

A646 **767.3** Effects of Milk Fat Globule Membrane on Lymphocyte Gene Expression and Markers of Metabolism and Inflammation in the Postprandial Period. **E. Beals, E. Demmer, N. Rivera, T.S. Rogers, E.R. Gertz, M.D. Van Loan, J.B. German, J.T. Smilowitz, A.M. Zivkovic.** University of California, Davis, United States Department of Agriculture, Agricultural Research Service, Western Human Nutrition Rese and Foods For Health Institute.

A647 **767.4** Modeling Effects of a High-Fat (Almonds) vs. High-Carbohydrate (Graham Crackers) Snack on Metabolic Outcomes in College Freshmen. **M. Barron, J. Dhillon, S.A. Asghar, Q. Kuse, N. De La Cruz, E. Vu, S.S. Sindi, R.M. Ortiz.** University of California and Merced.

A648 **767.5** Severe Iron Deficiency and Manganese Concentrations in the Rat Cerebrum. **K. Yokoi, A. Konomi.** Seitoku University Graduate School, Japan and Yasuda Women's University, Japan.

A649 **767.6** Artificial Sweeteners and Dietary Disaccharides Promote the Release of Glucagon-Like Peptide-1 in GLUTag Cells, an in Vitro Model of the Enteroendocrine Cell. **K. Mehat, C. Corpe.** King's College London, United Kingdom.

A650 **767.7** Cardiovascular and Metabolic Responses to the Ingestion of Caffeinated Herbal Tea: Is It Healthier to Drink It Cold? **C. Maufrais, D. Sarafian, A. Dulloo, J-P. Montani.** University of Fribourg, Switzerland.

A651 **767.8** Artificially Sweetened Vitamin Drink Consumption Reduces Insulin Sensitivity and Alters One-Carbon, B-Vitamin Dependent Metabolism in Adolescents. **S. Mayengbam, H. Virtanen, D.S. Hittel, C. Elliott, R.A. Reimer, H.J. Vogel, J. Shearer.** University of Calgary, Canada.

A652 **767.9** Effects of Partial Sleep Deprivation on Lipid Profile. **N. Covassin, J. Bukartyk, I. Cundrle, P. Singh, A.D. Calvin, E.K. St. Louis, V.K. Somers.** Mayo Clinic.

A653 **767.10** Attenuation of High Glucose/High Insulin-Induced Muscle Insulin Resistance by Rosemary Extract. **H. Shamshoum, E. Tsiani.** Brock University, Canada.

A654 **767.11** The Effect of Zinc Deficiency and Diet Restriction on Gene Expression of Hypoxia-Inducible Factors in Rat's Kidney. **A. Konomi, K. Yokoi.** Yasuda Women's University, Japan and Seitoku University Graduate School, Japan.

A655 **767.12** Dietary Fat Quality Plays a Sex-Specific Role in Attenuating Metabolic Risk Factors in Aging CD-1 Mice. **A. Unger, T. Jetton, J. Kraft.** The University of Vermont.

A656 **767.13** Metabolic Plasticity Through Pregnancy with Normal Pregestational BMI. **J. Delgadillo-Velazquez, N. Patiño-Gonzalez, R. Nambo-Venegas, A. Millán-Cortés, F. Vadillo-Ortega, B. Palacios-Gonzalez.** National Institute of Genomic Medicine, Mexico and Escuela de Dietética y Nutrición del ISSSTE, Mexico.

A657 **767.14** Dysfunctional Plasma Lipid Metabolism Contributes to Chronic Migraine Pathology. **A.N. Fonteh, K. Castor, K. Kershaw, E. Jung Im, J. Dawlaty, N. Gross, X. Arakaki, Y. Woldeamanuel, M. Harrington, R. Cowan.** HMRI and Stanford University.

A658 **767.15** AMP-Activated Protein Kinase in Muscle Is Essential in Ketone Body Utilization. **T. Bedarida, Y-M. Han, Y. Wu, Z. Liu, P. Song, M-H. Zou.** Center for Molecular and Translational Medicine and Georgia State University.

A659 **767.16** Ghrelin Directly Stimulates Fatty Acid Oxidation in Skeletal Muscle. **E. Kraft, D. Dyck.** University of Guelph, Canada.

A660 **767.17** Determining the Significance of a Novel Disease Inducing Rodent Diet on Adenocarcinoma Growth *in Vivo*. **J. Convissar, J. Joshua, A.W. Johnson, D. Pogarcic, J.C. Gigliotti.** Liberty University.

768. EXERCISE, MUSCLE AND BONE METABOLISM

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A661 **768.1** Beta-Hydroxy-Beta-Methylbutyrate (HMB) Augments Muscle Contraction-Induced Protein Synthesis via mTORC1 Signaling in Cultured L6 Myotubes. **S. Sato, Y. Takamura, I. Yamana, M. Nomura, A. Uchiyama, Y. Furuichi, Y. Manabe, N.L. Fujii.** Lion Corporation, Japan and Tokyo Metropolitan University, Japan.

A662 **768.2** Channel Catfish GLUT4 mRNA Expression in Various Tissues and Muscle Changes in Response to Changes in Feeding Frequency. **A.M. Schmidtberger, M. Dougherty, O. Abernathy, E. Nevarez, D. Kostner, R. Spainhour, Y. Kobayashi.** Fort Hays State University.

A663 **768.3** Kvβ Subunit Interacts with NEDD4 Leading to Decreased Mouse Skeletal Muscle Size. **S. Tipparaju, J. Tur, M. Brotto, K. Chapalamadagu.** University of South Florida and The University of Texas at Arlington.

A664 **768.4** Testosterone Supplementation Does Not Affect Skeletal Muscle Growth When Administered Alone in Either Sex and Requires an Additional Anabolic Stimulus to Exert Its Effects in Female Mice. **A. Davidyan, K. Baar, S.C. Bodine.** University of California, Davis and University of Iowa.

A665 **768.5** Expression of Muscle mTOR mRNA in Relation to Changes in Food Intake in Channel Catfish. **R. Spainhour, O. Abernathy, M. Dougherty, A. Schmidtberger, D. Kostner, Y. Kobayashi.** Fort Hays State University.

A666 **768.6** Protein Synthesis Throughout the Progression of Cancer Cachexia in Tumor-Bearing Mice. **J.L. Brown, D. Lee, M. Rosa-Caldwell, R. Perry, W. Haynie, C. Benson, T. Washington, M. Wiggs, N. Greene.** University of Arkansas Fayetteville and The University of Texas at Tyler.

A667 **768.7** Is Training-Induced Increase in Muscle Mass Influenced by ACTN3 Genotype? **B. Norman, N. Psilander, M. Lilja, R. Fernandez-Gonzalo, T. Lundberg.** Karolinska Institutet, Sweden and Swedish School of Sports and Health Sciences, Sweden.

A668 **768.8** Measurement of Muscle, Tendon, Ligament, Cartilage, and Bone Protein Synthesis Rates *in Vivo* in Humans. J**. Smeets, A. Horstman, G. Vles, P. Emans, J. Goessens, A. Gijsen, J. van Kranenburg, L. van Loon.** Maastricht University Medical Center, Netherlands.

A669 **768.9** Does Notch Act Through mTOR to Regulate Protein Synthesis? **J. Huot, B. Thompson, C. McMullen, S. Arthur.** University of North Carolina at Charlotte.

A670 **768.10** Relationships Between Dual-Energy X-Ray Absorptiometry Bone Mineral Content and Bone Mineral Density and Standing and Sitting Bioimpedance Spectroscopy Variables in Healthy Men and Women. **M.T. Lane, L.A. Doernte, A.M. Spears, R.M. Bean, J.R. Moon.** Eastern Kentucky University, ImpediMed and Inc.

A671 **768.11** The Use of Electrical Impedance Myography for the Evaluation of Muscle Quality and Their Relationship with Quality of Life in Adults. **A.N. Mendoza-Hernandez, V. Rivera-Roman, L. Cuamatzin, W. Ortiz-Lozano.** Universidad Popular Autónoma del Estado de Puebla, Mexico.

769. NUTRITIONAL REGULATION OF SARCOPENIA AND MUSCLE REGENERATION

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A672 **769.1** Effects of Creatine Supplementation and Doxorubicin Treatment on Myogenic Regulatory Factor Expression in Slow and Fast Muscle. **Z. Torok, R. Busekrus, D.S. Hydock.** University of Northern Colorado.

A673 **769.2** Cardiorespiratory Fitness Discriminates Sarcopenic (Abdominal) Obese from Sarcopenic Aging Subjects. **R.C. Burini, R.M. Manda, O. Teixeira.** Center for Nutritional and Exercise Metabolism (CeMENutri), Brazil.

A674 **769.3** Effects of Creatine Supplementation and Doxorubicin Treatment on Diaphragm Myogenic Regulatory Factor Expression. **M. Jones, R. Busekrus, Z. Torok, D. Hydock.** University of Northern Colorado.

A675 **769.4** Sarcoplasmic Proteome Changes in Response to Aging and Diet. **M. Pacheco, E. Morris, K. Dimova, S. Garvey, D. Russ, T. Hawks, S. Scordilis.** Smith College, Abbott Nutrition and Ohio University.

A676 **769.5** RBM20 Deficiency Postpones Skeletal Muscle Regeneration After Injury and Promotes Fibrotic Tissue Formation. **M. Rexiati, M. Sun, W. Guo.** University of Wyoming.

A677 **769.6** Deubiquitinase UCHL1 Regulates Myogenesis in Skeletal Muscles. **H. Gao, P. Wu, X. Wang, Y. Li.** Division of Basic Biomedical Sciences and Sanford School of Medicine of the University of South Dakota.

A678 **769.7** Recovery from *in Vivo* Eccentric Skeletal Muscle Damage: Old Versus Young. **J.S. Godwin, C.F. Hodgman, T.T. Rice, K.A. Zwetsloot, R.A. Shanely.** Appalachian State University.

A679 **769.8** Phytoecdysteroids Enhance Skeletal Muscle Function Recovery Following *in Vivo* Eccentric Contraction-Induced Injury in Old Mice. **C.F. Hodgman, J.S. Godwin, K.A. Zwetsloot, R.A. Shanely.** Appalachian State University.

770. SMOOTH MUSCLE, PHYSIOLOGY/PHARMACOLOGY

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A680 **770.1** Attenuation of Vascular Contractility in Metastatic Breast Cancer Mice. **R. Vorn, H.Y. Yoo.** Chung-Ang University, Republic of Korea.

A681 **770.2** Quantitative Study of Pharmacological Regulation of TRPM Channel in Urinary Bladder Over Activity. **C. Mahapatra, R. Manchanda.** Indian Institute of Technology Bombay, India.

A682 **770.3** Knockout of Vascular Smooth Muscle Inward-Rectifier K^+ Channels Causes Symptoms of Overactive Bladder in Mice. **N.R. Tykocki, M.S. Ross, G. Kopec-Belliveau, M.B. Klinger-Lawrence, M.T. Nelson, G. Herrera.** University of Vermont, Norwich University, Med Associates and Inc.

A683 **770.4** Synergistic Effects of Dantrolene and Nimodipine on the Phenylephrine-Induced Contraction and ACh-Induced Relaxation in Aortic Rings from Diabetic Rats. **M. Roman, J. Ramirez, R. Torres, M. Morales, H. Torres, M.J. Crespo.** University of Puerto Rico School of Medicine, Puerto Rico, University of Puerto Rico and Rio Piedras Campus, Puerto Rico.

A684 **770.5** The Effects of Natural Products from a Medicinal Plant (*Cinnamosma fragrans*) on Contractions of a Visceral Muscle in the Zika Vector *Aedes aegypti*. **A. DeLaat, H.L. Rakotondraibe, P. Piermarini.** The College of Wooster, The Ohio State University and The Ohio State University Agricultural Research and Development Center

A685 **770.6** Dynamic Assessment of Ca^{2+} Sensitivity of Isometric Force in Intact Airway Smooth Muscle Using Phase Loop Plots. **S. Osorio, Y. Han, G. Sieck.** Mayo Clinic.

A686 **770.7** PDGFRβ Induces Ribosome Biogenesis in Aortic Smooth Muscle Cells. **Y. Pincu, L.E. Olson.** Oklahoma Medical Research Foundation.

A687 **770.8** LRRC8A/C Voltage-Dependent Anion Channels Are Required for NADPH Oxidase 1 Activation in Response to TNFα. **H. Choi, H.N. Nguyen, A. Dikalova, F.S. Lamb.** Vanderbilt University Medical Center.

A688 **770.9** Inducible Loss of Integrin β1 from Bladder Smooth Muscle Causes Increased Voiding Frequency and Impaired Muscarinic Contractility. **B. MacIver, L. Zhang, S. Hanif, A. Akram, W. Yu, W.G. Hill.** Beth Israel Deaconess Medical Center.

A689 **770.10** Regulation of Intracellular Calcium in Uterine Leiomyomas. **J.L. Ravix, M.D. Purdy, M.D. Thompson, S.A. Wicher, A.A. Roesler, L. Manlove, R.D. Britt; Jr., L.D. Wheeler, P. Parikh, E. Stewart, C. Pabelick, Y.S. Prakash.** Mayo Clinic.

A690 **770.11** Participation of Toll-Like Receptor (TLR) 9 in Obesity-Induced Benign Prostatic Hyperplasia (BPH) in Mice: Implication of Periprostatic Fat. **F.B. Calmasini, C.G. McCarthy, C.F. Wenceslau, F.B.M. Priviero, E. Antunes, R.C. Webb.** University of Campinas—UNICAMP, Brazil and Augusta University.

A691 **770.12** Extracellular Superoxide Dismutase (SOC3) Mediates Extracellular Superoxide-Dependent Signaling by TNFalpha. **M.R. Miller, H. Choi, F.S. Lamb.** Vanderbilt University.

A692 **770.13** Chloride Single Channel Activity in Freshly-Isolated Guinea Pig Detrusor Smooth Muscle Cells. **V. Yarotskyy, J. Malysz, G.V. Petkov.** College of Pharmacy and University of Tennessee Health Science Center.

A693 **770.14** Secondhand Smoke Exposure Impairs Vascular Reactivity in Mesenteric Arteries. **M. Nieves-Cintron, A. Syed, S. Pan, E. Karey, J. Sun, M. Navedo, C-Y. Chen.** University of California and Davis

A694 **770.15** A Specialized Smooth Muscle Cell, Co-Expressing Platelet-Derived Growth Factor Receptor-Alpha, Participates in Pacing the Upper Urinary Tract via Anoctamin-1 Activation. **N. Grainger, S.M. Ward, S.D. Koh, K.M. Sanders.** University of Nevada and Reno.

A695 **770.16** Effect of Metabolic Syndrome and Aging on Coronary Artery Disease Severity and Ca^{2+} Dysregulation in Coronary Smooth Muscle in Ossabaw Miniature Swine. **J.K. Badin, R.S. Bruning, M. Sturek.** Indiana University School of Medicine.

771. REDOX BIOLOGY: A UNIFYING THEME IN THE ETIOLOGY OF HUMAN DISEASES (POSTERS)

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A696 **771.1** Remote Transplantation of Human Adipose-Derived Stem Cells Induces Regression of Cardiac Hypertrophy by Regulating the Macrophage Polarization in Spontaneously Hypertensive Rats. **T-M. Lee, C-C. Yang.** An Nan Hospital and China Medical University, Taiwan.

A697 **771.2** Reductive Stress Promotes Heart Failure in Mouse and Human. **R. Namakkal Soorappan.** The University of Alabama at Birmingham.

A698 **771.3** Increased Plasticity of Foxp3+ Treg Under Pathological Conditions Convert Treg into Either Novel Treg or Th1-Treg. **K. Xu, W.Y. Yang, G.K. Nanayakkara, Y. Shao, F. Yang, W. Hu, E.T. Choi, H. Wang, X. Yang.** Lewis Katz School of Medicine at Temple University.

A699 **771.4** STAT1 (Signal Transducer and Activator of Transcription 1) Deficiency in T Cells Upregulates MHC Class II and Co-Stimulation Receptors, Suggesting That STAT1 Deficiency in T Cells May Increase the Plasticity and Convert in to Atypical Antigen Presenting Cells. **W.Y. Yang, H. Shen, N. Wu, G.K. Nanayakkara, H. Fu, C. Drummer, Y. Shao, L. Wang, Q. Yang, K. Xu, W. Hu, E.T. Choi, H. Wang, X. Yang.** Lewis Katz School of Medicine at Temple University and Shengjing Hospital of Chinese Medical University, People's Republic of China.

A700 **771.5** Isocitrate Dehydrogenase-1 Deficiency Exacerbates Growth Defects and Metabolic Alteration in *Caenorhabditis elegans* Induced by Glucose 6-Phosphate Dehydrogenase Deficiency. **D-Y. Chiu, H-C. Yang, H. Yu, Y-C. Liu, S. Arnold.** Chang Gung Christian University, Taiwan, Yuanpei University of Medical Technology, Taiwan and New York University School of Medicine.

A701 **771.6** Glucose and NADPH Oxidase Dependent Trans-Plasma Membrane Electron Transport. **S.C. Kelly, N.N. Patel, J.S. Fisher.** Saint Louis University.

A702 **771.7** Exercise Characteristics in Mitochondrial Catalase Overexpressing Mice. **S.D. Rao, C.E. Gaillard, A.J. McKinley, B.T. Klatt, R.A. Shanely, B.E. Christian, K.A. Zwetsloot.** Appalachian State University.

A703 **771.8** Exercise Characteristics in Manganese Superoxide Dismutase Overexpressing Mice. **C.E. Gaillard, S.D. Rao, B.T. Klatt, A.J. McKinley, R.A. Shanely, B.E. Christian, K.A. Zwetsloot.** Appalachian State University.

A704 **771.9** Ketone Salts Inhibit Production of Superoxide Anions During Normobaric and Hyperbaric Hyperoxia in Rat Solitary Complex Neurons. **C. Hinojo, G. Ciarlone, D. D'agostino, J. Dean.** University of South Florida.

A705 **771.10** Comparison of Exogenous Ketone Supplements on Latency to CNS Oxygen Toxicity Seizures in Middle-Aged Rats. **C. Ari, A.P. Koutnik, J. DeBlasi, C. Landon, J. Vallas, S. Bharwani, J.B. Dean, D.P. D'Agostino.** University of South Florida.

772. INNOVATIONS IN PHYSIOLOGY EDUCATION I

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Lipids and Membranes

Structural Biology/Biophysics

See Session 629.

Posters are on display Sunday and Monday.

773. INNOVATIONS IN PHYSIOLOGY EDUCATION II

Poster

Mon. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

Posters are on display Sunday and Monday.

T24 **773.1** Development of a Self-Assessment Tool to Help Students Develop Metacognitive and Critical Reasoning Skills During High-Fidelity Medical Physiology Simulations. **J.D. Kibble, D.D. Harris, S.D. Fiore, L.D. Garbayo.** University of Central Florida.

T25 **773.2** Comparison of Medical Students' Performance in Multiple Choice Questions and Integrated Short Answer Essay Questions in End Unit Examination at Pbl School. **Z.A. Hasan, A.J. Almarabheh, R.L. Abdul Razzak, A.H. Kamal.** Arabian Gulf University, Bahrain.

T26 **773.3** Transparent Assessments: The Potential Benefits of Training Students in the How and Why of Evaluation. **K. Hull, V. de Carvalho Oliveira, H. Lawford, S. Hood, S. Malmquist, M. Jensen.** Bishop's University, Canada and University of Minnesota.

T27 **773.4** Multiple Choice Questions to Assess Content-Specific Critical Thinking in Second-Year Medical Students. **T.L. Yarbrough, S. Ceryak.** California Northstate University College of Medicine and George Washington University School of Medicine and Health Sciences.

T28 **773.5** Embedding Three Styles of Interviews into a Senior Seminar Course Provides Students with Practice, Assessment of Skills and Improves Confidence. **P.A. Halpin, J. Landon.** University of New Hampshire at Manchester.

T29 **773.6** Introducing Undergraduate Students to Primary Research Literature in a Human Anatomy and Physiology Course. **S.F. Knight, H. Ma.** American University.

T30 **773.7** Standardized Critical Thinking Scores Improve from Freshmen to Senior in an Exercise Science Program. **J.R. Dicus, B. Jensen, P. Pierce, J. Lynn.** Slippery Rock University.

T31 **773.8** Development of a Rubric to Evaluate Student Reflection Essays in a Clinical Physiology Course. **C.C. Strosdahl, L.C. Anderson.** University of Minnesota.

T32 **773.9** Collaborative Testing and Reflection Papers as Supplementary Assessment Tools in a Clinical Physiology Course. **L.C. Anderson.** University of Minnesota.

T33 **773.10** Academic Success Predictors in Optometry. **B. Foutch, R. Trevino, L. Fortepiani.** University of the Incarnate Word.

T34 **773.11** Diversity Training Workshop for Graduate Faculty and Students. **L.M. Harrison-Bernard, A.C. Augustus-Wallace, F.M. Souza-Smith, F. Tsien, G.P. Casey.** Louisiana State University School of Medicine.

T35 **773.12** Determining Impact of Learning Environment on Student Engagement, Bloom's Higher Order Skill Proficiency, and Exam Performance of First Year Medical Students. **M.K. Hopper, A.K. Kaiser.** Indiana University School of Medicine.

T36 **773.13** A Conceptual Framework for the Core Concept of Mass Balance. **H.I. Modell, J.A. Michael.** Physiology Educational Research Consortium, Rush Medical College and Rush University.

T37 **773.14** A Conceptual Framework for the Core Concept of *Cell Membrane*. **J. Michael, H. Modell.** Rush Medical College, Rush University and Physiology Educational Research Consortium.

T38 **773.15** Flipped Classroom Narrows the Performance Gap Between Low and High Performing Students. **D. Thor, M. Zheng, N. Xiao.** University of the Pacific.

T39 **773.16** Two Case Studies Comparing Flipped Teaching and Online Teaching with the Traditional Lecture-Based Teaching. **A. Fentem, R. Beard, C. Gopalan.** Southern Illinois University Edwardsville.

T40 **773.17** Increasing Student Engagement with the Use of Competition in a Large Human Physiology Course. **A. Woods, J. Loftus.** University of Western Ontario, Canada.

T41 **773.18** Redesigning a Physiology Course Using Core Concepts and Active Learning Methods. **M. Jensen, S. Malmquist, K. Hull.** University of Minnesota and Bishop's University, Canada.

T42 **773.19** How Do Astrophysicists Organize a Party? Their Wives Planet: Gender Differences in Student Perceptions of Instructor Humor in College Science Courses. **K. Cooper, T. Hendrix, J. Cala, S. Brownell.** Arizona State University.

T43 **773.20** A Comparison of Instructor-Generated Videos of Either an Instructor Alone or an Instructor and a Student: Student Performance, Attitudes, and Preferences. **S. Brownell, K. Cooper, L. Ding, M. Stephens, M. Chi.** Arizona State University.

T44 **773.21** Redesign of Introductory Biology Courses to Align with Vision and Change Recommendations Improves Student Success. **K.A. Wilkinson, S. Anand, S. Lambrecht.** San Jose State University.

T45 **773.22** Breaking Out from Tradition: Redesign of Large Physiology Lecture Increases Engagement, Inclusion, and Student Outcomes. **J. Dickey, K. Kimball, J.M. Redden.** University of Connecticut.

T46 **773.23** Student Perspectives on Active Learning Activities in a Human Anatomy and Physiology Course. **H.M. DiFrancesca.** University of Mary Hardin-Baylor.

T47 **773.24** The Impact of a Team Based Learning Exercise in the Understanding and Retention of Medical School Nutrition Education. **L. Cialdella-Kam, S. Khadilkar.** Case Western Reserve University School of Medicine.

T48 **773.25** A Teaching EHR for Delivery of Small Group Cases. **D.U. Silverthorn, C. Johnston, K. Ziai.** Dell Medical School and The University of Texas at Austin

TUESDAY, APRIL 24

Anatomy

774. DEVELOPMENT & GROWTH

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E1 **774.1** Morphological Characteristics of Laboratory Rat's Primary and Secondary Lymphoid Organs Beyond Water-Soluble Silicon Consumption in Repeated Studies. **V.E. Sergeeva, V.S. Gordova.** Chuvash State University, Russian Federation and Immanuel Kant Baltic Federal University, Russian Federation.

E2 **774.2** Maternal Exposure to Bisphenol-A Induces Epigenetic Changes in Metabolic Syndrome Markers of Offspring. **S. Memon, U. Bano, M.Y. Shahani.** Liaquat University of Medical and Health Sciences, Pakistan.

E3 **774.3** Impact of Housing Temperature on the Adaptation of Brown Adipose Tissue to Pregnancy in Lean and Obese Rats. **H. Budge, N. Dellschaft, L. Albustanji, E. AlHarethi, G. Perez, A. Peter, M. Symonds.** The University of Nottingham, United Kingdom and Federal University of Bahia, Brazil.

775. DEVELOPMENT & GROWTH: BIRTH DEFECTS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E4 **775.1** Evolutionary Developmental Biology (Evo-Devo-Path), or Macroevolutionary Medicine: linking Anatomy, Evolution, Development and Human Pathologies. **R. Diogo.** Howard University.

E5 **775.2** A Byzantine Tarsal Coalition from a Byzantine Monastery. **Z. Throckmorton, S.G. Sheridan.** Arkansas College of Osteopathic Medicine and University of Notre Dame.

E6 **775.3** Abnormal Development of Human Musculature: Linking Development, Anatomical Variations and Defects, Atavisms, Order and Chaos and Medicine. **M.A. Alghamdi, J.M. Ziermann, R. Diogo.** Howard University.

776. DEVELOPMENT & GROWTH: CRANIOFACIAL

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E7 **776.1** A Dynamic Spatio-Temporal Expression Pattern of FGFR Isoforms During Scleral Ossicle Development. **S. Kumar, T.A. Franz-Odendaal.** Saint Mary's University, Canada and Mount Saint Vincent University, Canada.

E8 **776.2** Spatial Patterning of Scleral Papillae in the Embryonic Chicken Eye. **J.L. Giffin, M. Hayes, D.D.T. Andrews, N.W. Zinck, T.A. Franz-Odendaal.** Mount Saint Vincent University, Canada and Dalhousie University, Canada.

E9 **776.3** Temporal Effect of Hydrocortisone Treatment on Conjunctival Papillae in the Chicken Eye. **P.M. Drake, T.A. Franz-Odendaal.** Dalhousie University, Canada.

E10 **776.4** Tracking Periocular Mesenchyme (POM) Development with *Gli1-CreERT2; tdTomato*^{FLOX} Labeled Cells in Mice. **K.K.H. Svoboda, H. Zhao, M. Petroll.** Texas A&M College of Dentistry and The University of Texas Southwestern Medical Center.

E11 **776.5** Palatal Epithelial Cells Migrate Independently of Ephrin Signaling During Fusion. **S. Logan, D. Benson.** Texas A&M College of Dentistry.

E12 **776.6** Patient-Derived *MAFB* Missense Mutation Is Associated with Cleft Palate in Mice. **B.J. Paul, K. Palmer, C. Padilla, J.C. Sharp, C.H. Pratt, S.A. Murray, M. Dunnwald.** University of Iowa and The Jackson Laboratory.

E13 **776.7** PRDM16 and Mecom Mutants Exhibit Cleft Secondary Palate as a Result of Perturbations That Affect Different Stages of Palatogenesis. B**.C. Bjork, A.C. Gomez, A. Ahmed, M. Aumann, J. Jones, I. Saadi, D. Anand, S. Lachke, A. Perkins.** Midwestern University, Kansas University Medical Center, University of Delaware and University of Rochester Medical Center.

E14 **776.8** Critical Roles of Rostral-Process-Meckel's-Cartilage in Mandibular Formation and Repairing. **Y. Jing, C. Li, H. Zhao, J. Feng.** Texas A&M College of Dentistry.

E15 **776.9** Observable Differences in Symmetry and Volume of Jugular Foramen in Children with Craniosynostosis. **S. Fourniquet, G.S. Mundinger, D. Smith, J.C. Mussell.** Louisiana State University Health Sciences Center.

E16 **776.10** Sagittal Craniosynostosis and Related Cranial Anomalies: Genetic Insights. **J. Olatunde, A. Frolov, M. Tersigni-Tarrant, J. Martin.** Saint Louis University School of Medicine.

E17 **776.11** Untangling Sources of Phenotypic Variation Characterizing the Craniofacial Disease Holoprosencephaly. **A. Lainoff, N. Young, B. Hallgrimsson, R. Marcucio.** University of California, San Francisco and University of Calgary, Canada.

E18 **776.12** Identification of a Novel Vomer Phenotype in the *fgfr2c* $^{C342Y/+}$ Mouse Model of Crouzon Syndrome. **K.M. Lesciotto, S.M. Motch Perrine, K. Kawasaki, J.T. Richtsmeier.** Pennsylvania State University.

E19 **776.13** New in Vivo MicroRNA Biotechnology Reveals Specific Roles for the *miR-200* Family in Craniofacial Development. **M.E. Sweat, W. Yu, S. Eliason, Y.Y. Sweat, H. Cao, L. Hong, B.A. Amendt.** University of Iowa, Craniofacial Anomalies Research Center and University of Iowa College of Dentistry.

E20 **776.14** Understanding the Development of Variable Craniofacial Phenotypes Caused by Altered Methylation Affecting WNT9B in A-Strain Mice. **R.M. Green, C.L. Leach, E. Schmidt, V. Diewert, R.S. Marcucio, B. Hallgrimsson.** University of Calgary, Canada, University of British Columbia, Canada, University of California and San Francisco.

E21 **776.15** Shaping the Craniofacial Skeleton of Mexican Cavefish (*Astyanax mexicanus);* Role of Osteoblast and Osteoclast. **D.S.A. Atukorallaya, R.K. Ratnayake.** University of Manitoba, Canada.

E22 **776.16** Using Developmental Rate Variation to Establish a Fine-Grained Sequence of Ossification Center Differentiation. **K.V. Flaherty, C. Halmi, J. Richtsmeier.** Pennsylvania State University.

E23 **776.17** Characterization of the Bent Bone Dysplasia Mouse: Conditional Knock-In of Fgfr2^{M391R}. **D. Rigueur, A. Merrill.** University of Southern California.

777. DEVELOPMENT & GROWTH: LIMBS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E24 **777.1** Comparative Anatomy and Development of Zebrafish Fin Muscles: Basis for Functional, Developmental, and Macroevolutionary Studies. **N. Siomava, F. Shkil, E. Voronezhskaya, R. Diogo.** Howard University College of Medicine and Russian Academy of Sciences, Russian Federation.

E25 **777.2** Abnormal Development of the Paired and Median Fins in the Hyperthyroidism Case Series of the Zebrafish (*Danio rerio*). N**. Siomava, F. Shkil, E. Voronezhskaya, R. Diogo.** Howard University College of Medicine and Russian Academy of Sciences, Russian Federation.

E26 **777.3** Histological Study of Bovine Hoof Development. **J. Hung, A. Grossman, J.R. Rodriquez-Sosa, S. Ruiz, M.I. Hall, J.H. Plochocki.** Midwestern University.

E27 **777.4** Heat Induced Limb Length Asymmetry Has Functional Impact on Weight Bearing in Mouse Hindlimbs. **M.A. Serrat, H.L. Racine, C.A. Meadows, G. Ion.** Joan C. Edwards School of Medicine and Marshall University.

E28 **777.5** Importance of Vasa Nervorum in Patients with Chronic Peripheral Arterial Disease. **N. Settembre, H.I. Shaabi, C. Saba, Z. Bouziane, L. Marc, M. Sergueï.** Nancy University Hospital, University of Lorraine, France and Reims University, France.

778. DEVELOPMENT & GROWTH: NEURAL CREST & PLACODES

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E29 **778.1** A New Transgenic *Xenopus* Reporter Line Reveals Dynamic Expression of Snail2 During Cranial Neural Crest Development. **A. Makhija, J. Li, M. Perfetto, J. Wang, A. Shah, H. Thi Tran, K. Vleminckx, S. Wei.** University of Delaware, West Virginia University, University of Virginia and Ghent University, Belgium.

E30 **778.2** *Hox* Regulation of Neural Crest Cells During Craniofacial Development. **I. Pushel, R. Krumlauf.** Stowers Institute for Medical Research.

E31 **778.3** Cholesterol Regulates Craniofacial Development by Modulating the Wnt Signaling Pathway. **C. Gonzalez.** The University of Texas at El Paso.

E32 **778.4** Late-Migrating Neural Crest Cells in Turtle Embryos Display Strong Osteogenic Potential. **S. Martin, J. Spengler, R. McLennan, P. Kulesa, S. Gilbert, J. Cebra-Thomas.** Millersville University of Pennsylvania, Stowers Institute and Swarthmore College.

E33 **778.5** Migration and Differentiation of Enteric Neural Crest Cells in the Embryonic Gut Explant Cultured *ex Vivo*. **T. Pan.** The Chinese University of Hong Kong, Hong Kong.

E34 **778.6** Connexin 43 Function in the Cranial Neural Crest. **K. Jourdeuil, L.A. Taneyhill.** University of Maryland.

779. DEVELOPMENT & GROWTH: ORGANOGENESIS

Poster

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:00 PM–2:00 PM

Authors at boards:
Odd board #: 12:00 PM–1:00 PM
Even board #: 1:00 PM–2:00 PM

E35 **779.1** Functional and 3D Ultrastructural Characteristics of a Cement Gland in a Giant *Danio (D. Cf. malabaricus)* G.**C. Coffing, H.M. Nelson, K. Hester, M. Veillard, S. Ostreicher, C. Higginbotham, W. Tomamichel, P. Lafontant.** DePauw University.

E36 **779.2** Development, Innervation, and Involution of a Transient Cement Gland in a Giant *Danio (D. Cf. malabaricus):* The Role of Retinoic Acid. **H.M. Nelson, G. Coffing, P.J. Lafontant.** DePauw University.

E37 **779.3** SIX2 Paralogs Are Required for Proximal Tubule Development in the Zebrafish Pronephros. **T. Camarata, C. Hall, A. Weyer, I. Drummond, A. Vasilyev.** New York Institute of Technology College of Osteopathic Medicine and Massachusetts General Hospital.

E38 **779.4** TMED2 Is Required in Both the Chorion and Placenta for Placental Labyrinth Layer Development. **L. Jerome-Majewska, W. Hou.** McGill University, Canada.

780. FORM, FUNCTION & MORPHOLOGY

Poster

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:00 PM–2:00 PM

Authors at boards:
Odd board #: 12:00 PM–1:00 PM
Even board #: 1:00 PM–2:00 PM

E39 **780.1** Shrinking the Mystery of Tsantsa Identification: Using Qualitative and Quantitative Measurements to Distinguish Natural and Imitation Shrunken Heads. **C. Vinovskis, M. Oya, D. Royer.** University of Colorado Anschutz Medical Campus.

E40 **780.2** Shrinking the Mystery of Tsantsa Identification: Hair Analysis of Shrunken Heads from the Denver Museum of Nature and Science. **M. Oya, C. Vinovskis, D. Royer.** University of Colorado Anschutz Medical Campus.

E41 **780.3** Links Between Anatomy, Systems Biology, Epigenetics, Etho-Eco-Morphological Mismatches, Evolutionary Trends, and Organism Behavior: A Unifying View of Anatomical Evolution. **R. Diogo.** Howard University.

E42 **780.4** Head Circumference (HC) as a Predictor of Maximum Cranial Width (MCW), Maximum Cranial Length (MCL) and Cranial Index (CI) in Nigerian Children (Less Than 3 Years Old) M.**A. Musa, A.D. Zagga.** Usman Danfodiyo University and Sokoto, Nigeria.

E43 **780.5** Strepsirrhine Diets and the Pattern of Masticatory Muscle Development. **K.A. Prufrock, J.M.G. Perry.** Johns Hopkins University School of Medicine.

E44 **780.6** Lateral Growth in the Basicranium: We Drift, They Drive. **T.D. Smith, V.B. DeLeon.** Slippery Rock University and University of Florida.

E45 **780.7** Neurovasculature of the Upper Extremity in the Aye-Aye, *Daubentonia madagascariensis*. **M. Avakian, K.E.B. Townsend, H.F. Smith.** Midwestern University.

E46 **780.8** The Relationship of Vascular Anatomy to Thermal Physiology: Linking Anatomical and Imaging Studies to *in Vivo* Non-Invasive Infrared Thermography of Free-Ranging Birds. **W.M.R. Porter, G.J. Tattersall, E.G. Caggiano, L.M. Witmer.** Ohio University and Brock University, Canada.

E47 **780.9** Inner Ear Morphology of Basal-Most Mammaliaform *Morganucodon.* **R. Shahid, P.G. Gill, S. Hoffmann.** New York Institute of Technology College of Osteopathic Medicine and University of Bristol, United Kingdom.

E48 **780.10** Differential Growth in the Telencephalon of Developing Chick—the Olfactory Bulb in Ontogeny and Phylogeny. **A. Hogan, A. Watanabe, A.M. Balanoff, G.S. Bever.** Johns Hopkins University School of Medicine and New York Institute of Technology College of Osteopathic Medicine.

E49 **780.11** Comparative Neuroanatomical Study of the Amygdala and Fear Conditioning in Nigerian Breeds of Artiodactyla: Sheep (Uda) and Goats (Red Sokoto). **J.N. Alawa, I. George, W.O. Hamman, I. Iliya, P. Akpulu, C.B. Alawa.** University of Abuja, Nigeria and Ahmadu Bello University, Nigeria.

E50 **780.12** Comparative Anatomy of the Larynx in Pinnipeds (Seal, Sea Lion, Walrus). **J.S. Reidenberg, J.T. Laitman.** Icahn School of Medicine at Mount Sinai.

E51 **780.13** Anatomy of the Respiratory System of the African Grey Parrot (*Psittacus erithacus*). **A.B. Lawson, M.S. Echols, E.R. Schachner.** Louisiana State University Health Sciences Center and The Medical Center for Birds.

E52 **780.14** The Impact of Selection for Facial Reduction in Dogs. **M.C. Selba, G. Oechtering, H.G. Heng, V.B. DeLeon.** University of Florida, University of Leipzig, Germany and Purdue University

E53 **780.15** The Squat Factor in Defense of a Vulnerable Neck and Brain. **V. Naples, B. Rothschild.** Northern Illinois University and West Virginia School of Medicine.

E54 **780.16** Evaluating the Effects of the Obturator Externus Tendon on the Posterior Femoral Neck. **L.M. Campeau, E.R. Schachner, J.C. Sedlmayr.** Louisiana State University School of Medicine.

E55 **780.17** Reconstructing Locomotor Behaviors: Cross-Sectional Property Analysis Brings More to the Story of How Earliest Euprimates Moved. **S.L. Canington, C.B. Ruff, A.D. Sylvester, R.H. Dunn, K.D. Rose.** Johns Hopkins University School of Medicine and Des Moines University.

E56 **780.18** Does Stature Really Matter? The Effect of Short Stature on Adult Survivorship. **J.D. Minsky-Rowland.** University of Tennessee and Knoxville.

E57 **780.19** The Relationship Between Joint Size and Trabecular Bone Density in Human and Non-Human Primates. **H. Chirchir, C. Ruff.** Marshall University and Johns Hopkins University

E58 **780.20** Tooth Wear Rates for *Propithecus diadema* in the Fragmented and Pristine Forests of Tsinjoarivo, Madagascar. **K.S. Heffernan, K. Samonds, M. Irwin.** Northern Illinois University.

E59 **780.21** Allometry of Felid Knee and Elbow Effective Mechanical Advantage. **C.M. Harper, A.D. Sylvester.** Johns Hopkins University School of Medicine.

E60 **780.22** Pelvic Limb and Tail Musculature of the Red Kangaroo (*Macropus rufus*). **A. Payne, N. Schmalz, J. Byram, M. McNulty, J. Organ.** Indiana University School of Medicine.

E61 **780.23** Barrels of Monkeys: Effects of Long-Term Ethanol Storage on Volar Fat Pad Morphology. **A.K. Kingston.** University of Arizona College of Medicine.

781. ANATOMY: NEURAL

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E62 **781.1** Average Diameter of Fibrous Bundles Connecting the Optic Nerve to the Optic Sheath Decreases with Increased Intracranial Pressure. **L. East, M. Newell, P. Awalgral, B. Earnest, I. Heger, R.W. Gibson, M. Lyon.** Augusta University and University of Virginia.

E63 **781.2** NGF and VEGF Expressions on Crushed Sciatic Nerve Treated with Laser Therapy and Latex Protein. **F.J. Dias, V.P.S. Fazan, M.M. Iyomasa, E. Borie, J. Coutinho-Netto, I-S. Watanabe.** Universidad de La Frontera—Dental School, Chile, Ribeirão Preto Medical School, University of São Paulo, Brazil, School of Dentistry of Ribeirão Preto, University of São Paulo, Brazil, University of Sao Paulo and Institute of Biomedical Sciences, Brazil.

E64 **781.3** Organophosphate Pesticide Effects on Neuronal Cytoarchitecture and Morphological Abnormalities in 72 Hour Zebrafish Embryos. **T.H. Watanabe, E.A. Fradinger.** Whittier College.

E65 **781.4** Decreased Density of Cholinergic Interneurons in the Medial Caudate Nucleus in Humans with Williams Syndrome. **K.L. Hanson, D.L. Cuevas, K.M. Groeniger, C.H. Lew, B.L. Hrvoj-Mihic, M.A. Raghanti, U. Bellugi, E. Halgren, K. Semendeferi.** University of California, San Diego, Kent State University and Salk Institute for Biological Studies.

E66 **781.5** High Resolution X-Ray Micro-Tomography of the Posterior Ampullary Nerve. **M. Labrousse, D. Blanchot, X. Dubernard, N. Settembre, C. Avisse, J. Devy, Y. Renard.** Université de Reims Champagne-Ardenne, France, Université de Lorraine and Nancy, France.

E67 **781.6** Embryo-Form Project: Study of the Human Spinal Cord Vascular System. **D. Barbier, Y. Renard, M. Fauvel, M. Perez, M. Labrousse, M. Braun.** Faculty of Medicine—Universite de Lorraine, France, Faculty of Medicine—Université de Reims Champagnes Ardennes, France and Centre Hospitalier Régional Universitaire Nancy, France.

E68 **781.7** Ethyl Pyruvate Reduces Swine Barn Dust Exposure Induced Brain Microglial Cell Inflammatory Responses via Targeting HMGB1-RAGE Signaling. **N. Massey, S. Puttachary, S. Mahadev-Bhat, D. Shrestha, A.G. Kanthasamy, C. Charavaryamath.** Iowa State University and Oregon State University.

E69 **781.8** Leonardo Da Vinci: Images of the Brain. **R. Philo, K. Petti.** The University of Texas Health Science Center at San Antonio and San Diego Miramar College.

E70 **781.9** Immunohistochemestry for Nerve Morphometry? **C. Giorgetto, A.L.B. Simoes, R.G. Zanon, V.P.S. Fazan.** Ribeirão Preto Medical School, University of São Paulo, Brazil and Federal University of Uberlandia, Brazil.

E71 **781.10** Saphenous Nerve Morphometry and Aging: Experimental Study in Rats. **S.A.R. Campos, L.O. Neri, L.S. Sanada, V.P.S. Fazan.** School of Medicine of Ribeirão Preto, University of São Paulo, Brazil and Federal University of Santa Catarina, Brazil.

E72 **781.11** Morphological and Morphometric Study of the Cervical Vagus Nerve Myelinated Fibers in Acute and Chronic Experimental Diabetes. **L.B. Fontanesi, A.C.M. Ferrão, L.O. Neri, V.P.S. Fazan.** School of Medicine of Ribeirão Preto and University of São Paulo, Brazil.

E73 **781.12** Using Cadaver Specimens to Better Understand Ulnar Nerve to Median Nerve Transfers. **G.T. Dorius, D.A. Morton, M.A. Mahan.** University of Utah.

782. NEUROBIOLOGY: BEHAVIOR; NEUROPSYCHIATRIC DISORDERS; DISEASE; AGING

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E74 **782.1** Smell Loss (Hyposmia) Is a Lifelong, Chronic Sensory Disease. **R. Henkin.** Center for Molecular Nutrition and Sensory Disorders.

E75 **782.2** Prospective Study of the Supraorbital Foramina Topography for Inserting Microelectrode Neurostimulator Applied to Neuromodulation. **M.D. Barros, K.S. Saleh, M.S. Casella, B.M. Liquidato, A.P. Trevizol, C.J.L. Mendes.** Santa Casa de São Paulo School of Medical Sciences, Brazil, Reference Center for Alcohol, Tobacco and Other Drugs (CRATOD) and São Paulo State Secretariat o, Brazil.

E76 **782.3** Non-Invasive Brain Stimulation for Negative Symptoms in Schizophrenia: An Updated Systematic Review and Meta-Analysis. **M.D. Barros, C.D. Osoegawa, Q.D. Cordeiro, J.S. Gomes, E.D. Brietzke, A.P. Trevizol.** Santa Casa de São Paulo School of Medical Sciences, Brazil, Federal University of São Paulo, Brazil, Reference Center for Alcohol, Tobacco and Other Drugs (CRATOD) and São Paulo State Secretariat o, Brazil.

E77 **782.4** Use of Systematic Stimulation Mapping and Functional/structural Imaging to Improve Localization of Seizure Onset in Patients with Drug-Resistant Epilepsy. **R.C. Blanco Prado, C. Drees, J.A. Thompson.** University of Colorado Anschutz Medical Campus.

E78 **782.5** Saccadic Eye Movement and Cognition. **M. Manuel, T. Tzeng, A. Aubin, D. Devier, C. Canavier, J. Lovera.** Louisiana State University Health Sciences Center—New Orleans.

E79 **782.6** An fMRI Study Examining Inhibition and Threat Vigilance Among Adolescents with Severe Worry. **J.B. Feiler.** University of Colorado Anschutz Medical Campus.

E80 **782.7** Mind Over Matter: Understanding the Relationship Between Memory Self-Efficacy, Cognition and Brain Health in Older Adults with Probable Mild Cognitive Impairment. **R. Horst, L.S. Nagamatsu.** Western University, Canada.

E81 **782.8** The Relationship Between Radial Optic Flow Perception and Neurodegeneration in Parkinson's Disease: A Voxel-Based Morphometric MRI Analysis. **G. Maskalo, J.A. Thompson, O. Kleptiskaya, V.S. Pelak.** University of Colorado Anschutz Medical Campus.

E82 **782.9** Linalol Protects Against Dopaminergic Neurons Loss in the 6-OHDA Model of Parkinson's Disease. **J.D. de Lucena, F.R.O. da Silva, F.A. Viana, R.O. da Costa, G.S. Cerqueira, G.S.D.B. Viana.** Federal University of Ceará, Brazil.

E83 **782.10** Use of String-Pulling as a Behavioral Measure of Skilled Hand Motor Function in a Middle Cerebral Artery Occlusion Model in Rats. **M.L. Hart, A. Blackwell, D.G. Wallace, J.L. Cheatwood.** Southern Illinois University School of Medicine and NIU.

E84 **782.11** Elucidating the Role of α3-Containing Nicotinic Acetylcholine Receptors (nAChRs) in Anxiety Behavior. **C.B. Smith, A.R. Tapper, P.D. Gardner.** University of Massachusetts Medical School.

E85 **782.12** Sex Differences in the Effects of Prenatal Exposure to Low Doses of Endocrine Disruptors on Stress-Related Behavior. University of Georgia.

E86 **782.13** The Effect of Cocaine Cue Re-Exposure After Prolonged Cocaine Self-Administration and Forced Abstinence on DNA Methylation and mRNA Expression in the Rat dmPFC. **K.L. Ploense, P. Vieira, A. Carr, M. Purpura, T. Kippin.** University of California, Santa Barbara, California State University and Dominguez Hills.

E87 **782.14** Modulating Swimming Behaviors in Wildtype and Cannabinoid Receptors (CB_1 & CB_2) Mutant Zebrafish Larvae. **L. Colon-Cruz, G. Varshney, A. Acevedo, K. Bonano, S. Burgess, G. Yudowski, M. Behra.** University of Puerto Rico, Medical Sciences Campus, Oklahoma Medical Research Foundation and National Institutes of Health.

E88 **782.15** Parasitic Infection Induces Changes in Distribution and Expression of Fmrf*A* and Its Receptor in Central Ganglia of B. *glabrata*, the Intermediate Host of Schistosomiasis. **L.C. Vicente-Rodríguez, S. Rolón-Martínez, P. Méndez-De Jesús, C. Ramírez-Santiago, A. Hernández-Vázquez, M. Rosa-Casillas, J. Rosenthal, M.W. Miller.** University of Puerto Rico, Institute of Neurobiology, Puerto Rico and Bell Center at The Marine Biological Laboratory.

E89 **782.16** Effect of Alaskan Low Bush Cranberry on Alpha-Synuclein Overexpression in a Transgenic Model of *C. elegans*. **B. Lu, M. Maulik, A. Bult-Ito.** University of Alaska.

E90 **782.17** Neuroprotective Effects of Estrogen on Alzheimer Induced SH-SY5Y Neuroblastoma Cells and N38 Hypothalamic Neuronal Cells. **R. Almathhur, R. Yakubov, I. Donkor, C. Suh, S. Chakraborty, T.R. Chakraborty.** Adelphi University, New York City College of Technology and City University of New York.

E91 **782.18** HFE Genotype Restricts the Response to Paraquat in a Mouse Model of Neurotoxicity. **A. Nixon Dower, E. Neely, M. Meadowcroft, W. Nandar, J. Connor.** Gettysburg College, Pennsylvania State University and University of Pittsburgh.

783. NEUROBIOLOGY: BRAIN

Poster

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:00 PM–2:00 PM

Authors at boards:
Odd board #: 12:00 PM–1:00 PM
Even board #: 1:00 PM–2:00 PM

E92 **783.1** Validation Studies of CRF Receptor 1 as a Target for AD. **K.H. Nguyen, M. Ellisman, J. Patanapirom, F. Sarsoza, R. Rissman.** University of California and San Diego.

E93 **783.2** Comparative Analysis of V1a and V1b Receptor Distribution in the Mammalian Brain. **C. Knappe, T. Giesecke, T-a. Koshimizu, N. Gimber, J. Schmoranzer, R. Storm, S. Bachmann, K. Mutig.** Charité-Universitätsmedizin Berlin, Germany and Jichi Medical University, Japan.

E94 **783.3** Differential Pattern of Expression for Endothelial Cell Markers in the Microvessels of Different Brain Regions. **S. Mbagwu, C. Marti, P. Blanc, P-Y. Mantel, L. Filgueira.** University of Fribourg, Switzerland.

E95 **783.4** Radial Glia and Cell Heterogeneity Across the Lizard Central Nervous System: Distal Spinal Cord Rupture Does Not Induce a System-Wide Response. **R.P. McDonald, S.V. Donato, L. Austin, M.K. Vickaryous.** University of Guelph, Canada.

E96 **783.5** Towards a Structural Characterization of the Leopard Gecko Cerebellum: Purkinje Cells and Cells of the External Granular Layer. **S. Bradley, C.D.C. Bailey, M. Vickaryous.** University of Guelph, Canada.

E97 **783.6** Exposure Adolescent Nicotine Exposure Induces Molecular and Neuronal Features of Depressive Disorder in Adulthood in the Mesolimbic Dopamine System. **D.J. Wright, W. Rushlow, S. Laviolette, J. Renard, H. Szkudlarek.** Western University, Canada, Western University and Schulich School of Medicine and Dentistry, Canada.

784. NEUROBIOLOGY: DEVELOPMENT

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E98 **784.1** Role of the Activating Transcription Factor 5a (*atf5a*) Gene in Hair Cell Development and Regeneration. **R. Rodriguez Morales, L. Colon-Cruz, S. Burgess, G. Sharney, M. Behra.** University of Puerto Rico, Medical Sciences Campus, National Human Genome Research Institute, National Institutes of Health and Oklahoma Medical Research Foundation.

E99 **784.2** Fractones and Basement Membranes: Matrix for Patterning, Growth and Development. **K.D. Lee, V. Douet, E. Arikawa-Hirasawa, H.B. Davis, V.B. Alarcon, A. Fronville, F. Mercier.** University of Hawaii at Manoa, OneLife, France, Jutendo University, Japan, LaTIM, Institut National de la Santé et de la Recherche Médicale (INSERM), UMR 1101 and I, France.

E100 **784.3** Development of Mouse Superior Cervical Ganglion During Prenatal and Postnatal Stages. **I. Sato, K. Mitsuoka, Y. Miwa.** Nippon Dental University, School of Life Dentistry at Tokyo, Japan and The Nippon Dental University Graduate School of Life Dentistry, Japan.

E101 **784.4** Maternal Immune Activation Affects Precursor Cell Populations and Developmental Processes in the Rodent Spinal Cord in a Temporally and Spatially Dependent Manner. **K.W. Mcdermott, R.C. Anderson, T. Foley, J. Radford, J.M. Allardyce, S. O'Hallaron, B. Uzun, G.W. O'Keeffe.** University of Limerick, Ireland and University College Cork, Ireland.

E102 **784.5** Mutations in the Zebrafish Ortholog of HCFC1 Reveal a Critical Function in Neural Precursor Function. **J.F. Reyes, V.L. Castro, N.G. Reyes-Nava, A.M. Quintana.** The University of Texas at El Paso.

785. NEUROBIOLOGY: NEURONAL & SPINAL CORD DEGENERATION, REPAIR & REGENERATION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:00 pm–2:00 pm

Authors at boards:
Odd board #: 12:00 pm–1:00 pm
Even board #: 1:00 pm–2:00 pm

E103 **785.1** Lumbar Spinal Cord Astrocytic Hyperactivation Is Associated with Thrombospondin-4 Upregulation During Persistent Low Back Pain. **N.R. Reed, M.L. Richey, A. Frolov, M.K. Syrett, W.R. Reed, J.W. Little.** Saint Louis University and University of Alabama at Birmingham

E104 **785.2** Time-Dependent Lumbar Spinal Cord Astrocytic Hyperactivation Occurs in the Deep Dorsal Horn During the Maintenance of Nerve Growth Factor-Induced Low Back Pain. **M.L. Richey, V. Kansara, N.R. Reed, A. Frolov, W.R. Reed, J.W. Little.** Saint Louis University and University of Alabama at Birmingham

E105 **785.3** Analysis of Dendritic Spine Density in Hippocampus Following CA/CPR. **M. Oya, J. Yonchek, N. Quillinan.** University of Colorado Anschutz Medical Campus.

E106 **785.4** Histone Deacetylases in Axonal Growth and Regeneration and Their Relevance to Parkinson's Disease. **G. O'Keeffe.** University College Cork, Ireland.

E107 **785.5** Nitration of Microtubules Blocks Axonal Mitochondrial Transport in a Human Pluripotent Stem Cell Model of Parkinson's Disease. **M.G. Stykel, M.P. Kirby, C. Czaniecki, K. Humphries, T.L. Ryan, S.D. Ryan.** University of Guelph, Canada.

E108 **785.6** Nrf2 Activation Rescues Dendritic Pathology in hPSC-Derived and Primary Neuron Based Models of Parkinson's Disease. **J. Drolet, C. Czaniecki, T. Ryan, M. Stykel, C. Coackley, S. Ryan.** University of Guelph, Canada.

E109 **785.7** Experimental Trigeminal Neuralgia of Infraorbital Nerve Causes Morphological Peripherical Changes. **H.F.D. Silveira, L.C.V. Alves, D.V. Gondim, K.K.D.O. Sousa, D.B.S. Dias, M.L. Vale.** Federal University of Ceará, Brazil

Biochemistry and Molecular Biology

786. DNA REPAIR

Poster

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 PM–1:00 PM
Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B1 **786.1** A New Pathway of Transcription-Coupled Repair. **K. Myka, R. Washburn, K. Kusters, M. Gottesman.** Columbia University, Department of Microbiology and Immunology and Columbia University.

B2 **786.2** Regulation of BRCA1 by SIRT2. **E. Minten, H. Zhang, C. Li, P. Head, D. Yu.** Emory University.

B3 **786.3** Investigating the Link Between Mutations in Muts DNA Repair Protein and Lynch Cancer Syndrome. **E. Kessler, J. Liu, H. Awad, M. Hingorani.** Wesleyan University.

B4 **786.4** Generating and Characterizing Resistance to Ionizing Radiation in Experimentally Evolved Populations of *Escherichia coli*. **J.D. Trimarco, S.T. Bruckbauer, M.M. Cox.** University of Wisconsin—Madison.

B5 **786.5** Mass Spectrometry-Based Proteomics Reveals a Regulatory Role for DYRK1a in DNA Damage Repair. **S.E. Guard, Z. Poss, C. Ebmeier, W. Old.** University of Colorado Boulder.

B6 **786.6** The Effect of Hobo Transposon Excision on DNA Repair in *Drosophila melanogaster*. **A. Miller, K. Saville.** Albion College.

B7 **786.7** Role of Spontaneous DNA Damage and Single-Stranded DNA in Generation of Enlarged G_2 Phase Cells in *Rad52* Mutants of *Saccharomyces cerevisiae*. **C.J. England, M.F. Weis, L.K. Lewis.** Texas State University.

B8 **786.8** *Escherichia* coli Rara Commits Cells to Post-Replication Repair Pathways by Facilitating Replisome Skipping. **K. Gopal, T. Stanage, M.M. Cox.** University of Wisconsin—Madison.

B9 **786.9** Structural and Cellular Mechanisms of DNA Replication Restart in *Escherichia* coli. **A. McKenzie, S. Wessel, J. Keck.** University of Wisconsin—Madison.

B10 **786.10** CDC48A AAA-ATPase and Its Association with Ubiquitin-Like Samp1 and DNA Repair in Archaea. **S. Dantuluri, S. Margulies, N. Hepowit, T. Allers, J. Maupin-Furlow.** University of Florida and University of Nottingham, United Kingdom.

B11 **786.11** Variations in Nuclear Localization Strategies Among Pol X Family Enzymes. **T. Kirby, L.C. Pedersen, S.A. Gabel, N.R. Gassman, R.E. London.** National Institute of Environmental Health Sciences, National Institutes of Health and University of South Alabama Mitchell Cancer Institute.

B12 **786.12** Defects in Base Excision Repair and Homologous Recombination, but Not Nucleotide Excision Repair, Lead to Altered Cell Cycle Phase Distributions in *Saccharomyces cerevisiae*. **A. Oviedo, S. Valencia, T.R. DeForge, O.R. Fitzgerald, L.K. Lewis.** Texas State University.

B13 **786.13** The Uracil-DNA Glycosylase Homolog Udgx from *M. smegmatis* as a Potential Platform for *in Vitro* Protein Evolution. **S.A. Thomas, C. Noren.** Suffolk University and New England BioLabs Inc.

B14 **786.14** Heterochromatin Proteins Influence the Choice of DNA Repair in Euchromatin Domains. **S. Forsburg, A. Jensen, C. Jones, T-T. Li, J-P. Yuan.** University of Southern California.

B15 **786.15** Roles of Cell Cycle Phases and DNA End Structures in Determining Requirements for the Yku, MRX and Ligase IV Complexes in Nonhomologous End-Joining Repair of Plasmid DNA. **N.D. Rodriguez, L.K. Lewis.** Texas State University

B16 **786.16** Catalytic Functions of RECQ1 Helicase Are Important in Defying Genomic Stress and Maintaining Cell Proliferation. **S. Parvathaneni, X. Lu, S. Sharma.** Howard University.

B17 **786.17** Rad5 Prevents the Accumulation of ssDNA Gaps at Stressed DNA Replication Forks. **G.W. Brown, D.W. Gallo, S. Kim, Z. Zhang, D. Branzei.** University of Toronto, Canada and International Foundations of Medicine, Italy. **(266.1)**

787. EPIGENETIC MODIFICATIONS OF DNA AND RNA

Poster

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 PM–1:00 PM
Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B18 **787.1** An Epigenetic Switch on ARID1A Chromatin Remodeler by Alpha-Oxoglutarate Activates the Antiproliferative Axis in Interstitial Cystitis. **J. Kim, M. Shahid, A. Yeon, R.J. Park.** Cedars-Sinai Medical Center.

B19 **787.2** DNMT3A Mutations in AML Patients Cause Loss and Gain of Function and Differential Regulation by Protein Partners. **J.E. Sandoval.** University of California and Santa Barbara.

B20 **787.3** Role of RNA N6-Methyladenosine Methylation in Endothelial Response to Flow**. C.S. Chien, H-Y. Song, S-H. Chiou, S. Chien.** Institute of Engineering in Medicine and Institute of Basic Research, Taiwan.

B21 **787.4** DNA Methylation of Multiple Genes Involved in Bladder Cancer Among Saudi Population. **A. Siddiqui, A. Yaqinuddin, F.A. Alshehri.** College of Medicine and Alfaisal University, Saudi Arabia.

B22 **787.5** Epigenetic Modifications in the Rat Neonate Olfactory Bulb and Anterior Piriform Cortex Associated with Olfactory and Tactile Experiences. **J. McAnulty, L. Webb, T. Doherty, T. Roth.** University of Delaware.

B23 **787.6** m^6A Facilitates Hippocampus-Dependent Learning and Memory Through YTHDF1. **H. Shi, X. Zhang, Z. Lu, Y. Liu, Y-L. Weng, Z. Lu, J. Li, P. Hao, Y. Zhang, J. Delgado, M. Patel, X. Cao, X. Huang, Y. Su, G-L. Ming, X. Zhuang, H. Song, C. He, T. Zhou.** The University of Chicago, ShanghaiTech University, People's Republic of China, University of Pennsylvania and East China Normal University, People's Republic of China.

B24 **787.7** Global Profiling of the Oxidative Stress Induced Effects on RNA Modifications by Liquid Chromatography-Tandem Mass Spectrometry. **M. Jora, C. Sun, P.A. Limbach, B. Addepalli.** University of Cincinnati.

B25 **787.8** Structure and Mechanism of DNMT3A-Mediated DNA Methylation. **J. Song, Z-M. Zhang, R. Lu, G.G. Wang.** University of California, Riverside and University of North Carolina at Chapel Hill.

B26 **787.9** The Regulation of Curcumin on Cacinogenesis and Modulation Through Wnt/β-Catenin Signaling in Ovarian Cancer Cell Line. **C. Liu, H. Yen, C. Tsao, C. Kuo, Y. Lin.** Fu Jen Catholic University, Taiwan, Tri-Service General Hospital, Taiwan, Tri-Service General Hospital, Songshan Branch, Taiwan and National Defense Medical Centre, Taiwan.

B27 **787.10** Prevention of Colorectal Cancer in Oman Using Colonoscopy and Nutritional Assessment: Pilot Study and Validation of Research Tools. **A.F. Alsumait, Y.M. Al-Farsi, M.I. Waly, I.M. Al-Qarshoubi, M.S. Al-Mounthri.** Sultan Qaboos University, Oman.

B28 **787.11** Association of Oxidative Stress with Polycystic Ovarian Syndrome in Oman: A Case-Control Study. **M.A.H. Sulaiman, Y.M. Al-Farsi, M.M. Al-Khaduri, J.M. Saleh, M.I. Waly.** Sultan Qaboos University, Oman.

B29 **787.12** Epigenetic Regulation of Oncogenes in Leukemia by the Ikaros Tumor Suppressor. **J.L. Payne, E. Dovat, C. Song, S. Dovat.** Loma Linda University School of Medicine and Penn State College of Medicine.

B30 **787.13** Bacteriophage DNA Thymidine Hypermodification Biosynthesis Is Identified via an Amino Acid-Modified Nucleobase Intermediate. **Y-J. Lee, C. Guan, N. Dai, I. Correa, P. Weigele.** New England BioLabs Inc.

B31 **787.14** Generation of Cell Lines for Detection of Transcriptional Changes Under Long-Term Exposure to Low pH Conditions Characteristic of Chronic Inflammation. **Q.C. Vega, E. Petroff, M.T. Sitnick, V. Snitsarev.** Montclair State University.

B32 **787.15** Reprogramming Cancer Cell Metabolism Through the Combinatorial Action of PK11195 and 5-Azacytidine. **D. Duran, M. Steinsaltz, S. Anstett, M. Custance, R. O'Donnell.** State University of New York College at Geneseo.

B33 **787.16** The Role of the *Escherichia coli dcm* Gene in Stationary Phase Fitness and Catalase Activity. **L. Finnerty-Haggerty, R. Knapp, O. Kambhampati, S. Stensland, J. Kaur, K.T. Militello.** State University of New York College at Geneseo.

B34 **787.17** Effects of HDAC Inhibitor Vorinostat and Radiation on HTB4 and MDA-MB-435 Cancer Cells. **J.F. Wing, T. Maini, R.W. O'Donnell.** State University of New York College at Geneseo.

B35 **787.18** Effects of Phototherapy on Gene Expression in the Treatment of Psoriasis. **S.N. Abdo, O.L. Tulp, G.P. Einstein.** University of Science, Arts and Technology Montserrat, Montserrat and Einstein Medical Institute.

B36 **787.19** Fluoxetine and Citalopram Significantly Alter Gene Expression in the Midbrain of Neonate Mice Uncovering Possible Antidepressant-Mediated Epigenetic Programming Changes During Development. **L.K. Henry, M.A. Rodriquez, M.D. Allen, M. Shetty, D. Perley.** University of North Dakota School of Medicine and Health Sciences.

B37 **787.20** *ACE* and *AGTR1* Are Differentially Methylated in a Hypertensive Versus Normotensive Cohort of Kenyans. **D.A. Shelton, N.A. Rice.** Western Kentucky University.

B38 **787.21** The Presence of N6-Methyladenine and 5-Methylcytosine in *Trypanosoma brucei* RNA. **A.J. Keplinger, J.M. Coffey, K.T. Militello.** State University of New York College at Geneseo.

B39 **787.22** Assessing the Effects of Inorganic Arsenic on IL-1β and TNFα Secretion, Gene Expression, and DNA Methylation in Murine Macrophages to Gauge Immunotoxic Effects of Heavy Metals. **L.N. DeLong, J.R. Barbosa, J. Nyland.** Salisbury University.

B40 **787.23** Functional Somatic Noncoding ncRNA of Extracelular Vesicles (EV) for Vascular Epigenetics: A Genomic Crossword Puzzle in Adaptation of Cells Under Stress. **J.H. Wissler.** ARCONS Institute for Applied Research and Didactics, Germany.

B41 **787.24** P73 Gene Promoter Methylation Patterns in Prostate Cancer Cell Lines. **J.J. Schabort, N.E. Braganca, K.Y. Gandy, J.Y. Park, L.M. Carastro.** University of Tampa and Moffitt Cancer Center.

788. TRANSCRIPTOMICS

Poster

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 PM–1:00 PM
Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B42 **788.1** Characterization of Hops (*H. lupulus*) Mildew Infection Using Transcriptomics. **D.M. Reinartz, M.J. Wolyniak.** Hampden-Sydney College.

B43 **788.2** A Role of Iron in the Pathogenesis of Idiopathic Pulmonary Fibrosis. **C. Huang, D. Xu, L.K. Senavirathna, L. Liu.** Oklahoma State University.

B44 **788.3** Screening and Identification of Four Serum miRNAs as Novel Potential Biomarkers for Cured Pulmonary Tuberculosis. **C. Wang, S. Yang, C-M. Liu, T-T. Jiang, Z-L. Chen, H-H. Tu, J-C. Li.** Hangzhou Women's Hospital, People's Republic of China and Zhejiang University, People's Republic of China.

B45 **788.4** Novel Regulators of Melanogenesis Identified by Genome-Wide Transcriptome Analysis. **S. Yadav, K. Kirty, M. Shukla, V. Natarajan, C. Gadgil, R. Gokhale, K. Natarajan.** Jawaharlal Nehru University, India, National Chemical Laboratory, India, Institute of Genomics and Integrative Biology, India and National Institute of Immunology, India.

B46 **788.5** Comparison of Transcriptional Signature of Three Staphylococcal Superantigenic Toxins in *Human Epidermal Melanocytes*. **S. Srinivasan, N. Chakraborty, S-A. Miller, A. Gautam, R. Yang, A. Alkhalil, L.T. Moffatt, M. Jett, J.W. Shupp, R. Hammamieh.** U.S. Army Center for Environmental Health Research and MedStar Washington Hospital Center.

B47 **788.6** Description of Differentially Expressed Genes Between Healthy Non-Pregnant and Pregnant Women in an RNAseq Transcriptome Study. **A.H.D.L. Hirata, L.A.D.J. Rocha, V.A. Silva, R.J.D. Almeida, A.G. Rodrigues, H. Delle, C.P. Camacho.** Universidade Nove de Julho, Brazil.

B48 **788.7** Differential Gene Expression Analysis of Brain Tissue RNA from Mucolipidosis IV Knockout Mice. J**. Chacon, L. Rosas, M.P. Cuajungco.** California State University and Fullerton.

B49 **788.8** The Effect of 1,4-Dimethylnaphthalene on the Expression of Pathogenesis-Related Protein 4 in *Solanum tuberosum*. **A. Aljahani, M. Campbell.** Penn State Behrend.

B50 **788.9** Using Bacterial Transcriptomics to Investigate Targets of Host-Bacterial Interactions in *C. elegans* H**. T. Wong, J.P. Chan, J.T. Brumbaugh, A. Ardasheva, C.J. McLimans, J. Wright, R. Lamendella.** Juniata College.

B51 **788.10** Cross-Drug Gene Expression Overlaps Reveal Potential Targets for Pharmaco-Epigenetic Interventions in Drug Addiction. **A.M. Padilla, A.M. Ghezzi.** Universidad de Puerto Rico and Rio Piedras Campus

B52 **788.11** Monitoring Cytotoxic Effects in Non-Cancerous Cells via Docetaxel. **I. Couvertier, E. Dhimolea, C. Mitsiades.** Suffolk University and Dana-Farber Cancer Institute.

B53 **788.12** Mitotic Inheritance of mRNAs Encoding Transcription Factors in Osteoblastic Cells. **F. Khani, H. Takai, G. Stein, M. Galindo, A.J. van Wijnen.** Mayo Clinic, Nihon University School of Dentistry at Matsudo, Japan, University of Vermont Medical School and University of Chile, Chile.

789. RNA: PROCESSING, TRANSPORT, AND REGULATORY MECHANISMS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B54 **789.1** Understanding the Role of Viral RNA Sequence in Host Shut-Off by SARS-CoV. **A. Nag, P.K. Chockalingam, J.L. Adams, F.G. Gonzalez, F. Abrar.** Furman University.

B55 **789.2** Membrane-Anchored E-Cadherin/Ago2 Complex Promote Non-Canonical miRNA Biogenesis of miR-451a. **J-N. Li, Y-L. Kuo, W-H. Ku, Y-J. Lu, M-Y. Wang, P-S. Chen.** The Institute of Basic Medical Sciences of National Cheng Kung University, Taiwan, Department of Surgery, National Cheng Kung University Hospital, College of Medicine, National Cheng , Taiwan, Department of Medical Laboratory Science and Biotechnology, College of Medicine, National Cheng Kung, Taiwan, Department of Surgery and National Taiwan University Hospital, Taiwan.

B56 **789.3** Caloric Restriction Impacts Plasma microRNAs in Rhesus Monkeys. **J. Clark, A. Schneider, J. Dhahbi, H. Atamna, R. Colman, R. Anderson.** University of Wisconsin—Madison, Faculdade de Nutrição, Brazil and California University of Science and Medicine.

B57 **789.4** Connections Between the DNA Damage Response and mRNA Processing. **F.I. Nazeer, M. Skidders, E. Dean, A. Hofler, C. Moore.** State University of New York, Potsdam and Tufts University

B58 **789.5** Selenium Regulation of Selenoprotein Enzyme Activity and Transcripts in a Pilot Study with Founder Mouse Strains from the Collaborative Cross. **R.A. Sunde.** University of Wisconsin.

B59 **789.6** How Cell Stress and 3' End Alterations Control the Metabolism of a Cellular Non-Coding RNA. **T. Rivas, J.F. Kugel, J. Goodrich.** University of Colorado.

B60 **789.7** Delivery of DNA Encoding RNA Therapeutics to Alter the Expression of Oncogenic Transcripts in Glioblastoma. **K.R. Gallagher, S.C. Falotico, N. Sivetz, K. Muralidharan, A. Khan, M.J. Hicks.** Monmouth University.

B61 **789.8** Different Classes of RNA Require Distinct MEX67 Paralogs for Processing and Nucleocytoplasmic Export in Trypanosomes. **S. Obado, B. Chait, M. Field, M. Rout.** The Rockefeller University and University of Dundee, United Kingdom.

790. RNA BINDING PROTEINS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B62 **790.1** Structure and Mechanism of a Bacterial t6A Biosynthesis System. **A. Luthra, W. Swinehart, S. Bayooz, P. Phan, B. Stec, D. Iwata-Reuyl, M. Swairjo.** San Diego State University and Portland State University.

B63 **790.2** Enzymatic Site-Specific Labeling of RNA for Affinity Isolation of RNA-Protein Complexes. **K.N. Busby, N.K. Devaraj.** University of California and San Diego.

B64 **790.3** Identifying the Nova Mutations Responsible for the Splicing Failure of Z+ Agrin. **J. Mirkovic, M.F. Hossain, A. Stolfi, R. Wang, H. Stitzel, L. Christiaen, M. Ruggiu.** St. John's University, Georgia Institute of Technology and New York University.

B65 **790.4** Limited Proteolysis Analysis of a Dead-Box Protein and Its Domain Truncated Variants. **M. Arnold, I. Garcia.** Allegheny College.

B66 **790.5** Biophysical Characterization of Interactions Between a Uridylated Histone mRNA Degradation Intermediate and Slbp. **S.E. Harris, M-R. Mihailescu, P. Lackey.** Westminster College and Duquesne University.

B67 **790.6** Investigation of RNA Granules in Lens Development. **B. Weatherbee, A.D. Siddam, S.A. Lachke.** University of Delaware.

B68 **790.7** Exploring the Effect of Conserved Motifs on the Structure and Activity of the RNA-Binding Protein LARP6c from *Arabidopsis thaliana*. **J.S. Foster, C.L. Foster, C. Otte-Petrill, F.C. Betancourt, K.A. Lewis, C. Antonelli, E. Billey.** Texas State University, University of Perpignan, France and Institut de Biosciences et Biotechnologies de Grenoble, France.

B69 **790.8** Thermodynamic Analysis of ATP Dissociation in a Dead-Box Protein. **L. Yoder, I. Garcia, J. Patterson, C. Bardine.** Allegheny College.

B70 **790.9** Role of RNA Binding Protein RBM15 in m^6A RNA Methylation During Megakaryocytic Differentiation. **N. Ayala-Lopez, R. Ross, S. Halene, P. Limbach, D.S. Krause.** Yale University and University of Cincinnati.

B71 **790.10** Identification of Major Boundaries for Structural Characterization of the LARP6 Proteins from Fish. **E.L. Pena, H. Külköylüoglu, J.M. Castro, X. Pu, L.R. Warner, K.A. Lewis.** Texas State University and Boise State University.

B72 **790.11** A1543 Is a Potential Bridge Between Cellular Redox State and RNA Processing. **P.E. Thomas.** University of Colorado Boulder.

B73 **790.12** An in Vivo Method to Study Post-Transcriptional Regulation in Germ Stem Cells. **J. Doenier, S.T. Aoki, J. Kimble.** University of Wisconsin—Madison.

B74 **790.13** Understanding the Role of Post-Translational Modifications on the Splicing Activity of RNA Binding Proteins. **N.M. Keppetipola, J. Pina, J. Reynaga, A. Truong.** California State University and Fullerton.

791. PROTEIN MODIFICATIONS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B75 **791.1** Protein Myristoylation Links a High Fat Diet with Prostate Tumor Progression in Mice. **H. Cai, S. Kim.** University of Georgia.

B76 **791.2** Using Hydroxyproline to Measure Collagen in Teeth with and Without Whitening Strips. **S. Meyer, A. Fiorica, K. Keenan.** Stockton University.

B77 **791.3** Regulating Nociceptive Channel Trafficking by Site-Directed Mutagenesis of a Calcineurin Interaction Motif. **A. Chen.** Stanford University.

B78 **791.4** Oxidative Susceptibility of Calmodulin Cardiac Arrhythmia Mutants. **R.J. Moen, M. McCarthy, A. Hinde, D.D. Thomas.** Minnesota State University, Mankato and University of Minnesota Twin Cities.

B79 **791.5** Understanding How Two Similar RNA Binding Domains of Paralogous Proteins Mediate Different Protein-Protein Interactions. **C.M. Marshall, J. Pina, N.M. Keppetipola.** California State University and Fullerton.

B80 **791.6** Protein Lysine Acetylation Is a Regulatory Mechanism for *Bacillus subtilis* Multicellularity. **A. Reverdy, Y. Chen, Y. Chai.** Northeastern University, Institute of Biotechnology and Zhejiang University, People's Republic of China.

B81 **791.7** Palmitoylation Regulates the Functions of NH. E1 **E. Pitsch, M. Wallert, J. Provost.** University of San Diego and Bemidji State University.

B82 **791.8** FAS-Associated Factor 1 (FAF1) Binds to Mineralocorticoid Receptor (MR) Through Its Sumo-Interacting Motifs and Negatively Modulates MR Transcriptional Activity. **D-Y. Lin.** National Cheng Kung University, Taiwan.

B83 **791.9** Towards Visualizing Citrullinated Proteins in SDS-PAGE Gels Using Phenylglyoxal-Based Chemistries. **K.A. Thompson, J.E. Grant.** University of Wisconsin—Stout.

B84 **791.10** Effect of Non-Active Site Amino Acid Residues on Inhibitor Selectivity. **T. Eck, U. Gubler, N. Goodey.** Montclair State University.

B85 **791.11** The Expression of Cancer Associated Protein—Cortactin in Chinese Hamster Ovarian Cells. **B. Walenkiewicz, A. Bianchi, S. Pitzen, A. Kruchten, M. Talaga.** College of Saint Scholastica.

B86 **791.12** A Screen for Novel Targets Casts Polyphosphorylation of Lysine as a Common Post-Translational Modification. **A. Bentley-DeSousa, H. Moteshareie, C. Holinier, Y-C. Tseng, E. Bondy-Chorney, N. Davey, A. Golshani, M. Downey.** University of Ottawa, Canada, Carleton University, Canada and University College Dublin, Ireland.

B87 **791.13** Mass Spectrometry Analysis of RBM20 Phosphorylation and Its Role in Titin Splicing. **M. Sun, Y. Jin, C. Zhu, M. Rexiati, H. Cai, Z. Chen, Y. Ge, W. Guo.** University of Wyoming and University of Wisconsin—Madison.

B88 **791.14** Investigating Sema6A-PlxnA Signaling Mechanisms in Development: Identification of Key PlxnA Phosphorylation Sites and the Discovery of a Novel Naturally-Released Sema. **R. St. Clair, S. Emerson, K. D'Elia, M. Weir, A. Schmoker, K. Williams, M. Goldstein, E. Stant, A. Ebert, B. Ballif.** University of Vermont.

B89 **791.15** The Regulation of Cellular Proliferation by VACM-1/cul5 Is Dependent on Its Post-Translational Modifications by NEDD8. **S.E. Lee, S. Sundquist, M. Burnatowska-Hledin.** Hope College.

B90 **791.16** Studying Polyphosphorylation, a Novel PTM, in Mammalian Cell Lines. **C. Holinier, A. Bentley-DeSousa, E. Bondy-Chorney, N. Davey, M. Downey.** University of Ottawa, Canada and University College Dublin, Ireland.

B91 **791.17** Development and Characterization of a Model Post-Translationsally Modified Protein Library. **E.K. Major, R. Magnani, R.L. Houtz, L.H. Bradley.** University of Kentucky College of Medicine and University of Kentucky.

B92 **791.18** Protein Methylation and Translation: Role of Lysine Modification on the Function of Yeast Elongation Factor 1 Alpha. **J. White, N. Deramchi, T. Cato, J. Gabunilas, G. Chanfreau, S. Clarke.** University of California and Los Angeles.

B93 **791.19** Posttranslational Arginylation Enzyme Ate1 Is a Mitochondrial-Derived Master Regulator That Coordinates Glycolysis and Respiration in the Warburg Effect. **F. Zhang, C. Jiang, D. Patel, B. Moorthy, A. Kumar, M. Birnbaum, J. Huang, A. Barrientos, T. Lampidis, F. Fontanesi.** University of Miami.

B94 **791.20** Monitoring Innate Immune Receptor Stability via Post-Translational Modification by OGT. **W.R. Drake, C-W. Hou, N.E. Zachara, C.L. Grimes.** University of Delaware and Johns Hopkins University School of Medicine.

B96 **791.22** Functional Profiling of Endogenous Sumoylation Sites. **R.J. Lumpkin, E.A. Komives.** University of California and San Diego.

792. PROTEIN STRUCTURE AND BIOPHYSICS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B97 **792.1** Development of Broad-Based Labeling Reagents for Peptide and Protein Footprinting. **W. Nieves, B. Zhang, M. Cheng, M. Gross.** Stony Brook University and Washington University in St. Louis.

B98 **792.2** Are Heme Proteins Major Targets for Homocysteine-Induced Modifications? **G.S. Sharma, L.R. Singh.** Dr. B.R. Ambedkar Centre for Biomedical Research and University of Delhi, India.

B99 **792.3** The Influence of Metal Ions on the Conformation of the SufU Iron-Sulfur Cluster Biosynthesis Protein from *Bacillus subtilis*. **H.H. Almutairi, J.H. Zeilstra-Ryalls, A.T. Torelli.** Bowling Green State University and Ithaca College.

B100 **792.4** Structural Study of Arc and Its Interactions with Endocytic Binding Partners. **M. Boldridge, L. Wang.** Hawaii Pacific University.

B101 **792.5** A Herpesvirus Entry Mediator Mutein with Selective Agonist Action for the Inhibitory Receptor B and T Lymphocyte Attenuator. **J. Sedy, M.O. Balmert, A. Re, A. Moshayedi, B. Ware, W. Smith, I. Nemcovicova, P.S. Norris, B.R. Miller, D. Aivazian, C. Ware.** Sanford Burnham Prebys Medical Discovery Institute, Biomedical Research Center, Slovak Academy of Sciences, Slovakia, Centers for Therapeutic Innovation and Pfizer Inc.

B102 **792.6** Snapshots of C-S Cleavage in EGT2 Reveals Substrate Specificity and Reaction Mechanism. **S. Irani, N. Naowarojna, P. Liu, Y. Zhang.** The University of Texas at Austin and Boston University.

B103 **792.7** Structure and Function of Ergothionase, an Ergothioneine TMA-Lyase from the Soil Bacteria *Burkholderia Sp. HME13*. **B.P. Medellin, S. Wang, P. Liu, Y.J. Zhang.** The University of Texas at Austin and Boston University.

B104 **792.8** Studying Protein-Protein Interactions in Fatty Acid and Polyketide Biosynthetic Pathways via Site-Specific Vibrational Spectroscopy. **V.T. Chioti, C.H. Londergan, L.K. Charkoudian.** Haverford College.

B105 **792.9** Identifying Residue-Residue Contacts via Deep Mutational Scanning. **E.C. Hinds, P.A. Romero.** University of Wisconsin—Madison.

B106 **792.10** Studying the Dimerization of the FNR Transcription Factor by Mutant Analysis at the 130 and 140 Residue Positions. **S. Kazmouz, L.J. Moore.** Monmouth College.

B107 **792.11** Invariant BECN1 C-X-X-C Motifs Are Essential for Starvation-Induced Autophagy. **S. Mukhopadhyay, Y. Li, S. Sinha.** North Dakota State University.

B108 **792.12** Structural Comparison of the *Arabidopsis thaliana* Family of β-Amylases. **N. Chandrasekharan, J. Monroe, C. Berndsen.** James Madison University.

B109 **792.13** Structural and Functional Effects of Altering the Nonpolar Core of Hemolysin A. **G.M. Stuttgen, T.M. Weaver, D.P. Grilley.** University of Wisconsin—La Crosse.

B110 **792.14** Thermal Stability of Type II Polyketide Acyl Carrier Proteins. **M. Rivas, V. Courouble, 2. Haverford College Biochemistry Superlab, A. Sisto, J. Beld, B. Kokona, L.K. Charkoudian.** Haverford College and Drexel University.

B111 **792.15** Structural Transitions in Conserved, Ordered Beclin 1 Domains Essential to Regulating Autophagy. **K. Glover, Y. Li, S. Mukhopadhyay, Z. Leuthner, S. Chakravarthy, C. Colbert, S. Sinha.** North Dakota State University, Bio-CAT, Sector18ID and Advanced Photon Source.

B112 **792.16** Non-Native Structure Present in the Unfolded Ensemble May Initiate Aggregation of ALS Variants of Superoxide Dismutase (SOD1). **N. Cohen, O. Bilsel, C.R. Matthews.** University of Massachusetts Medical School.

B113 **792.17** Site-Selective Alterations Within the Hemolysin A Non-Polar Core. **J.D. Grosskopf, T.M. Weaver, D.P. Grilley.** University of Wisconsin—La Crosse.

B114 **792.18** The Structure and Mechanism of a Viral Genome Packaging Motor. **J.A. Hayes, B.J. Hilbert, N.P. Stone, C.M. Duffy, B. Sankaran, B.A. Kelch.** University of Massachusetts Medical School and Lawrence Berkeley National Laboratory.

B115 **792.19** Distinct Functions for the Flexible Loops of Zinc Specific Solute Binding Proteins from *Paracoccus Denitrificans.* **D.P. Neupane, E.T. Yukl.** New Mexico State University.

B116 **792.20** Probing the Effect of Distal Charges on the Reduction Potential of the [2Fe-2S] Cluster in the Rieske Protein from *Thermus thermophilus*. **J. Munoz, L. Hunsicker-Wang.** Trinity University.

B117 **792.21** Interactions Between Divalent Cations and a Periplasmic Lipoprotein Involved in *Salmonella* Magnesium Homeostasis. **R. Soens, J. May.** University of Wisconsin—La Crosse.

B118 **792.22** How and Why Internal Cavities Destabilize Proteins. **F.A.A. Mulder, M. Xue, Y. Yoshimura, R. Kitahara.** Aarhus University, Denmark and Ritsumeikan University, Japan.

B119 **792.23** Crystal Structure of the Archaeosine Synthase QueF-Like–Insights into Amidino Transfer and tRNA Recognition by the Tunnel Fold. **X. Mei.** San Diego State University.

B120 **792.24** Analyzing the Three Dimensional Structure of Cortactin Protein. **M. Gurumani, A. Kruchten.** The College of St. Scholastica.

B121 **792.25** Structural Analysis of Cortactin After Anion Exchange Chromatography. **G. Graves, A. Kruchten.** The College of St. Scholastica.

B122 **792.26** Structural Studies of the Iterative Enzyme DesD: Cooperativity, Substrate Variability and Conformational Changes. **Y. Mojab, K. Hoffmann.** California Lutheran University.

B123 **792.27** A Comparative Study of Osmolyte Effects on the Thermal Stabilities of TNFα. **D.E. Kim, R. Takahashi, E. Lindahl, R. Younger, S. Baghdoyan, B. Panchal, S. Wilkinson.** California Polytechnic State University.

B124 **792.28** Biophysical Analysis of Human Neuropeptide Y: Mutations in the Hairpin Core Reveal Unusual Thermal Stability Linked to Higher-Order Self-Association. **M.M. Hopkins, D.L. Bain.** University of Colorado Anschutz Medical Campus.

B125 **792.29** Analysis of Spin Probe Viability for Protein Structure Investigation Using Advanced EPR Techniques. **L. Ebersol, A. Bokhari, A. Silakov.** Pennsylvania State University.

B126 **792.30** Crossroad Control of Cell Proliferation and Apoptosis by PEA-15 Phosphorylation Homeostasis and Allosteric Regulation of Protein Conformations and Interactions. **Y. Wei, S. Crespo, S. Hassan.** New Jersey City University.

B127 **792.31** Structural Analysis of the Active Site and DNA Binding of Human Cytidine Deaminase APOBEC3B. **S. Hou, T.V. Silvas, F. Leidner, E. Nalivaika, N.K. Yilmaz, C.A. Schiffer.** University of Massachusetts Medical School.

B128 **792.32** N-π^* and Other Atomic Level Interactions of Formamides with Nucleobases and Base Analogs in Water. **R. Karim, X. Cheng, M.T. Record.** University of Wisconsin—Madison.

B129 **792.33** Fret-Based Measurements of Protein Multimerization in Pyruvate Carboxylase. **A.L. Koza, J. Hakala, M. St. Maurice.** Marquette University

B130 **792.34** Reconstitution of a Tail-Anchored Mitochondrial Membrane Protein. **A.L. Bakkum, B. Hill.** Medical College of Wisconsin.

B131 **792.35** Optimizing Protein Crystal Formation of a Heterocyclization Domain from Yersiniabactin Synthetase. **M. Patterson, V. Dieu, M. MacRae, B. Henriquez, J. Soule, A. Gnann, D.P. Dowling.** University of Massachusetts Boston.

B132 **792.36** NMR Structural Studies of Membrane Proteins in Bilayer Environments. **J. Radoicic, S.H. Park, S.J. Opella.** University of California and San Diego.

B133 **792.37** The Importance of Salt-Bridge Formation of Lysine 52 and 54 from Apolipophorin III for Protein Structure and Function. **A. Tran, K. Shah, P.M.M. Weers.** California State University and Long Beach.

B134 **792.38** Use of ^{19}F NMR to Probe Conformational Changes of Arrestin. **R.M. Stout, X. Zhan, W. Carroll.** Tennessee Technological University.

B135 **792.39** Novel *in-Vitro* Tag-and-Modify Protein Sample Generation Methods for Multiplexed Single-Molecule Fret Screening. **K.M. Hamadani, N. Hite, J.J. Howe.** California State University and San Marcos.

B136 **792.40** Zinc-Mediated Oligomerization of S100A12. **S.M. Damo, V. Garcia, S. Little, D. Franklin, J.A. Gaddy.** Fisk University and Vanderbilt University.

B137 **792.41** Utilizing Homology of Wound Inducible Transcript 3.0 (WIT3) as a Stepping Stone to Investigate the Function of Suppressor of IKKepsilon (SIKE). **M. Dawood, J.E. Bell, J.K. Bell.** University of San Diego.

B138 **792.42** Biophysical Characterization of Suppressor of IKKepsilon Structure, Stability, and Metal Binding Properties. **F. Shikwana, J.E. Bell, J.K. Bell.** University of San Diego.

793. PROTEIN FOLDING AND CHAPERONES

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B139 **793.1** Dual Function of the Trigger Factor Chaperone in Nascent Protein Folding. **C. Kaiser, K. Liu, K. Maciuba.** Johns Hopkins University.

B140 **793.2** Tuning Hsp70 Function: Investigating the Ability of Hsp40/Hsp70 Extragenic Suppressors to Promote Prion Propagation in Yeast. **E. Kamiya, B.A. Schilke, E.A. Craig, J.K. Hines.** Lafayette College and University of Wisconsin—Madison.

B141 **793.3** Evolutionary Conservation of Variant-Dependent Prion-Promoting Hsp40 Functions in Plants. **R.E. Brown, J.K. Hines.** Lafayette College.

B142 **793.4** Complex Effects of J-Protein Alterations on Hsp104-Mediated Curing of Prion [*PSI*$^{+}$]. **S.E. Berger, E. Kamiya, M.T. Astor, J.K. Hines.** Lafayette College.

B143 **793.5** Determining Chaperone Requirements for the Propagation of Heterologous Poly-Glutamine Aggregates in *Saccharomyces cerevisiae*. **A.N. Killian, S.J. Cole, J.K. Hines.** Lafayette College.

B144 **793.6** ATF6 Ubiquitylation Is Required for Its Transcriptional Activity and Degradation. **C. Aivati, D.J. Thuerauf, C.C. Glembotski.** San Diego State University Heart Institute and the Department of Biology.

B145 **793.7** Loss-of-Function PCSK9 Mutants Evade the Unfolded Protein Response Sensor, GRP78, and Fail to Induce Endoplasmic Reticulum Stress When Retained. **P. Lebeau, K. Platko, A.A. Al-Hashimi, J.H. Byun, S. Lhotak, N. Holzapfel, G. Gyulay, S.A. Igdoura, D.R. Cool, B. Trigatti, N.G. Seidah, R.C. Austin.** McMaster University, Canada, Wright State University and Clinical Research Institute of Montreal, Canada.

B146 **793.8** Increasing Surface Expression of Pancreatic β Cell -K_{ATP} Channels Attenuates Palmitic Acid-Induced Lipotoxicity *in Vivo* and *in Vitro*. **P-C. Chen, J-S. Ruan, Y-Y. Kuo, R-Y. Chao, Y-W. Chen.** National Cheng Kung University, Taiwan.

B147 **793.9** An Engineered *E. coli* Ribosome with Tunable Translation Rates Enhances Recombinant Protein Expression. **J.P. Oza, B. Des Soye, M.C. Jewett.** California Polytechnic State University and Northwestern University.

B148 **793.10** Mortalin Caught in Action: Structures of the Nucleotide Binding Domain in the APO, ADP-Bound and AMP+PPI-Bound States. **M. Moseng, R. Page.** Miami University.

B149 **793.11** Development of an *in Vitro* Proinsulin Folding Assay. **R.B. Mackin.** Creighton University.

B150 **793.12** TPS Domain Folding Causes Activation of a Newly Defined Hemolytic Functional Domain. **G.M. Wade, T.M. Weaver, D.P. Grilley.** University of Wisconsin—La Crosse.

B151 **793.13** A Role for the N-Terminal Domain in Modulating the Activities of the Nucleotide Exchange Factor Sil1. **K.A. Pareja, C. Sevier.** Cornell University.

B152 **793.14** Amyloid Oligomers Prevent Protein Folding. **A. Mukherjee, M. Chacon, N. Mendez, M. Shahnawaz, C. Soto.** Mitchell Center for Alzheimer's Disease and Related Brain Disorders, McGovern Medical School and Univer.

B153 **793.15** Minichaperone-Mediated Folding of MalZ Proceeds by Binding and Release of Native and Functional Intermediates. **N. Chaudhuri.** Indian Institute of Technology, India.

B154 **793.16** Molecular Chaperones Disperse Pab1 Hydrogel More Quickly Than Misfolded Aggregates. **H. Yoo, E. Pilipenko, D.A. Drummond.** University of Chicago.

B155 **793.17** Insertion of Human mtHsp70 (Mortalin) into Liposomes Resembling Mitochondrial Membrane. **P.R.D.D. Silva, D.M. Cauvi, J.C. Borges, A.d. De Maio.** University of California, San Diego and Instituto de Química de São Carlos da Universidade de São Paulo, Brazil.

794. PROTEIN MISFOLDING AND AGGREGATION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

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Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B156 **794.1** The Effects of Copper and Zinc on *Psn* Gene Expression in a *Drosophila Alzheimer's Model*. **K. DeGouveia, R.P. Rogers.** Wentworth Institute of Technology.

B157 **794.2** LDLR Processing Dysregulation by Statin Treatment of Class II Transport Mutant Cells. L**. Omer, N.L. Boyd.** University of Louisville.

B158 **794.3** Decoding the Prion-Chaperone Interaction Network in Yeast: Prion-Specific Chaperone Functions Promote Amyloid Diversity. **J.K. Hines.** Lafayette College.

B159 **794.4** Insight Into Parkinson's Disease from Yeasts: Combined Impact of Covalent Modifications and Familial Mutations on α-Synuclein. Lake Forest College.

B160 **794.5** The Parkinson's Disease Protein α-Synuclein Alters the Microenvironment of the Endoplasmic Reticulum in *Saccharomyces cerevisiae*. **V.M. Haak, T.J. McBride, M.J. Haverly, N. Austriaco.** Providence College

B161 **794.6** Modulation of Fluorescent Protein Chromophore to Detect Protein Aggregation. **Y. Liu, C. Wolstenholme, G. Carter, C. Hoelzel, L. Grainger, M. Fares, X. Zhang.** Pennsylvania State University.

B162 **794.7** Disulfide Bridge Formation Contributes to Histone Ligand Recognition by the ATAD2 Bromodomain. **C.M. Evans.** Albany College of Pharmacy and Health Sciences.

B163 **794.8** Prpc: The Normal Prion. **C. Wright, A. Howard, S. Lim, P. Lakshman, C. Loo.** Olathe North High School.

B164 **794.9** Investigating the Mechanism of *Cis* Amide Bond Stabilization in Phosphoserine-Proline Sequences. **N.R. Raniszewski, H.K. Ganguly, N. Zondlo.** University of Delaware.

B165 **794.10** The ER Hsp70 HSPA13 Redirects an Amyloidogenic Protein to Aggregation. **J. Genereux.** University of California.

B166 **794.11** Expression and Purification of Human Brain and Muscle Arnt-Like 1 Protein (hBMAL1). **B. Moreno, D. Li, A. Sarabia-Gonzalez, J. Rodriguez, J. Choi, S. Ray, C. Xiao.** The University of Texas at El Paso.

B167 **794.12** Heparan Sulfate Chain Length Modulates the Cellular Targeting of Prions *in Vivo*. **P. Aguilar-Calvo, J. Bapat, A.M. Sevillano, D.R. Sandoval, C. Dwyer, J. Esko, C.J. Sigurdson.** University of California and San Diego.

795. INTRINSICALLY DISORDERED PROTEINS AND AMYLOIDS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B168 **795.1** Impact of Several PD-Associated Genes on the Toxicity of A-Synuclein in a Yeast Model. **P.A. Jones, E. Ong, A. Balaram, A. Biel, M. Tembo, S. DebBurman.** Lake Forest College.

B169 **795.2** Discovery of Protein Phosphatase 2A Substrates. **X. Wang, R. Page, P. Wolfgang.** Brown University and University of Arizona.

B170 **795.3** Investigating Effects and Determinants of $PAP_{248-286}$-Membrane Interactions: Membrane Leakage and Peptide/lipid Co-Aggregation. **E. Vane, A. Nath.** University of Washington.

B171 **795.4** Development of a Cell-Based Assay for Tau Strain Discrimination. **L.M. Angeles-Perez, J. Vaquer-Alicea, V. Manon, M. Diamond.** University of Puerto Rico and The University of Texas Southwestern Medical Center.

B172 **795.5** The Autophagy Inducers AR-12 and AR-14 Control Prion Infection. **B. Abdulrahman, D. Abdelaziz, S. Thapa, L. Lu, S. Gilch, H. Schatzl.** University of Calgary, Canada.

B173 **795.6** Quantifying the Aggregation Propensity of IAPP from Diabetic and Nondiabetic Species. **D. Moffet, L. Palato, S. Pilcher, D. Rinauro, K. Menefee, A. Tun, B. Jauregui, S. Shapiro, O. Nossiff, V. Nguyen.** Loyola Marymount University.

B174 **795.7** Initially Disordered, Reflectin Assembly Tunably and Reversibly Drives Biophotonic Color. **R. Levenson, C. Bracken, C. Sharma, J. Santos, C. Arata, D.E. Morse.** University of California and Santa Barbara.

B175 **795.8** The Intrinsically Disordered PsbO Subunit of Photosystem II: Structure and Role in Photosynthetic Water Oxidation. **B.A. Barry, U. Brahmachari, C.E. Obi, J.N. He.** Georgia Institute of Technology.

B176 **795.9** Using TTR50-127 Fragments as Probes to Detect Amyloidogenic Seeding. **L.T. Nelson, J.D. Schonhoft, J. Kelly, J. Duerr.** George Fox University and Scripps Research Institute.

B177 **795.10** A Polypeptide from the Brine Shrimp *Artemia franciscana* Is Related to Plant Seed Maturation Proteins and Protects Lactate Dehydrogenase During Freezing and Desiccation. **S. Gurung, M.A. Menze.** Eastern Illinois University and University of Louisville.

B178 **795.11** The Amyloid-β Peptide in Alzheimer´s Disease: Molecular Interactions and Structure Conversions. **A. Gräslund.** Stockholm University, Sweden.

B179 **795.12** α-Synuclein Inhibits SNX3-Retromer-Mediated Retrograde Recycling of Iron Transporters in a *S. cerevisiae* Model of Parkinson's Disease. **S.N. Witt, S.N. Nagarajan, Z. Liu, W.O. Hemphill, R. Shi, V.N. Uversky, D. Patel.** Louisiana State University Health Sciences Center, The University of New Orleans and University of South Florida.

B180 **795.13** Relating Collapse to Sequence and Behavior in Glutamine-Rich Domains. **C.J. Garelli, A.S. Scott, J.P. Ellis.** Ithaca College.

B181 **795.14** The Disordered Landscape of the 20s Proteasome Substrates and the Mechanism of Their in Vitro and in Vivo Degradation. **Y. Shaul, N. Myres, A. Biran, N. Reuven.** Weizmann Institute of Science, Israel.

796. ENZYME CHEMISTRY AND CATALYSIS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B182 **796.1** Transport and Synthesis of a Bacterial Natural Product. **L.M.K. Dassama, G.E. Kenney, A.C. Rosenzweig.** Boston Children's Hospital, Dana-Farber Cancer Institute, and Harvard Medical School and Northwestern University.

B183 **796.2** Bioactive Fungal Screening to Find Efficient Biomass-Degrading Enzymes. **U.A. Vazquez, D. Conrad, H. Ma, T. Woodard, S. Wu.** Hamline University, Rose Hulman University and University of Oklahoma.

B184 **796.3** Two Distinct Evolutionary Engineering Pathways of Human Kynureninase Confer Different Substrate Specificities and Rate-Limiting Steps. **C.S. Karamitros, K. Murray, J. Blazeck, S. D'Arcy, K. Johnson, E. Stone, G. Georgiou.** The University of Texas at Austin and The University of Texas at Dallas.

B185 **796.4** Biosynthesis of Nonproteinogenic Amino Acids Oxyvinylglycines. **B. Li, J.B. Patteson, Z.D. Dunn.** University of North Carolina at Chapel Hill.

B186 **796.5** Effect of Immobilization on the Specificity and Stability of Choline Oxidase. **A.H. Fischel, K. Holton, J.M. Schmitz, L.M. Watkins.** James Madison University.

B187 **796.6** Altering the Specificity Properties of 2-(2'-Hydroxyphenyl) Benzenesulfinate Desulfinase from *N. asteroides* A3H1. **E.E. Smith, D. Hoang, D. Cromwell, L. Watkins.** James Madison University and Texas State University.

B188 **796.7** A Novel Radical SAM Mechanism Mediated by the Interferon-Inducible Protein Viperin. **A.B. Dumbrepatil, P. Malec, S. Ghosh, A. Patel, R.T. Kennedy, E.N.G. Marsh.** University of Michigan.

B189 **796.8** Expression and Functional Characterization of Active Nicotinic Acid Dehydrogenase from *Pseudomonas fluorescens* Pf5. **N.M. Brownstein, M.J. Snider.** The College of Wooster.

B190 **796.9** Structural Insights into Peptide Recognition and Modification by the Radical SAM Enzyme SuiB. **K.M. Davis.** Princeton University.

B191 **796.10** Screening for Novel Long-Chain Bacterial Esterase Activity. **J.L. Jozwiakowski, R.J. Johnson.** Butler University.

B192 **796.11** Towards the Evaluation of Quorum Sensing Signal Synthase Inhibitors. **E.L. Higgins, S. Payne, S. Ulrich.** Ithaca College.

B193 **796.12** Engineering the Petase Enzyme to More Efficiently Break Down Pet Plastics. **A. Duplan, B.L. Hall.** Grand View University.

B194 **796.13** The Importance of a Phenolic Group in the Substrates of Iodotyrosine Deiodinase. **C.M. Quinones, A. Kozyryev, S. Rokita.** Universidad de Puerto Rico, Rio Piedras Campus and Johns Hopkins University.

B195 **796.14** Discovery of Novel Monomeric L-threonine 3-Dehydrogenase and Elucidation of Product Release Mechanism. **T. Motoyana, S. Nakano, Y. Yamamoto, H. Tokiwa, Y. Asano, S. Ito.** University of Shizuoka, Japan, Rikkyo University, Japan and Toyama Prefectural University , Japan.

B196 **796.15** *Escherichia coli* Heptosyltransferase I: Examining Protein Dynamics with Pyrene Excimer Fluorescence and Tryptophan-Induced Quenching. **C. Hecht.** Wesleyan University.

B197 **796.16** Functional Characterization of Nudix Hydrolases. **J.L. Mills, K. Wilson, Z. Wetzel, A. DiCola, H. Strong, P.A. Craig, S.F. O'Handley.** Rochester Institute of Technology.

B198 **796.17** Engineering of Enzymes to Improve Lignin Breakdown for Use in Fuel Ethanol Production. **R.D. Greene, B.L. Hall.** Grand View University.

B199 **796.18** Defining the Fumarase Water Binding Site. **T.M. Weaver.** University of Wisconsin—La Crosse.

B200 **796.19** Effectiveness of *in Silico* Engineering of the β-Glucosidase B Enzyme. **K.R. Boulanger, B.L. Hall.** Grand View University.

B201 **796.20** Tuberculosis Serine Hydrolase Variable Expression, Isolation, and Characterization Under Hypoxia Conditions. **L.E. Severinac, R.J. Johnson.** Butler University.

B202 **796.21** Kinetic Characterization and Chemotherapeutic Relevant Inhibition of Human Malate Dehydrogenase 1 and 2. **S. Wardenfelt, T. Dwyer.** Stevenson University.

B203 **796.22** Biophysical Characterization of *Aptenodytes forsteri* Cytochrome P450 19 (Aromatase). **F. Zarate-Perez, J.B. Velázquez-Fernández, G.K. Jennings, L.S. Shock, C.E. Lyons, J.C. Hackett.** Virginia Commonwealth University.

B204 **796.23** Optimization of the Enzymatic Synthesis of UDP-Xylose and Characterization of Enzymes Involved. **M. Cook, A. Culbertson, O. Zabotina.** Iowa State University.

B205 **796.24** Exploring the Molecular Determinants of Heterocycle Formation in Hybrid Nonribosomal Peptides/Polyketides. **D.P. Dowling, Y. Kung, A. Croft, K. Taghizadeh, W. Kelly, C.T. Walsh, C.L. Drennan.** University of Massachusetts Medical School Boston, Bryn Mawr College, University of Nottingham, United Kingdom, Massachusetts Institute of Technology, Georgia Institute of Technology and Stanford University.

B206 **796.25** Biosynthesis of Oxetanocin: Are Two Cofactors Better Than One? **J. Bridwell-Rabb, H-w. Liu, A. Zhong, C. Drennan.** University of Michigan, The University of Texas and Massachusetts Institute of Technology.

B207 **796.26** Synthetic Biology, Biosynthesis, Enzymology, (Meta)genomics, et al. Learning from Nature. **V. Agarwal.** Georgia Institute of Technology.

B208 **796.27** Improved Synthesis of *N*-Methyl Cadaverine. **K.N. Anderson, S. Moaven, A. Cozzolino, J.C. D'Auria.** Texas Tech University.

B209 **796.28** Biosynthesis and Production of Granatane Alkaloids in Hairy Root Cultures of Punica Granatum. **K. Glockzin, J. D'Auria.** Texas Tech University.

B210 **796.29** Engineer Alkane Hydroxylating Properties into Phenol Hydroxylase: A Look at the 2ND Coordination Sphere. **E. Guillen, M. Sazinsky.** Pomona College.

B211 **796.30** Initial Characterization of DszA, a Monooxygenase from the *Rhodococcus* Biodesulfurization Pathway. **S. Truong, M. Sanchez.** California State University and Northridge.

B212 **796.31** Screemomg, Expression, and Characterization of Baeyer-Villiger Monooxygenase for the Biotransformation of Ricinoleic Acid. **J. Yun, K-Y. Choi.** Ajou University, Republic of Korea.

B213 **796.32** The Molecular Mechanism of Intermolecular Signal Transduction in Cystathionine-β-Synthase (CBS). **S.S. Chandrasekaran, D.G. Ruiz, D.R. Kennedy, R.M. Esquerra.** San Francisco State University, University of California and San Francisco.

B214 **796.33** Expression, Purification, and Characterization of Halophilic PPh_Pro1 Protease Isolated from *Pseudoalteromonas Phenolica*. **K-Y. Choi, Y-G. Kim, Y-H. Yang.** Ajou University, Republic of Korea, Soongsil University, Republic of Korea and Konkuk University, Republic of Korea.

B215 **796.34** Sulfur Respiration in *A. fulgidus* Kinetics and Structure of an *A. fulgidus* NAD-Dependent Poly/Persulfide Reductase. **S. Shabdar, A. Castineiras, N. Desir, E.J. Crane III, M. Sazinsky.** Pomona College.

B216 **796.35** Snapshots of the Catalytic Cycle of an O_2, Pyridoxal Phosphate-Dependent Hydroxylase. **J.B. Hedges, E. Kuatsjah, Y-L. Du, L.D. Eltis, K.S. Ryan.** University of British Columbia, Canada and Zhejiang University, People's Republic of China.

B217 **796.36** Investigation of the Iterative Methylations by a Cobalamin-Dependent Radical SAM Methyltransferase. **Y. Wang, T.P. Begley.** Texas A&M University.

797. ENZYME INHIBITORS AND DRUG DESIGN

Poster

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
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Board # ending in "1, 4, 7 or 9," 12:45 PM–1:30 PM
Board # ending in "2, 5, or 8," 1:30 PM–2:15 PM

B218 **797.1** Selective Inhibition ATP Synthase in Combating Microbial Infections. **Z. Ahmad.** A.T. Still University.

B219 **797.2** Small Compounds Modulating Bi-Directional Allostery in Protein Kinases: A New Grip with an Old Trick. **R.M. Biondi, J.O. Schulze, E. Süß, L. Pietsch, K. Busschots, G. Saladino, F.L. Gervasio, M. Raab, M. Sanhaji, K. Strebhardt.** IBioBA-CONICET—Partner Institute of the Max Planck Society, Argentina, Frankfurt University Hospital, Germany and University College London, United Kingdom.

B220 **797.3** Synthesis of Mono-Substituted Anthraquinone Derivatives to Be Used in the Purification of Lactate Dehydrogenase. **B.D. Retzlaff, J. Mueller.** Saint Mary's University of Minnesota.

B221 **797.4** Understanding the Structure-Function Relationship of IDH1 R132 Mutants and the Effect of Allosteric Inhibitors. **D. Avellaneda Matteo, G. Wells, A. Grunseth, J. Schiffer, C. Sohl.** San Diego State University, University of California and San Diego.

B222 **797.5** Dopamine-β-Monooxygenase Inhibitors Obtained by Structure Based Methods Exhibited Anti-Hypertensive Effect in L-Name Induced Hypertensive Rats. **S.K. Dey, P. Prabhakar, M. Saini, T. Joseph, B.K. Thelma, S.K. Maulik, S. Kundu.** University of Delhi South Campus, India and All India Institute of Medical Sciences, India.

B223 **797.6** IDH1 Mutation-Inspired α-Ketoglutaric Acid Mimics for Oxidative Therapy of Higher Grade Gliomas Through α-Ketoglutarate Dehydrogenase Inhibition. **H.R. Madala, S.R. Punganuru, K. Srivenugopal.** Texas Tech University Health Sciences Center.

B224 **797.7** Examining Fmoc-Amino Acid Derivatives as Selective Inhibitors of Butyrylcholinesterase. **J. Ramirez, J. Gonzalez, J. Schwans.** California State University and Long Beach.

B225 **797.8** Structural Analysis of Darunavir Analogs Against Primary Resistance Mutations in HIV Protease. **G.J. Lockbaum, F. Leidner, L. Rusere, E. Nalivaika, A. Ali, N. Kurt-Yilmaz, C. Schiffer.** University of Massachusetts Medical School.

B226 **797.9** Synthesis of 1,4-Diaminoanthraquinones for the Purification of Lactate Dehydrogenase. **M.E. Campbell, J. Mueller.** Saint Mary's University of Minnesota.

B227 **797.10** NMR Structure-Based Optimization of *Staphylococcus aureus* Sortase A Pyridazinone Inhibitors. **C.K. Sue, R. Clubb, B. Amer, A. Chan.** University of California and Los Angeles.

B228 **797.11** Targeting DXP Synthase Using TPP Mimics. **A. Alsalahi, P. Girardi, K. Callahan, A. Sridhar.** St. John Fisher College and Wegmans School of Pharmacy at St. John Fisher College.

B229 **797.12** Targeting Aspartate Transcarbamoylase in *Staphylococcus aureus*: A Novel Therapeutic Approach for Sepsis. **C. Patel, A. Vaishnav, J.S. Brunzelle, H.I. Guy-Evans, B.F.P. Edwards, D.R. Evans.** Wayne State University School of Medicine, Northwestern University Center for Synchrotron Research and Eastern Michigan University.

B230 **797.13** Inhibition of Monoamine Oxidases (Maos) by Green Tea Extracts. **G.R. Topaz, J. Rodriguez, F. Mahmood, D. Depeiza, L. Lorenzo, R. Destine, K. Stieglitz.** Boston University and Roxbury Community College.

798. PROTEIN ENGINEERING AND DESIGN

Poster

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Authors at boards:
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B231 **798.1** Mutagenesis of the Human α-Galactosidase Active Site, Dimer Interface, and Glycosylation Region. **E. Stokes.** City College of New York.

B232 **798.2** Small Molecule Allosteric Modulation of Protein Tyrosine Kinases in Live Cells. **D. Lasansky, M. Bienick, I. Ghosh.** University of Arizona.

B233 **798.3** Development of New Molecular Tools for Antibody Detection and Purification. **M.D.L.B. Magalhaes, G.F. da Silva, L.M.S. Echeverri, L.A. Fernandes, F. Batista.** Universidade do Estado de Santa Catarina, Brazil.

B234 **798.4** How to Design Artificial Protein Surpassing Native Enzyme Function, Design and Multidisciplinary Analysis of Artificial L-Threonine 3-Dehydrogenase. **S. Nakano, T. Motoyama, Y. Miyashita, Y. Ishizuka, N. Matsuo, H. Tokiwa, S. Shinoda, Y. Asano, S. Ito.** University of Shizuoka, Japan, Rikkyo University, Japan and Toyama Prefectural University, Japan.

B235 **798.5** Construction of Hybrid Inhibitors for Metalloproteinase Targeting. **L.B. Quinto, G.I. Berumen, H.P. Kehoe, J.A. Van Deventer.** Tufts University.

B236 **798.6** Designed Metal-Mediated Protein Dimerization. **B.J. Maniaci, J.J. Love.** San Diego State University.

B237 **798.7** Engineering Tissue Inhibitor of Metalloproteinases-1 (TIMP-1) as a Selective Inhibitor of Matrix Metalloproteinase-3 (MMP-3) for Therapeutic Targeting. **M. Raeeszadeh Sarmazdeh, B. Sankaran, D. Radisky, E. Radisky.** Mayo Clinic and Berkeley Center for Structural Biology.

B238 **798.8** Rational Design of pH Sensitive MS2 Virus-Like Particles for Drug Delivery Applications. **E. Alvarez-Benedicto, E. Hartman, M.B. Francis.** University of Puerto Rico, Rio Piedras Campus, Puerto Rico, University of California and Berkeley.

B239 **798.9** Utilization of Polymer Based Protein Engineering and ATRP to Modulate Substrate Size Specificity of Avidin. **N.P. Winegardner, H. Adams, A. Lucas, B. Kaupbayeva, H. Murata, A.S. Russell, J.S. Minden.** Carnegie Mellon University.

B240 **798.10** Bioluminescent Annexin Fusion Proteins (AFPs) for Atherosclerosis Detection. **T. Head, P. Dau, S. Deo, P. Daftarian, P. Goldschmidt-Clermont, S. Daunert.** University of Miami, Miller School of Medicine, JSR Micro and Inc.

B241 **798.11** Protatether: A Method for the Incorporation of Variable Linker Sequences in Protein Fusions. **R.M. Hughes, J.L. Norris.** East Carolina University.

B242 **798.12** Engineering a VEGF Fusion Protein for Use with an Artificial Extracellular Matrix with Programmable Binding Affinities. **R. Elliott, A. Barkas, E.R. Balog.** University of New England.

B243 **798.13** The Role of the Furin-Cleavable Linker and KDEL Sequence in Cytotoxicity of Recombinant Immunodnase. **J. Baker.** Towson University.

B244 **798.14** Elicitation of HIV-Specific Antibodies Targeting the Carbohydrate-Occluded Neutralization Epitopes Through Rational Protein Design. **C. Zhu, E. Dukhovlinova, O. Council, S.R. Benhabbour, L. Ping, E.L. Potter, L.P. Kincer, R. Swanstrom, N.V. Dokholyan.** University of North Carolina at Chapel Hill.

B245 **798.15** Assessing Efficiency of the New England Biolabs Q5® Site-Directed Mutagenesis Kit to Produce a Library of Aminoglycoside *n*-Acetyltransferase Mutants. **J. Macias, O. Pham, A. Vaca, P. Pennings, M.L. Kuhn.** San Francisco State University.

B246 **798.16** Mini-INS: A Monomeric Human Insulin Inspired from Cone Snail Venom Peptides. **D. Chou.** University of Utah.

B247 **798.17** Expression and Purification of Hydrophobic Pep-Inhibiting Peptides from Bovine αs1 Casein. **L.E. Sheffield, K.D. Whalen, C.A. Goode, F.M. Acosta, M.E. Lenert, B.A. Clack.** Stephen F. Austin State University.

B248 **798.18** Discovery of Tumor Necrosis Factor Receptor Binders Using Yeast Surface Display. **N. Vunnam, S. Szymonski, J.N. Sachs, B. Hackel.** University of Minnesota.

B249 **798.19** Construction of Chimera Prolyl Endopeptidases to Determine Role of Domains in Substrate Size Specificity. **F. Alakija, B. Clack.** Stephen F. Austin State University.

B250 **798.20** Covalent Attachment of Protein Cargo to a Computationally Designed Toroid Scaffold. **C.R. Polkinghorn, J. Hallinan, L. Doyle, P. Bradley, B. Stoddard, B.K. Kaiser.** Seattle University and Fred Hutchinson Cancer Research Center.

B251 **798.21** Engineering Starch Kinases for Increased Biofuel Production Efficiency. **A. Rondon, S. Emanuelle.** University of Kentucky.

B252 **798.22** Computational Design and Molecular Mechanism in Oligomerization of C-Terminal Binding Protein 2 **Y. Miyashita, N. Matsuo, Y. Yamamoto, S. Nakano, S. Ito, N. Numoto, T. Ikura, N. Ito, M. Sekiya, H. Shimano, H. Tokiwa.** Rikkyo University, Japan, University of Shizuoka, Japan, Medical Research Institute, Tokyo Medical and Dental University, Japan and University of Tsukuba, Japan.

B253 **798.23** Computational Design and Simulation of a Cyclized Dimeric Multipass Transmembrane Protein. **J.A. Aldana-Mendoza, W.A. DeGrado.** California State University, Los Angeles, University of California and San Francisco.

B254 **798.24** Computational Insights into the Structure and Epitope Locations for Two Idiopathic Membranous Nephropathy Antigens: Phospholipase A_2 Receptor and the Thrombospondin Type-1 Containing Domain 7A and Design of Antigen Binding Proteins. **S. Stoddard.** Rhodes College.

799. PROTEIN-SMALL MOLECULE INTERACTIONS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B255 **799.1** ATP as an Allosteric Modulator and Chelator of Fe^{3+} from Fe^{3+}-Transferrin Is ATP a Major Fe^{3+} Carrier. **R.E. Cowart, T.B. Shaffer, R.D. O'Hara, J.A. Campbell, L.L. Schneider-Tugan, S.K. Binz, M.A. Pope, R.B. Gregory.** University of Dubuque and Lindenwood University.

B256 **799.2** Utilization of Multiple Lipid Sources in the Production of Biodiesel by Using Lipase Nanoparticles from Candida Rugosa in a Nonaqueous System. **H.A. Rivera.** Universidad de Puerto Rico and Rio Piedras Campus

B257 **799.3** Identification of the Substitutes on α-(N)-Heterocyclic Thiosemicarbazones That Interact with Human Topoisomerase-II-α with Nuclear Magnetic Resonance. **J. Hill, J. Conner, N. Combs, S. Bowman, W. Carroll, E. Lisic, X. Jiang.** Tennessee Technological University.

B258 **799.4** Exploring Binding Determinants of (*S*)-Allantoin with Proteins via Docking and Molecular Modelling. **M.E. Reeves, M.M. Allard, M.A. Payne.** La Sierra University.

B259 **799.5** Computational Design of a Mimic Against Neurodegenerative Diseases Based on VEGF-D. **C. Mason, N. Bibi, M. Zahran.** New York City College of Technology and City University of New York.

B260 **799.6** Biophysical Investigation of Gastrointestinal Fatty Acid Binding Proteins (FABPs) with Fatty Acid Ethanolamides (FAEs). **M.P. Lai, F. Katz, R.E. Stark.** City College of New York.

B261 **799.7** Differential Modulation of Microtubule Stability by Inhibitor-Bound Kinesin-5. **C. Kim, E. Kim, L. Liu, E. Wojcik.** Louisiana State University School of Medicine and Health Sciences Center.

B262 **799.8** Hypoxia-Selective Allosteric Destabilization and Degradation of a Receptor Protein Kinase: Potential Prophylaxis by H-Saad/Ds. **J.C. Groppe, G. Lu, M.R. Tandang-Silvas, A. Dawson, T. Dawson.** Texas A&M College of Dentistry.

800. BIOANALYTICAL AND BIOPHYSICAL METHODS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B263 **800.1** Development of Methodology for the Analysis of Novel Compound Rpm. **A. Fraser, E.S.P. Reddy, A. Basu Sarkar.** University of Findlay , Morehouse School of Medicine and University of Findlay College of Pharmacy.

B264 **800.2** Physico-Chemical Characterization of Novel Compound Rmbr. **C. Higley, A. Basu Sarkar, E.S.P. Reddy.** University of Findlay, University of Findlay College of Pharmacy and Morehouse School of Medicine.

B265 **800.3** Development of Bio-Analytical Methodology and Physico-Chemical Characterization of Novel Compound Red. **A. Basu Sarkar, M. Blanco, E.S.P. Reddy.** University of Findlay College of Pharmacy, University of Findlay and Morehouse School of Medicine.

B266 **800.4** DNA-Based Molecular Tools for Monitoring Cellular Activity. **O. Söderberg.** Uppsala University, Sweden.

B267 **800.5** Identifying Substandard Medications in Developing Nations. **E. Omanovich, J. Donels, J. Trier, A. Thomsen, J. Dollen, A. Miller, N. Memic, C. Zea.** Grand View University.

B268 **800.6** Towards a Point-of-Care Test for Bacterial Vaginosis: Design and Development of a Rapid Test for Vaginolysin. **D.C. Pawley, E. Dikici, S. Deo, M. Fischl, S. Daunert.** University of Miami.

B269 **800.7** Development of an Immersion Model for Tooth Decay Observed via Scanning Electron Microscopy, Atomic Force Microscopy and Flame Atomic Absorption Spectroscopy. **R.D. Shipman, B.G. Quelle, J.E. Grant, E.J. Lee.** University of Wisconsin—Stout.

B270 **800.8** Determination of Iron in Biological Samples Using Sector-Field vs. Quadrupole Inductively Coupled Plasma Mass Spectrometry. **H.A. AL-Ogaidi, M.E. Ketterer, E.J. Ragan.** Metropolitan State University of Denver.

B271 **800.9** Fast and Accurate Evaluation of Oxidation-Induced Destabilization of MAbs. **P. Piatti, M. Mohamadi, N. Tschammer, D. Breitsprecher, P.A. Fung.** Nanotemper Technologies Inc., NanoTemper Technologies and GmbH, Germany.

B272 **800.10** Basal Serum Oxytocin Levels in Healthy Non-Pregnant/Lactating Humans Are Below 10 pg/ml and Not Detectable by Traditional Orbitrap LCMS. **A.A. Franke, X. Li, A. Menden, J.F. Lai.** University of Hawaii Cancer Center.

B273 **800.11** Validation of Nucleocounter, an Automated Cell Counter. **J. Saini, J.J. Kim, L.A. Preston, S.L. Riley, L.J. Ashley, L.K. Landeen.** Vital Therapies and Inc.

B274 **800.12** Rapid Prototyping of Microfluidic Conductivity Detectors via Extrusion-Based 3D Printing. **B. Strong, S. Prabhu, A. Jangid, B. Liu, N. Martinez.** California Polytechnic State University.

B275 **800.13** Analysis of Ramachandran Outlier Prevalence for X-Ray Crystallographic Model Structure Validation. **D.A. Vavrinak, C. Weiss.** Wabash College.

801. NANOTECHNOLOGY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B276 **801.1** The Hybrid Plga-Based Nanoparticles as a Smart Nanoplatform for Imaging-Guided and Near-Infrared Light-Triggered Combination Cancer Therapy. **X. Shen, X. Xie, H. Yang, C. Wu, Y. Liu.** Department of Biophysics, School of Life Science and Technology and University of Electronic Science an, People's Republic of China.

B277 **801.2** Cooperative Treatment of Breast Cancer Using an Irinotecan/IR-820 Co-Loaded Hollow Mesoporous Silica Nanoparticles Nanoplatform. **T. Li, Y. Geng, Z. Chen, H. Yang, C. Wu, Y. Liu.** Department of Biophysics, School of Life Science and Technology and University of Electronic Science an, People's Republic of China.

B278 **801.3** Light Controlled Intracellular Protein Release: Tracking Ras Interactions with Superresolution Fluorescence Microscopy. **J. Yun, C. Phelps, D. Morales, X. Nan, N. Reich.** University of California, Santa Barbara and Oregon Health & Science University.

B279 **801.4** Imaging Exosomes Using Super Resolution Microscopy. **C. Chen, S. Zong, Z. Wang, Y. Cui.** Advanced Photonics Center and Southeast University, People's Republic of China.

B280 **801.5** Creation and Characterization of Gold-Nanoparticle Containing Conductive Scaffolds for Culturing Cardiomyocytes. **M. Maldonado, B. Pena Castellanos, A.J. Bonham, D.W. Park.** Metropolitan State University of Denver and University of Colorado Anschutz Medical Campus.

B281 **801.6** Inhibition of Mitochondrial Respiration by Amino-Functionalized Gold Nanoparticles in Acute Myeloid Leukemia Cells. **A-K. Gaiser, T. Syrovets, S. Hafner, M. Schmiech, P. Schäfer, E. Calzia, T. Simmet.** Ulm University, Germany.

B282 **801.7** Towards Independent Cellular Release of a Multi-Biomolecule System Using Gold Nanorods: Simultaneous Up and Down Regulation of Cellular Pathways with Light Control. **S. Grossman, E. Morgan, N. Reich.** University of California and Santa Barbara.

B283 **801.8** Delivery of Interference RNA Molecules to Ovarian Cancer Cells Using Gold-Liposome Nanoparticle Conjugates. **B.I. Quiñones-Díaz, N. Grafals-Ruiz, G.L. Barletta-Bonanno, P.E. Vivas-Mejía.** University of Puerto Rico, Medical Sciences Campus , Puerto Rico, University of Puerto Rico and Humacao Campus, Puerto Rico.

B284 **801.9** Cryogenic Grinding and 3D Printing Techniques for Establishing "Disperse and Absorb" Brick-Type Constructs of Food Materials. **J-K. Rhee.** Ewha Womans University, Republic of Korea.

B285 **801.10** Nano-Targeted Kinase Inhibitor Treatment of KRAS Mutant Lung Cancer. **R. Sridharan, J. Shah, Y. Shamay, D. Heller.** Weill Cornell Medicine, Cornell University and Memorial Sloan Kettering Cancer Center.

B286 **801.11** Large Gold Nanorods Affect Glutathione but Not K^+ Metabolism in Human Red Blood Cells. **P.K. Alla, N.C. Ihezurike, P.K. Lauf, A. de la Zerda, E.D. SoRelle, I.E. Pavel-Sizemore, J.C. Yaklic, N.C. Adragna.** Wright State University and Stanford University.

B287 **801.12** Development of Polymeric Nanovehicles for siRNA Delivery in Cardiomyocytes. **A. Lázaro-Alfaro, O. Lozano-García, G. García-Rivas.** Cátedra de Cardiología y Medicina Vascular, Escuela de Medicina and Tecnológico de, Mexico.

B288 **801.13** A Delivery Method for Poly-Histidine Tagged Proteins and Peptides for Transient Protein Expression with Light Control via Hollow Gold Nanoshells: Successful delivery of CRISPR Cas9 and Apoptotic Peptide NuBCP with NIR light control. **E. Morgan, P. Jain, M. Pearce, S. Bhatia, S. Kolluri, N. Reich.** University of California Santa Barbara, Santa Barbara, CA, Massachusetts Institute of Technology, Cambridge, MA, Oregon State University, Corvallis, OR.

802. PROTEOMICS.

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

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Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B289 **802.1** High Throughput Proteomic Applications Using Anti-Dykddddk Magnetic Agarose. **B. Benton, J. Geddes, K. Vattem, B. Patel, B. Kaboord.** Thermo Fisher Scientific.

B290 **802.2** Candidate Urine Biomarker Discovery from Only Five Pairs of Samples Before and After Tumor Resection in Glioma Patients. **J. Wu, J. Zhang, Y. Zhao, Y. Gao.** Chinese Academy of Medical Sciences and Peking Union Medical College, People's Republic of China, Department of Neurosurgery, Peking University International Hospital, Peking University, People's Republic of China, Department of Neurosurgery, Beijing Tian Tan Hospital, Capital Medical University, People's Republic of China, Department of Biochemistry and Molecular Biology, School of Life Sciences and Beijing Normal University, People's Republic of China.

B291 **802.3** Changes of Urinary Proteins in Ddc-Induced Chronic Pancreatitis Rat Model. **L. Zhang, Y. Gao.** Beijing Normal University, People's Republic of China.

B292 **802.4** Cerebrospinal Fluid Proteomics for Identification of Potential Biomarkers to Monitor Pharmacological Therapeutic Efficacy in Dopamine Dictated Disease States of Parkinson's Disease and Schizophrenia. **G. Hariprasad, A.K. Gupta, R.K. Pokhriyal, M.I. Khan, D.R. Kumar, V. Goyal, R.K. Chadda, R. Ramachandran.** All India Institute of Medical Sciences, India.

B293 **802.5** An Aptamer-Based Approach to Assess the Human Plasma Proteome for Pre-Analytical Variability. **J.R. Daniels, Z. Cao, M. Maisha, L.K. Schnackenberg, J. Sun, L. Pence, T.C. Schmitt, B. Kamlage, R.D. Beger, L-R. Yu.** National Center for Toxicological Research, U.S. Food and Drug Administration and Metanomics Health GmbH, Germany.

B294 **802.6** Tracking Protein Expression, Post-Translational Modifications and Interactions with High Content Antibody Microarrays. **S. Pelech, L. Yue.** Kinexus Bioinformatics Corporation, Canada and University of British Columbia, Canada.

B295 **802.7** Altered Protein Expression of Primary Sea Turtle Cells Exposed to Contaminants Indicates the Potential for *in Vitro* Proteomics as a High Throughput Tool to Support Biomarker Discovery in Threatened Wildlife. **S. Chaousis, F.D.I. Leusch, A. Nouwens, J. van de Merwe.** Griffith University, Australia and The University of Queensland, Australia.

B296 **802.8** Expression of *Plasmodium falciparum* Glutamic Acid-Rich Protein (PfGARP) in Recombinant *Pichia pastoris* for Malaria Vaccine Development. **A.E. Martínez-Muñiz.** University of Puerto Rico at Mayagüez, Puerto Rico.

B297 **802.9** Mass Spectrometry of Single Mammalian Cells Quantifies Proteome Heterogeneity During Cell Differentiation. **E. Levy, B. Budnik, N. Slavov.** Northeastern University and Harvard University.

B298 **802.10** ITRAQ-Based Proteomics Analysis of Colon Mucosal Proteins in a Dextran Sulfate Sodium (DSS)-Induced Colitis Mouse Model and the Effects of Dietary Treatments with Edible Mushroom *Pleurotus eryngii*. **B. Yuan, X. Xu, Y. Han, X. Cao, Q. Hu, X. Hang.** China Pharmaceutical University, People's Republic of China, Nanjing Agricultural University, People's Republic of China and University of Massachusetts Amherst.

B299 **802.11** Liver Protein Comparisons of Warm-Adapted Versus Cold-Adapted Populations of Threespine Sticklebacks (*Gasterosteus aculeatus*). **B.B. Levitan, S. Gómez-Jiménez, J. Li, D. Kültz.** University of California, Davis and Centro de Investigación en Alimentación y Desarrollo (CIAD), Mexico.

B300 **802.12** Validation of in Vivo Protein Surface Accessibility Method. **M. Ma.** University of California and Berkeley.

B301 **802.13** High Sensitivity Top-Down Proteomics: Coomassie for In-Gel Proteoform Detection Rivals MS-Based Peptide Detection. **N. Noaman, P.S. Abbineni, M. Withers, J.R. Coorssen.** Western Sydney University, Australia, University of Michigan Medical School and Brock University, Canada.

B302 **802.14** Differentially Expressed Proteins Are Caused by Increased Chemokine Ligand 2 in Mice Hippocampi After Alcohol Treatment. **R. Cook, J. Lawrence, J. Bray.** University of Wisconsin—Stevens Point.

B303 **802.15** Considerations for Western Blot Normalization Techniques. **K. Oh, E.J. Dreskin, N. Liu, M. Hammond, F. Kollmann, A. Posch.** Bio-Rad Laboratories and Inc.

B304 **802.16** A Bioinformatics Approach to Discover the Evolutionary Origin of the PTBP Splicing Regulators. **J. Pina, R.J. Ontiveros, N. Keppetipola, N. Nikolaidis.** California State University, Fullerton and University of Pennsylvania.

803. SYSTEMS BIOLOGY AND REGULATORY NETWORKS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B305 **803.1** Focal and Diffuse Impacts of Mild vs. Moderate Traumatic Brain Injury (TBI): Temporal Assay of Hippocampal and Cerebellar Transcriptomics. **N. Chakraborty, R. Hammamieh, A. Gautam, S.A. Miller, M. Condlin, M. Jett, A. Loban, A. Scrimgeour.** The Geneva Foundation, U.S. Army Center for Environmental Health Research and U.S. Army Research Institute of Environmental Medicine.

B306 **803.2** Bacterial Viruses Organize Subcellular Environments to Mediate Heterogeneous Development. **J.T. Trinh, L. Zeng.** Texas A&M University.

B307 **803.3** Copper Distribution Networks in *Pseudomonas aeruginosa*. **J. Arguello, J. Quintana, L. Novoa-Aponte.** Worcester Polytechnic Institute.

B308 **803.4** The Cytoplasmic Cu^{+}-Chaperones of *Pseudomonas aeruginosa*. **L. Novoa-Aponte, J.M. Arguello.** Worcester Polytechnic Institute.

B309 **803.5** Signed Differential Co-Expression Network Analysis Suggests Differential Regulation of SP/KLF Family of Transcription Factors in Dilated Cardiomyopathy. **K. Mukund, S. Subramaniam.** University of California and San Diego.

B310 **803.6** Integrated Therapeutic Dynamics by Applications of Multi-Mathematical Functions in Multiple Degenerative Chronic Physiological Processes. A *Case Study*. **G.P. Einstein, O.L. Tulp, C.M. Konyk, N.P. Kealoha.** Einstein Medical Institute, University of Science and Arts and Technology Montserrat, Montserrat.

B311 **803.7** Integrative Analysis of Sex Differences in Adipose Tissue Gene Expression. **W. Anderson, M. Guertin, M. Civelek.** University of Virginia.

B312 **803.8** Can We Capture an Accurate View of Tissue Metabolism from an Expression Profile? **N. Lewis.** University of California and San Diego.

B313 **803.9** Nano-Biomaterial and Functional Genomics Research. **R.B.S.M.N. Mydin.** Advanced Medical and Dental Institute and Universiti Sains Malaysia, Malaysia.

B314 **803.10** Royal Road Functions in Evolutionary Computations and Modular Organization of a Gene: Applications to Directed and Molecular Evolution. **A.V. Spirov.** I. M. Sechenov Institute of Evolutionary Physiology and Biochemistry Russian Academy of Sciences, Russian Federation.

804. CANCER SIGNALING AND THERAPEUTICS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
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Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B315 **804.1** He4 Promotes Events Associated with Metastatic Ovarian Cancer via Regulation of the Extracellular Matrix. **H. Gaudet, J. Ribeiro, M. Khan, C. Schorl, N. James, M. Oliver, R. Singh, P. DiSilvestro, R. Moore, N. Yano.** Wheaton College, Women & Infants Hospital of Rhode Island, Brown University, University of Rhode Island and University of Rochester Medical Center.

B316 **804.2** Targeting the Myristoylation of FRS2α Inhibits FGF/FGFRS-Mediated Oncogenic Signaling and Tumor Progression. **H. Cai, Q. Li.** University of Georgia.

B317 **804.3** The Role of the Vacuolar (H+)-ATPase in Neuroblastoma Cell Differentiation Induced by MicroRNA 506-3p. **G. Medrano, Z. Zhao, L. Du.** Texas State University

B318 **804.4** The Combined Effect of Canagliflozin and Metformin in Human Prostate Cancer Cells. **K. Ware, L. Stewart.** Tennessee State University and Meharry Medical College.

B319 **804.5** Effects of Vorinostat, Letrozole and RG7388 Treatments on Cell Cycle Arrest and Survival of Breast and Prostate Cancer Cells. **U. Natarajan, T. Venkatesan, S. Dhandayuthapani, T. Kanagasabai, S.S. Samuel, V. Radhakrishnan, A. Rathinavelu.** VRR Institute of Biomedical Science, India and Nova Southeastern University.

B320 **804.6** Knockdown of TM9SF4 Triggering Er Stress Exerts Anti-Growth Effect on Drug-Resistant Breast Cancer Cells. **Y. Zhu, X. Yao.** The Chinese University of Hong Kong, Hong Kong.

B321 **804.7** Small Molecule Targeting of CD73 Offers Better Selective Strategy Than Targeting CD39 in Counteracting Tumor Mediated Immunosuppression by Adenosine. **S. Goueli, K. Hsiao.** Promega Corporation.

B322 **804.8** Ascites Tumor Microenvironment and Chemoresistance in Ovarian Cancer. **S. Kim.** Seoul National University Hospital, Republic of Korea.

B323 **804.9** The Effect of Resveratrol in the Proliferation and Autophagy of Breast Cancer Cell Lines. **M. Martinez Casillas, K. Munoz Forti, J. Robles Rivera, G. Trossi Torres, E. Suarez Martinez, A. Ruiz Rivera.** University of Puerto Rico at Ponce, Puerto Rico, Pontifical Catholic University of Puerto Rico, Puerto Rico and University of Puerto Rico at Mayagüez, Puerto Rico.

B324 **804.10** Antiproliferative Effects of Soy Derived Dipeptides in Human Breast Cancer Cell Lines. **S.K. Das, P. Mitra, M. Maebuchi, S. Mukherjee.** Meharry Medical College and Fuji Oil Company, Japan.

B325 **804.11** A Genome-Wide CRISPR-Cas9 Screen Identifies Importin-β11 as a Required Factor for β-Catenin Signaling in Colon Cancer. **M. Mis, Z. Steinhart, S. Angers.** University of Toronto, Canada.

B326 **804.12** MicroRNA-203 Regulates Cell Junction and Adhesion Proteins by Modulating ZEB1/vimentin Axis in Breast Cancer Cells After Parp1 Inhibition. **N. Shukla, J. Rajawat, D.P. Mishra.** CSIR-Central Drug Research Institute , India.

B327 **804.13** Cell Surface GRP78 Activation by Anti-GRP78 Autoantibodies in Relation to Prostate Tumour Growth via Tissue Factor Activation. **A. Al-Hashimi, B. Shayegan, R. Austin.** McMaster University

B328 **804.14** Novel RAC Inhibitors as Targeted Therapeutics for Metastatic Breast Cancer. **G. Asencio-Torres, E. Hernández, C. Vlaar, S. Dharmawardhane, L. Castillo-Pichardo.** Universidad Central del Caribe, University of Puerto Rico and Medical Sciences Campus, Puerto Rico.

B329 **804.15** Foxa2 Promotes Prostate Cancer Bone Colonization. **Z.M. Connelly, S. Yang, A.W. Orr, X. Yu.** Louisiana State University Health Sciences Center—Shreveport.

B330 **804.16** *RXRA* Is a Direct Target Gene of miR-506-3p That Regulates Oncogene *mycn* Expression and Cell Differentiation in Neuroblastoma. **S.D. Shelton, Z. Zhao, L. Du.** Texas State University.

B331 **804.17** 27-Hydroxycholesterol Decreases Cell Proliferation in Colon Cancer Cells. **J.A. Warns, N. Freking, O. Ghribi.** University of North Dakota.

B332 **804.18** Paper-Based Breast Tumor Model Reveals New Insights into the Hypoxic Regulation of Estrogen Receptor Alpha. **N. Whitman, Z-W. Lin, R. Kenney, M.R. Lockett.** University of North Carolina at Chapel Hill.

B333 **804.19** Regulation of Extracellular IGFBP-3 by Humanin in A549 Cells. **R.D. Muterspaugh, D. Price, J. Guthrie, D. Heyl, H. Evans.** Eastern Michigan University.

B334 **804.20** Mechanosensitivity Analysis of Breast Cancer Tumor Cells from Needle Biopsy. **S. Acero Bedoya, D. Ghosh, M. Dawson.** Brown University

B335 **804.21** Expression and Regulation of CHP and NHE in Cancer. **C. Bakker, M. Wallert, J. Provost.** University of San Diego and Bemidji State University.

B336 **804.22** Investigation of Domain Responsible for Calcineurin B Homologous Protein (CHP) Isoform Specific Function. **S. Davis, M. Wallert, J. Provost.** University of San Diego and Bemidji State University.

B337 **804.23** Inhibition of Endothelial Scube2, a Novel VEGFR2 Co-Receptor, Suppresses Tumor Angiogenesis. **Y-C. Lin, C-Y. Liu, R. Kannagi, R-B. Yang.** Academia Sinica, Taiwan and Taipei Veterans General Hospital, Taiwan.

B338 **804.24** Role of mTORC2 and Nitric Oxide in Bladder Cancer Invasion. **D. Sahu, R. Klemke, G.R. Boss, D.E. Hansel.** University of California and San Diego.

B339 **804.25** The Impact of PLGA Nanoparticle Delivered 3-Bromopyruvate and SC-514 on ABC Transporter Mediated Multidrug Resistance in Prostate Cancer Treatment. **T.O. Famuyiwa.** Florida Atlantic University.

B340 **804.26** DDX53/miRNAs Network Regulates Stemness and Anti-Cancer Drug Resistance by Activating Autophagy in Cancer Stem Cells. **Y. Kim, S.T. Park, J.J. Lee.** Hallym University, Republic of Korea, Hallym University Kangnam Sacred Heart Hospital, Republic of Korea and Hallym University Chuncheon Sacred Heart Hospital, Republic of Korea.

B341 **804.27** Receptor Tyrosine Kinase Signalling in the Absence of Kinase Activity and Cancer of Non-Genetic Origin. **J. Ladbury.** University of Leeds, United Kingdom.

B342 **804.28** Effects of Botanicals and Purified Phenolic Compounds on NFKB Pathway in Cultured Human Skin Keratinocytes and Fibroblasts. **J.L. Higgins, A. Kraus, M. Clark, B. Gallant, D. Arruda, C. McTigue, H. Ma, N.P. Seeram, H. Guo, H-D. Chen, Y. Cui, Y. Wan.** Providence College, University of Rhode Island, China Medical University, People's Republic of China and Northwestern University

B343 **804.29** HSP60 Is a Novel Target in Lethal Prostate Cancer. **J. O'Malley, C. Donnelly, J. Inigo, R. Kumar, D. Chandra.** Roswell Park Cancer Institute, University at Buffalo and State University of New York.

B344 **804.30** Development of Hydrolytically Activated, Oxygen-Generating Biomaterials to Enhance Drug Efficacy on Cultured Ovarian Cancer Cells. **M.P. Clark, A. Kraus, J. Higgins, B. Gallant, D. Arruda, C. McTigue, X. Li, H. Guo, H. Chen, Y. Cui, W. Di, Y. Wan.** Providence College, Brown University, China Medical University, People's Republic of China, Northwestern University and Shanghai Jiao Tong University, People's Republic of China.

B345 **804.31** Identification of FZD5 as Genetic Vulnerability in *RNF43* Mutant Cancer. **Z. Steinhart, Z. Pavlovic, M. Chandrashekhar, K. Mascall, T. Hart, X. Wang, X. Zhang, K.R. Brown, J. Adams, J. Pan, S. Sidhu, J. Moffat, S. Angers.** University of Toronto, Canada and The University of Texas MD Anderson Cancer Center.

B346 **804.32** Cytotoxic Mechanism of Long-Chain Lipids Extracted from Mexican Native Avocado Seed (*Persea americana* Var. *drymifolia*) on Colon Cancer Cells. **M. Lara-Márquez, P.A. Spagnuolo, R. Salgado-Garciglia, A. Ochoa-Zarzosa, J.E. López-Meza.** Universidad Michoacana de San Nicolás de Hidalgo, Mexico and University of Guelph, Canada.

B347 **804.33** Defensin γ-Thionin from *Capsicum chinense* Induces Apoptosis in the Human Breast Cancer Cell Line MCF-7 and Regulate Histone H3 Epigenetic Modifications. **M.T. Arceo-Martinez, J. Guzmán-Rodríguez, Z. Palomera-Sánchez, A. Ochoa-Zarzosa, J.E. López-Meza.** Universidad Michoacana de San Nicolás de Hidalgo, Mexico.

B348 **804.34** Elucidating Interactions Between Zebrafish Innate Immune System and Cancer Progression. **M. Lou, D. Powell, A. Huttenlocher.** University of Wisconsin—Madison.

B349 **804.35** Growth Inhibition of Breast Cancer by Two Flexible Heteroarotinoid Enantiomers. **E. Ginn, J. Baek, H. Zou, M.M.J. Fallatah, E. Cayton, S. Liu, M. Louie.** Dominican University of California and Touro University—California.

B350 **804.36** FoxO Transcription Factors Rewire Metabolism in U87MG Glioblastoma Cells. **M. Keniry, V. Fanniel, E. Martinez, L. Sanchez, N. Vazquez, A. Lopez, R. Cedillo, C. Respondek, R. Gilkerson, W. Innis-Whitehouse, E. Scheunzel.** The University of Texas Rio Grande Valley.

B351 **804.37** Real Time PCR Analysis of Ewing's Sarcoma Cell Lines in Response to Chemotherapeutic Treatment. **S. Pitzen, A. Kruchten.** The College of St. Scholastica.

B352 **804.38** Proteomic Signature of PDAC Cells with Mutant. P53 **M. Manfredi, G. Butera, A. Buzzi, J. Brandi, D. Cecconi, E. Marengo, M. Donadelli.** University of Piemonte Orientale, Italy and University of Verona, Italy.

B353 **804.39** Inhibitory Activity of the Chloroform Extract of *Ficus benjamina* Leaf on Multiple Myeloma Cell Lines. **F.A. Obafemi, E. Bonsu, O. Erharuyi, S. Simanski.** University of Abuja, Nigeria, Bowie State University, University of Benin, Nigeria and Scripps Research Institute.

B354 **804.40** Targeting N-Myristoyltransferase1 Inhibits Prostate Cancer Progression. **O.A. Alsaidan, S. Kim, Q. Li, A. Bielawska, H. Cai.** University of Georgia and Medical University of South Carolina.

B355 **804.41** Investigate Kentucky Hemp-Induced Modulation of Interleukin-1 β Secretion in Ovarian Cancer Cells. **C. Turner, C. Kenley, T. Jent, N. Vu, N. Hughes, W.K. Sumanasekera.** Sullivan University College of Pharmacy.

B356 **804.42** Induction of DNA Damage in Ovarian Cancer Induces Type I Interferon Signaling. **D.E. Bolland, Y.S. Tan, Y. Hao, K.E. Hacker, L. Tan, Y. Xie, Y. Lei, K. McLean.** University of Michigan and Michigan State University.

B357 **804.43** Quantifying HNF1A Regulated Gene Expression in Pancreatic Cancer. **A.A. Alaniz, E.V. Abel, D.M. Simeone.** The University of Texas at Austin, University of Michigan Health System, Pancreatic Cancer Center and NYU Langone Health.

B358 **804.44** The Role of Sphingosine Kinase 2 in Promoting Multiple Myeloma Cell Invasive Growth. **H. Zhang, D. Zhao, X. Li, R. Liu, X. Wang, H. Zhou.** Virginia Commonwealth University.

B359 **804.45** Can Less Be More: Evaluating the Synergistic Relationship Between Chemotherapy Agents and NHE1 Inhibitors in Ovarian Cancer Cells. **A.C. Larson, J.J. Provost, M. Wallert.** Bemidji State University and University of San Diego.

B360 **804.46** Evaluating the Role of the Na^+-H^+ Exchanger Isoform 1 (NHE1) in Non-Small Cell Lung Cancer. **A.J. Kooiker, J.J. Provost, M. Wallert.** Bemidji State University and University of San Diego.

B361 **804.47** Investigating the Potential for Na^+-H^+ Exchanger Isoform 1 (NHE1) Inhibitors as Adjuvant Therapies in the Treatment of Ovarian Cancer. **A.R. Corradi, J.J. Provost, M. Wallert.** Bemidji State University and University of San Diego.

B362 **804.48** Evaluating the Role of the Na^+-H^+ Exchanger Isoform 1 (NHE1) in Lysophosphatidic Acid and Urokinase-Type Plasminogen Activator Stimulation of Ovarian Cancer Cells. **A.A. Stiglich, J.J. Provost, M. Wallert.** Bemidji State University and University of San Diego.

B363 **804.49** Effect of Low pH Treatment on Cell Cycle and Cell Growth. **Y. Hu, Y. Li.** Ohio University.

B364 **804.50** Evaluating the Inhibition of Palmitoylation and NHE1 on Cell Proliferation and Migration. **S.A. Hanowski, J.J. Provost, M. Wallert.** Bemidji State University and University of San Diego.

B365 **804.51** Differential Impacts of Hypoxia on Na^+/h^+ Exchanger Isoform 1 and Calcineurin B Homologous Protein Isoform 2 Expression in Non-Small Cell Lung Cancer. **C.H. Wallert, J.J. Provost, M. Wallert.** Bemidji State University and University of San Diego.

B366 **804.52** The Role of HSF2 in Human Malignancies. **S. Takagishi, K. Metz, Y. Wu, M. Alasady, M. Mendillo.** Northwestern University Feinberg School of Medicine.

B367 **804.53** Immunohistochemical Study of the Epithelial-to-Mesenchymal Transition Phenotype in Non-Small Cell Lung Cancer. **X.L. Rodriguez-Lopez, J. Perez-Morales, P. Santiago-Cardona.** University of Puerto Rico at Ponce, Puerto Rico, Ponce Health Sciences University Research Institute , Puerto Rico and Ponce Health Sciences University, Puerto Rico.

B368 **804.54** Characterization of Patient-Derived Glioblastoma Stem Cells for Marker Expression, Motility, and Invasiveness. **K. Plusch, A. Stubbolo, C. Bernheimer, D.S. Galileo.** University of Delaware.

B369 **804.55** Endothelial-Derived Extracellular Vesicles Induce Proliferation in Glioblastoma Cells. **Z.R. Zimmerman, M.R. Dores.** Hofstra University.

B370 **804.56** Evidence of Natural Transcriptome Regulation by Cinnamon Extract Identified by Changes in Akt1 mRNA Levels of MCF-7 Breast Cancer Cells. **M. Hill, S. Hall, S. Almehmadi, Z. Lin, A. Aulthouse, D. Kinder, A. Stockert.** Ohio Northern University.

B371 **804.57** Overexpression of Insulin-Like Growth Factor Binding Protein 1 (IGFBP1) Generates Tamoxifen Resistance in Breast Cancer Cells. **J. Kieltyka, Y. Zheng, A. Hobbs, K.D. Houston.** New Mexico State University.

B372 **804.58** Mechanism of Action of the Vascular Disrupting Agent OXI8006 on Activated Endothelial Cell Signaling. **E.A. Taylor, S.O. Odutola, T.E. Strecker, M.M. Hayashi, M.T. MacDonough, K.G. Pinney, M.L. Trawick.** Baylor University.

B373 **804.59** S100a7 Regulates miR21 and miR-29b in Oral Squamous Cell Carcinoma. **N.H.T. Ly, J.K. Pizarro, S.J. Wang, M.E. Mercado-Pimentel.** University of Arizona

B374 **804.60** The Aggressive Nature of Prostate Cancer of African Americans Is Correlated with Massive Down-Regulation of Many Immunoregulatory Genes of Microenvironment. **F. Rahmatpanah, X. Zi, A. Sawyers, A. Agrawal, M. Lilly, M. McClelland, D. Mercola.** University of California, Irvine and Medical University of South Carolina.

B375 **804.61** Polyphenon E Treatment Alters Gene Expression in Prostate Cancer Cells. **D.E. Hoffman, K.Y. Gandy, J.Y. Park, L.M. Carastro.** University of Tampa and Moffitt Cancer Center.

B376 **804.62** A Light Inducible Gene Activation System Toward Controllable Cell-Based Therapeutics. **Z. Huang, Y. Wu, Y. Pan, M. Allen, Y-J. Chang, S. Chien, Y. Wang.** University of California and San Diego.

805. NEUROBIOLOGY AND NEURONAL SIGNALING

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B377 **805.1** Calcitriol Increases Leptin Expression in Neuronal Cells—Implications for Alzheimer's Disease. **G. Marwarha, O. Ghribi.** University of North Dakota School of Medicine and Health Sciences.

B378 **805.2** Suppression and Inhibition of Acetylcholinesterase (AChe) Gene Expression and Adenosine Deaminase (ADA) Respectively in Cadmium Treated Rats by Curcumin Administration. **A.O. Fadaka, A.J. Akinyemi, O.B. Adewale, I.R. Olayide, A. Onikanni, O.A. Olaoye, P.O. Okoh.** Afe Babalola University, Nigeria.

B379 **805.3** Immunoregulatory Role of Melatonin in *Helicobacter pylori*-Induced Gastric Diseases. **L. Jianhua, Z. Hui, Z. Mi, S. Jun, L. Li, L. Dancen, L. Meifang, Z. Feng, L. Hui, Z. Ruixiang.** Fujian Medical University, People's Republic of China.

B380 **805.4** Copper Binding Regulates Cellular Prion Protein Function. **X.T.A. Nguyen, H.T. Tran, D. Cojoc, G. Legname.** Scuola Internazionale Superiore di Studi Avanzati (SISSA), Italy, Institute of Materials and National Research Council, Italy.

B381 **805.5** Spectral Sensitivity of Sensory Motor Integration of Gill Lateral Cell Cilia in the Bivalve Mollusc *Crassostrea virginica*. **R. Buchanan, J. Jean-Pierre, E.J. Catapane, M.A. Carroll.** Medgar Evers College.

B382 **805.6** Gene Expression in the Rat Thalamus Following Chronic Neuropathic Pain Development: mRNA Sequencing Analysis. **J.L. Clifford, R. Kumar, S. Srinivasan, G. Dmitrov, A. Gautam, A. Walsh, E. Workman, R. Chavez, N. Sosanya, R.J. Christy, R. Hammamieh.** U.S. Army Center for Environmental Health Research, Leidos: Advanced Biomedical Computing Center and U.S. Army Institute of Surgical Research.

B383 **805.7** Using Human Cerebral Organoids to Study the Role of the Microbiome in Neuroinflammation. **G. DiUbaldi, C. Toth.** Providence College.

B384 **805.8** An Investigation into the Microglial Response to Neonatal ZIKV Infection. **J. Lawrence, M.S. Parcells, J. Schwarz.** University of Delaware.

B385 **805.9** Determining the Effects of Chronic Interferon Stimulation on Heme Oxygenase-1 in Human Monocyte Derived Macrophages. **B. Cobo, R. Garza, D.L. Kolson.** Universidad de Puerto Rico, Rio Piedras Campus and University of Pennsylvania.

B386 **805.10** DMD-10 and Its Potential Effect on Regulation of the Glutamate Receptor GLR-1 in *C. elegans*. **L.R. Johnsky, A. McGehee.** Suffolk University

B387 **805.11** The Ketogenic Diet Attenuates Both Hyperactivity in mTOR Pathway and Astrogliosis Through Regulation of AMPK Signaling in the Epileptic Brain. **A. Singh, T. Mettler, H. Oh, D-Y. Kim.** Barrow Neurological Institute and St. Joseph's Hospital and Medical Center.

B388 **805.12** The Role of TDP-43 in the Pathogenesis of Frontotemporal Lobar Degeneration. **K-J. Tsai.** National Cheng Kung University, Taiwan.

B389 **805.13** Gamma Secretase Activity Is Necessary for BMP-7-Induced Dendritic Growth in Embryonic Sympathetic Neurons. **R. Henley, K. Karunungan, P. Lein, V. Chandrasekaran.** Saint Mary's College of California, University of California and Davis.

B390 **805.14** A Novel Single Molecule Assay Reveals the Deafness-Associated Protein Otoferlin as a Multivalent Calcium-Sensitive Scaffold Linking Snares and Calcium Channels. **C.P. Johnson, N. Hams.** Oregon State University.

B391 **805.15** Proof-of-Concept in a 3D Culture Model of Glioma Invasion: Towards Personalized Therapeutics in Brain Cancer. **D.M. van Pel, C.C. Naus, W.C. Sin.** University of British Columbia, Canada.

B392 **805.16** Learned Modulation of Innate Odor-Driven Behavior Requires the Orbitofrontal Cortex. **K. Miyamoto, J. Victoriano, M. Kathrotia, C.M. Root.** University of California and San Diego.

B393 **805.17** RGS4 Regulates Neurite Outgrowth and Cell Proliferation Mediated by STAT5B Transcriptional Responses. **P. Pallaki, I. Serafimidis, E. Papadimitriou, M.P. Papakonstantinou, D. Thomaidou, M. Gaitanou, Z. Georgoussi.** National Centre of Scientific Research "Demokritos", Greece, Biomedical Research Foundation, Academy of Athens, Greece and Hellenic Pasteur Institute, Greece.

B394 **805.18** Comparative Analysis of RORA Expression in Brain Tissue from Multiple Sclerosis and Normal Individuals: A Pilot Study. **S.C. Schroeder, L. Heath.** Webster University.

B395 **805.19** Differential Expression of Piccolo Splice Isoforms During Cerebellar Development. **S.D. Fenster.** Fort Lewis College.

B396 **805.20** 17β-Hydroxysteroid Dehydrogenases and Neurosteroid Metabolism in the Central Nervous System. **S-y. Yang, X-Y. He, C. Dobkin.** New York State Institute for Basic Research in Developmental Disabilities.

B397 **805.21** Muscarinic Acetylcholine Type 1 Receptor Constrains Neurite Outgrowth by Inhibiting Microtubule Polymerization and Mitochondrial Trafficking in Adult Sensory Neurons: A Phenotype Rescued by Antagonist Treatment. **M.G. Sabbir, N.A. Calcutt, P. Fernyhough.** University of Manitoba, Canada, University of California and San Diego.

B398 **805.22** Mast Cell Proteases Activate Glia-Neurons and Release Interleukin-33 by Activating MAPKs. **K. Duraisamy, G.P. Selvakumar, R. Thangavel, M.E. Ahmed, S.P. Raikwar, S. Zaheer, S.S. Iyer, A. Zaheer.** University of Missouri.

B399 **805.23** Increased Locomotor Activity Is Associated with Enhanced Tyrosine Hydroxylase Expression in Mice Expressing an Endothelial Cell-Specific Fibroblast Growth Factor 1 Transgene. **D.J. Small, V. Eaton, W.Y. Koh, A. Langlais, I. Bergquist, D. Mokler, I. Prudovsky.** University of New England and Maine Medical Center Research Institute.

B400 **805.24** Role of N-Type Calcium Channels in Inflammatory Pain and Associated Sensory Nerve Growth. **S. Pitake, S. Mishra.** North Carolina State University.

B401 **805.25** Role of Circadian Deadenylase Nocturnin in the Mitochondria. **A. Ojo, I. Laothamatas, C. Green.** St. Mary's University and The University of Texas Southwestern Medical Center.

B402 **805.26** CDK5: The Connection Between Alzheimer's Disease and Type 2 Diabetes? K.**E. Mora, A. Aguanno.** Marymount Manhattan College.

B403 **805.27** Immortalized Rat Neuronal Cell Line Shows Potential as an Improved Cell Model for Dopamine Transporter Research. **G.H. Larson, D.J. Stanislowski, J.D. Foster.** University of North Dakota.

B404 **805.28** Seasonal Changes in the Central Nervous System of the Arctic Ground Squirrel. **C. Frare, E. Lokken, K. Drew.** University of Alaska Fairbanks.

B405 **805.29** Neurochemical Pathways Involved in A_1 Adenosine Receptor Agonist-Induced Hibernation in the Arctic Ground Squirrel (*Urocitellus parryii*). **M. Jenkins, C. Frare, K. Drew.** University of Alaska Fairbanks.

806. IMMUNITY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B406 **806.1** Developing an Intranasal Colonization Model for NTHi in Mice. **M. O'Neil, C. LaClair, M. Zavorin, K. Pryharski, N. Khan, R. Kaur, M. Pichichero, L. Vacca Michel.** Rochester Institute of Technology and Rochester General Hospital Research Institute

B407 **806.2** Mechanotransduction via HA LFA-1 Promotes Kindlin-3/RACK1/ORAI1 Engagement to Mediate Calcium in PMN. **V.A. Morikis, S. Simon.** University of California and Davis.

B408 **806.3** Structural Characterization of the TIL 1383i T Cell Receptor. **L.M. Davancaze, N.K. Singh, M.J. Anderson, F.A. Huyke, M.I. Nishimura, B.M. Baker.** University of Notre Dame and Loyola University Chicago.

B409 **806.4** Inhibition of Allergen-Mediated Mast Cell Activation by Rosemary Extract (*Rosmarinus officinalis* l.). **M. Yousef, N.J. Hicks, T. Boyd, E. Tsiani, A.J. MacNeil.** Brock University, Canada.

B410 **806.5** Effect of Different Forms of Graphene on Activation of the Complement System as a Result of Contact with Human Serum Under in Vitro Conditions. **D. Szukiewicz, I. Dudek, M. Skoda, Z. Wichrzycka.** Department of General & Experimental Pathology with CEPT Laboratory and Medical University of Warsaw, Poland.

B411 **806.6** Human Milk Exosomes Dampen Induced Inflammatory Response in Human Intestinal Epithelial Cells. **J.D. Kraft, E. Ferretti, E. Tremblay, J-F. Beaulieu, I. Altosaar.** University of Ottawa, Canada, The Ottawa Hospital/Children's Hospital of Eastern Ontario, Canada and Université de Sherbrooke, Canada.

B412 **806.7** Modulatory Role of Vitamin D in Stem Cell Factor-Mediated Mast Cell TNF Expression. **A.R.R. Maguire, C.J.F. Watson, A.J. MacNeil.** Brock University, Canada.

B413 **806.8** SRC Family Kinase Tyrosine Phosphorylates Toll-Like Receptor 4 to Dissociate Myd88 and Mal/tirap Suppressing LPS Induced Inflammatory Responses. **S.H. Rhee, E. Im, J. Mitchell, S.J. Kim.** Oakland University and Pusan National University, Republic of Korea.

B414 **806.9** The Effects of Menkes Syndrome on the Immune System. **M. Engelhart, J. Zhang, J. Gotschall, D. Huffman, K.R. Miller.** University of Mount Union and Western Michigan University.

B415 **806.10** Enhancement Natural Killer Cell Activity of Fucoidan in Lung Metastasis *in Vivo* Model. **J. Kim, D.H. Kim, S-H. Chun, H-Y. Park, K-W. Lee.** Korea University, Republic of Korea and Korea Food Research Institute, Republic of Korea.

B416 **806.11** Discerning the Mechanism of HLA Expression by Epigenetic Modulators in Breast Cancer Cell Lines. **N.T. Terrigino, R.E. Powers, R.W. O'Donnell.** State University of New York College at Geneseo.

B417 **806.12** Disrupted FOXP3-EZH2 Interaction Is a Molecular Feature of Impaired Regulatory T Cells. **A.O. Bamidele, P. Svingen, M. Sagstetter, O. Sarmento, M... Gonzalez, M. Braga Neto, S. Kugathasan, G. Lomberk, R. Urrutia, W. Faubion.** Mayo Clinic, Emory University and Medical College of Wiscosin.

B418 **806.13** A Comparison of a Natural and Synthetic Stilbenoid, Arachadin-3, on a Rotavirus Infected Human Intestinal Cell Line. **R. Napier-Jameson, C.M. Witcher, S.B. Wisdom, E.B. Strange, D.S. Triggs, L.L. Saade, J. Taylor, J.M. Ball, F. Medina-Bolivar, R.D. Parr.** Stephen F. Austin State University, Ross University School of Veterinary Medicine, Saint Kitts and Nevis, Texas A&M University—Commerce and Arkansas State University

807. TARGETED THERAPIES AND NEW TARGETS FOR DRUG DISCOVERY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B419 **807.1** Synthesis of an Ethyleneimine/tetrahedral DNA Nanostructure Complex and Its Potential Application as a Multi-Functional Delivery Vehicle. **T. Tian, T. Zhang, T. Zhou, S. Lin, S. Shi, Y. Lin.** Sichuan University, People's Republic of China.

B420 **807.2** Rasg12d Causes More Proliferation Than RasG12V in *Drosophila* Pancreatic Cancer Models. **F. Bernard, M. Sonoshita, R. Cagan.** University of Puerto Rico, Puerto Rico and Icahn School of Medicine at Mount Sinai.

B421 **807.3** Identification and Functional Validation of a Biomarker for the Diagnosis of Miltefosine Relapse During Visceral Leishmaniasis. **P. Tiwary, D. Kumar, S. Sundar.** Banaras Hindu University, India.

B422 **807.4** Antimycobacterial and Macrophage Apoptosis Inducing Effects of *Psychotria capensis* and *Psychotria zombamonatana* Species. **A. Aro, P. Fonteh, L.J. McGaw.** University of Pretoria, South Africa and University of Witwatersrand, South Africa.

B423 **807.5** Carnosic Acid Activates AMPK, Inhibits Akt and Inhibits H1299 Human Lung Cancer Cell Survival. **D. Nyforovskyy, J. Moore, E. Tsiani.** Brock University, Canada.

B424 **807.6** Allosteric p97 Inhibitors to Overcome ATP-Competitive Inhibitors Resistance in Anticancer Therapy. **F. Wang, T. Gan, T-F. Chou.** LA BioMed at Harbor—UCLA Medical Center.

B425 **807.7** Development of a Novel RON Targeted Antibody-Drug Conjugates Using Cysteine Bridging Technology for Potential Treatment of Pancreatic Cancer. **S.R. Suthe, H-P. Yao, P.C. Trippier, M-H. Wang.** Texas Tech University Health Sciences Center and Zhejiang University School of Medicine, People's Republic of China.

B426 **807.8** A Novel Murine Knock-In Model for Progranulin-Deficient Frontotemporal Dementia with Nonsense-Mediated mRNA Decay. **A.D. Nguyen, T.A. Nguyen, J. Zhang, S. Devireddy, P. Zhou, A.M. Karydas, X. Xu, B.L. Miller, F. Rigo, S.M. Ferguson, E.J. Huang, T.C. Walther, R.V. Farese; Jr.** Harvard T.H. Chan School of Public Health, University of California, San Francisco, Yale University School of Medicine, Gladstone Institute of Cardiovascular Disease and Ionis Pharmaceuticals Inc.

B427 **807.9** Pax5-Induced Expression of Endogenous Mucolipin-2 (*MCOLN2*) Gene in Human Glial and Neuronal Cell Lines: A Potential Gene Complementation Therapy Approach for Mucolipidosis IV. **L. Rosas, M.P. Cuajungco.** California State University and Fullerton.

B428 **807.10** Targeting Specificity of Liposomes Coated with Isolated Membranes from Cancer and Macrophage Cell Lines. **T. Mason, E. Tamulonis, K.R. Miller.** University of Mount Union.

B429 **807.11** Enhancing B-Cell Sensitivity to Kisspeptin via Linkage to GLP1. **A.K. Aragaki, C. Weber, J. Vagner, R. Lynch.** University of Arizona.

B430 **807.12** Peptidyl Arginine Deiminase-4: A Gliosis-Associated Target for Age-Related Macular Degeneration. **N.J. Saba, S.I. Palko, P. Bargagna-Mohan, R. Mohan.** University of Connecticut Health Center.

B431 **807.13** New MicroRNA Biotechnology as an in Vivo Therapeutic Molecule to Inhibit Cancer. **B.A. Amendt, S. Eliason, A. Akkouch, H. Cao, L. Hong.** University of Iowa.

808. PARASITE-HOST INTERACTIONS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B432 **808.1** Overcoming Challenges in the Diagnosis of *Schistosoma mansoni* Infections Using POC Tests, Recombinant Protein and Monoclonal Antibody Technologies. **R.F.G.E. Queiroz, D. Harn, P.M. Coelho.** Oswaldo Cruz Foundation—FIOCRUZ, Brazil and University of Georgia.

B433 **808.2** Stat6 Promoter Polymorphism Is Essential for Malaria Infection and Suppression of Parasitemia Among Infected Children. **B. Seamans, G. Liou, O. Ojurongbe, B. Thomas.** Rochester Institute of Technology and Ladoke Akintola University of Technology, Nigeria.

B434 **808.3** Interethnic Diversity and Association of STAT6 Genetic Variants with Schistosomiasis in West Africa. **G. Liou, B. Seamans, S. Adedokun, O. Ojurongbe, B. Thomas.** Rochester Institute of Technology and Ladoke Akintola University of Technology, Nigeria.

B435 **808.4** Transcriptional Fusions of Putative G-Protein Coupled-Receptors from Hookworm (*Ancylostoma ceylanicum*) Expressed in *Caenorhabditis elegans*. **P.T. Erickson, R. Ratnappan, J. Bernot, M. Haile, J.M. Hawdon.** Salisbury University and George Washington University.

B436 **808.5** Effects of *Plasmodium falciparum* on Placental Expression of Inflammatory and Coagulation Factors. **T. Dalapati.** University of Georgia.

B437 **808.6** The Role of Acylated Homoserine Lactone Among Predator-Prey Interactions of *Arthrobotrys oligospora* and *Caenorhabditis elegans*. **M.R. Jauregui, D. Rocha, R. Ochoa.** Vanguard University.

B438 **808.7** Identifying Genes Involved in Trogocytosis (Cell-Nibbling) in *Entamoeba histolytica.* **S.E. Feeney, K.S. Ralston.** University of California and Davis.

B439 **808.8** The Role of Polyamines for Proliferation, Survival, and Infectivity of the Protozoan Parasite *Leishmania donovani* **S. Roberts, J. Perdeh, I. Abuan, L. Le, Q. Love, N. LoGiudice, K. Turcu, J. Harrelson.** Pacific University.

B440 **808.9** Investigating the Regulation of Intercellular Trafficking in Plants with Varying Levels of *Thioglucoside Glucohydrolase* Mutants. **J.C. Fernandez, T. Hewezi, T. Burch-Smith.** University of Tennessee and Knoxville.

B441 **808.10** How cAMP Homeostasis Is Controlled in *Leishmania* by Receptor Adenylate Cyclases and Acidocalcisomal Pyrophosphatases Aiding Its Survival in Phagolysosomal Conditions? **A. Biswas, A. Bhattacharya, A. Vij, P.K. Das.** University of Kalyani, India, Centre de Rechercheen Infectiologie, Centre de Recherche du CHU de Québec, University of Lava, Canada and CSIR-Indian Institute of Chemical Biology, India.

809. ANTIBIOTIC RESISTANCE

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B442 **809.1** Chai Tea Promotes Ampicillin Susceptibility in MRSA. **S. Hinsdale, J. Pace, E. Anderson, S. Favoreto.** Cuesta College.

B443 **809.2** Genesis of Antibiotic Resistance (AR) XXXI Mechanism(s) to Mitigate the Particulate Matter (PM) Induced Dissemination of Antibiotic Resistance (AR)-Human Pathogens (AR-HuP) Consequential Antibiotic Resistance Pandemic (ARP). **L. Fuentes, A. Balino, K. Cervantes, A. Fernandez, L. De Los Santos, I. Espinoza, D. Villarreal, J. Huerta, U. Pointdexter, J.E. Munoz-Chacon, S. Theiss, S. Kannan.** Southwest Texas Junior College.

B444 **809.3** Investigation of Lytic Activity of Melittin-nNOS Chimeric Antimicrobial Peptides. **M. Fujii, R. Stevens-Truss.** Kalamazoo College.

B445 **809.4** Genesis of Antibiotic Resistance (AR) XXXII Effective Implementation of "Best Manufacturing Practices (BMP)" in Coal Mining Relegates Particulate Matter (PM) Inflicted Alteration in Commensal Microbial Genome Consequential Antibiotic Resistance (AR). **L. Fuentes, A. Balino, K. Cervantes, A. Fernandez, L. De Los Santos, I. Espinoza, D. Villarreal, J. Huerta, U. Pointdexter, J.E. Munoz-Chacon, S. Theiss, S. Leland, R. Munoz, L. Peters, S. Kannan.** Southwest Texas Junior College and Camino Real Fuels LLC.

B446 **809.5** Genesis of Antibiotic Resistance (AR) XXXIII Obdurate Implementations of Preventive Measures to Abjure Antibiotics for Treating Primary Fungal Infection(s) Ebb Antibiotic (Ab), Antifungal (Af) Resistance (R) Pandemic (P) (Ab-Af: RP): *A Global Concern*. **L. Fuentes, A. Balino, K. Cervantes, A. Fernandez, L. De Los Santos, I. Espinoza, D. Villarreal, J. Huerta, U. Pointdexter, S. Theiss, E. Gayton, R. Koenig, S. Kannan.** Southwest Texas Junior College.

B447 **809.6** Structures of New Delhi Metallo-Beta-Lactamases in Pursuit of New Inhibitors. **M. Morris, J. VanPelt, R. Page.** Miami University.

B448 **809.7** Genesis of Antibiotic Resistance (AR) XXXIV: Effective Implementation of Preventive Measures in Feed Lot/ Feed Yard or Caged Animal Feeding Operations (CAFO's) Mitigate Particulate Matter (PM) Induced AR Pandemic (ARP). **D. Villarreal, L. Fuentes, A. Balino, K. Cervantes, A. Fernandez, L. De Los Santos, I. Espinoza, J. Huerta, E. Gayton, S. Clark, C. Ledezama, S. Kannan.** Southwest Texas Junior College.

B449 **809.8** Genesis of Antibiotic Resistance (AR) XXXV: Global Awareness on Antibiotic Resistance Pandemic (ARP) by "Educating Global Citizens" (EGC). **K. Cervantes, Y. Martinez, L. Fuentes, A. Balino, A. Fernandez, L. De Los Santos, I. Espinoza, D. Villarreal, J. Huerta, E. Gayton, R. Koenig, S. Clark, C. Ledezama, S. Kannan.** Southwest Texas Junior College.

B450 **809.9** Genesis of Antibiotic (AB) Resistance (AR) XXXVI: "Hormesis Activate Resident AR Genes (ARG) to Functional Antibiotic Resistance Genes (FARG) in Yanomami Amerindians (YA) During Swarming". **A. Balino, L. Fuentes, K. Cervantes, A. Fernandez, L. De Los Santos, I. Espinoza, D. Villarreal, J. Huerta, Y. Martinez, C. Ledezama, U. Pointdexter, J.E. Munoz-Chacon, S. Theiss, A. Martinez, S. Kannan.** Southwest Texas Junior College.

B451 **809.10** Genesis of Antibiotic Resistance (AR) XXXVII: Fracking Fluid and Produced Water Induced Alteration of Commensal Microbial Genome Exacerbate AR Pathogen (ARP), Consequently Antibiotic Resistance Pandemic (ARP) S**. Kannan, K. Cervantes, L. Fuentes, Y. Martinez, A. Balino, A. Fernandez, L. De Los Santos, I. Espinoza, D. Villarreal, J. Huerta, E. Gayton, R. Koenig, S. Clark, C. Ledezama, S. Clark, A. Martinez.** Southwest Texas Junior College.

B452 **809.11** Genesis of Antibiotic Resistance (AR) XXXVIII Purging of Antibiotic Prophylaxis for Severe Traumatic Brain Injury (STBI)/Traumatic Brain Injury (TBI) Patients in Intensive Care Unit (ICU) Rout AR Induced Mortality. **C. Calzoncit; Crystal, L. Contreras, D. Rosales, J. Mendoza, R. Galindo, M. Pope, L. Fuentes, D. Villarreal, U. Pointdexter, J.E. Munoz-Chacon, S. Theiss, S. Clark, C. Ledezama, A. Martinez, E. Gayton, S. Kannan.** Southwest Texas Junior College.

B453 **809.12** Genesis of Antibiotic Resistance (AR) XXXIX: Universal Implementation of Simplified Acute Physiology Score (SAPS-II) Score Inclusive of AR as an Effective Prognostic Indicator of Mortality in Traumatic Brain Injury (TBI) Induced Coma. **D. Villarreal, J.E. Munoz-Chacon, E. Gayton, C. Ledezama, A. Martinez, L. Contreras, D. Rosales, J. Mendoza, R. Galindo, M. Pope, L. Fuentes, S. Clark, M. Soto, P. Nunez, S. Kannan.** Southwest Texas Junior College.

B454 **809.13** Genesis of Antibiotic Resistance (AR) XXXX: Combination Therapy (Colistin and Tigecycline) for External Ventricular Device (EVD)-Related Ventriculitis Gale Traumatic Brain Injury (TBI): *Critical Appraisal*. **J. Mendoza, L. Contreras, U. Pointdexter, S. Theiss, S. Clark, C. Ledezama, A. Martinez, D. Villarreal, J.E. Munoz-Chacon, E. Gayton, R. Galindo, M. Soto, P. Nunez, S. Kannan.** Southwest Texas Junior College.

B455 **809.14** A Susceptibility Screen of Phytochemicals Against *Staphylococcus aureus*. **V.P. Mak, R.M. Heuertz.** Saint Louis University.

810. ANTIBACTERIAL TARGETS AND DRUG DISCOVERY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B456 **810.1** Catalytic Strategy and Inhibition of the Prokaryotic Specific GTP Cyclohydrolase IB. **N. Paranagama, S. Bonnett, J. Alvarez, A. Luthra, B. Stec, A. Gustafson, G. Samaan, B. Purse, D. Iwata-Reuyl, M. Swairjo.** San Diego State University, Portland State University and Western University of Health Sciences.

B457 **810.2** Solvent Extraction and Antibacterial Analysis of Chinese Traditional Herbs. **M. San Angelo, R. Isovitsch, H. Valenzuela.** Whittier College.

B458 **810.3** Multi-Targeted Inhibition of an Essential Bacterial Enzyme. **T.P. Soares da Costa, C.K. Gardi, R. Christoff, J.M. Sutton, B.M. Abbott, M.A. Perugini.** La Trobe University, Australia and Public Health England, United Kingdom.

B459 **810.4** A Vitamin B_{12} Receptor Serves a Role in Membrane Stability of *Caulobacter crescentus.* **D. Barraza, S. Strebe, I. Menikpurage, A. Melendez, P.E. Mera.** New Mexico State University.

B460 **810.5** Resensitizing Multidrug Resistant Bacteria to Antibiotics by Targeting Bacterial Response Regulators. **M.E. Milton, B.M. Minrovic, D.L. Harris, G.L. Draughn, B. Kang, D. Jung, C.P. Lewis, R.J. Thompson, R.J. Melander, D. Zeng, C. Melander, J. Cavanagh.** RTI International, North Carolina State University and Agile Sciences.

B461 **810.6** A Novel Functionalization of Azetidines. **R. Gianatassio, D. Kadish.** Biogen.

B462 **810.7** Antimutator Activity of the Nudix Hydrolases from *E. coli* T**.W. Hynes, S.F. O'Handley.** Rochester Institute of Technology.

B463 **810.8** Rv1495 Toxin as a Model for Inhibitors of *Mycobacterium tuberculosis* DNA Topoisomerase I. **P.K. Garcia Moreno, Y-C. Tse-Dinh.** Florida International University

B464 **810.9** Bacterial and Viral Source Tracking in the Sparkill Creek Watersheds. **K.L. Acevedo.** Dominican College of Blauvelt.

B465 **810.10** A Benzimidazole Carboxamide Derivative, DDB-506 Inhibits Bacterial Proliferation by Targeting FTSZ. **R. Tiwari, T.M. Dhameliya, A.K. Chakraborty, D. Panda.** Indian Institute of Technology Bombay, India and National Institute of Pharmaceutical Education and Research, India.

B466 **810.11** Computational Studies of the Nudix Hydrolase Superfamily. **S.C. Richman, K. O'Donovan, P. Craig, J. Mills, S. O'Handley.** Rochester Institute of Technology.

B467 **810.12** Novel Class of PqsR Inhibitors to Reduce the Biofilm Formation of *P. aeruginosa*. **M.A. Hossain, H.I. Parikh, N. German.** Texas Tech University Health Sciences Center and Virginia Commonwealth University.

B468 **810.13** Discovery, Efficacy Testing, and Potential Target Identification of Antibiofilm Compounds. **D. Goode, C. Jackson, K. Aber, A. Shah, L. Hensel.** Mercer University.

B469 **810.14** Correlating Enzymes to Antimicrobial Resistance in the Protein Data Bank. **P.M. Salcedo, S. Burley.** Rutgers University.

B470 **810.15** Discovery of Novel Small Molecule Inhibitors of Bacterial Pyruvate Carboxylase. **B. Wyatt, D. Burkett, M. Mews, W. Donaldson, C. Dockendorff, M. St. Maurice.** Marquette University

B471 **810.16** Use of the Phytochemical Neem as a Component of Combination Treatment Against *Pseudomonas aeruginosa* Biofilm. **B.P. Bertrand, R.M. Heuertz.** Saint Louis University.

B472 **810.17** Isolation and Characterization of Antimicrobial Compound Isolated from Lichen *Parmelia vagans*. **V. Bondarenko.** Touro University Nevada.

811. METABOLISM AND CANCER

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B473 **811.1** Biosynthesis of Acyl-CoAs Sustains Prostate Cancer Progression. **H. Cai, Y. Ma.** University of Georgia.

B474 **811.2** The Role of Effective Energy Restriction on Metastatic Tumor Growth. **T. Roy Sarkar, N. Sphyris, E. Schmitt, G. Wyatt, S. Wall, W. Porter.** Texas A&M University and Independent Researcher, United Kingdom.

B475 **811.3** 1-Formyl-7-Hydroxy-6,7-Dihydro-5*H*-Pyrrolizine (9-CHO-DHP)—A Biologically Proximate Pyrrolic Metabolite of Carcinogenic Pyrrolizidine Alkaloids. **Q. Xia, X. He, G. Lin, P. Fu.** National Center for Toxicological Research, U.S. Food and Drug Administration and The Chinese University of Hong Kong, Hong Kong.

B476 **811.4** Autophagy Modulates Lipid Metabolism to Support Liver Kinase B1 (LKB1)-Deficient Lung Tumor Growth. **V.D. Bhatt, Z. Hu, X. Su, J.Y. Guo.** Rutgers University.

B477 **811.5** Association of Genetic Polymorphism of NAT2, GSTT1, GSTM1 Gene with Prostate Cancer in Bangladeshi Population. **A. Nesa, L. Akther, S.F. Munir, M.M. Rahman, Y. Kabir.** Dhaka University, Bangladesh, Reproductive Health Services Training and Education Program, Bangladesh and Bangabandhu Sheikh Mujib Medical University, Bangladesh.

B478 **811.6** Targeting Glycolytic Metabolism in Cancer. **S. Telang, J. Trent, J. Chesney, A. Mojesky.** University of Louisville.

B479 **811.7** Eat to Survive: Consumption of Thermally Abused Frying Oil Alters Lipid Metabolism and May Mediate Metastatic Tumor Vascularity. **A. Oyirifi, C. Chen, E. Nelson, J. Hughes, W.G. Helferich.** University of Illinois.

B480 **811.8** Suppression of Pyruvate Carboxylase Impairs Pyruvate Cycling and Anaplerotic Flux and Inhibits Cell Growth in Invasive Breast Cancer Cells. **S. Jitrapakdee, P. Phannasil, I-u. Ansari, M. El-Alzzouny, M. Longacre, K. Rattanapornsompong, C. Burant, M. MacDonald.** Mahidol University, Thailand, University of Wisconsin and University of Michigan.

B481 **811.9** Unconventional Pathways of Nitrogen Metabolism in Lung Cancer. **J. Kim.** The University of Texas Southwestern Medical Center.

B482 **811.10** Biological and Health Aspects of Edible Wild Omani Plants in the Primary Prevention of Oxidative Stress-Mediated Colon Cancer. **M.I. Waly, N. Guizani, M.S. Rahman, Z. Al-Attabi.** Sultan Qaboos University, Oman.

B483 **811.11** The Gene Expression Profile and Tetraspanin Protein CO029 on the Human Colorretal Cancer Laterality. **L.A. Braga, J.V. Assis, V.S. Moraes, I.D. Silva, R.F. Grenfell.** Oswaldo Cruz Foundation, Brazil and Universidade Federal de Minas Gerais, Brazil.

B484 **811.12** Genetic and Protein Expression of CXCR4 and CD26 and Its Relation to Cell Indifferentiation and Responsiveness to Treatment of Colon and Rectum Neoplasms. **J.V. Assis, L.A. Coutinho, V.S. Moraes, I.D. Silva, R.F. Grenfell.** Oswaldo Cruz Foundation, Brazil and Universidade Federal de Minas Gerais, Brazil.

B485 **811.13** Understanding the Impact of IDH2 Mutations on the Redox Balance of Cancer Cells. **S.J. Gelman, L. McKenzie, M.G. Chheda, G.J. Patti.** Washington University in St. Louis.

B486 **811.14** Profiling Bis(monoacylglycero)phosphate Lipids in Cancer Cell Lysosomes as Therapeutic Targets. **M. Showalter, M. Sa, H. Tsugawa, A. Berg, K. VanderVorst, T. Kind, K.L. Carraway; III, O. Fiehn.** University of California, Davis and Riken, Japan.

B487 **811.15** Insights into Glycogen Metabolic Inhibition-Induced Death of Hepatocellular Carcinoma. **S. Barot, E.M. Abo-Ali, C. Palaguachi, V.V. Dukhande.** St. John's University.

B488 **811.16** Investigation of Phosphoserine Aminotransferase 1 and Its Role in Breast Cancer Progression. **B. Clem, S. Metcalf, T. Kruer, C. Klinge.** University of Louisville.

B489 **811.17** Beneficial Metabolic Consequences of Acyl-CoA Synthetase ACSVL3 Knockout in Glioma Cells. **P. Watkins, X. Shi, E. Kolar, E. Clay, Y. Liu.** Kennedy Krieger Institute.

B490 **811.18** Subcellular Localization of the Enzymes in Serine Biosynthesis. **B. Nance, M. Kyoung, S. An.** University of Maryland and Baltimore County.

B491 **811.19** Time-Restricted Feeding Attenuates Breast Cancer Growth in a Mouse Model of Postmenopausal Obesity. **M. Das, E. Gross, D. Kumar, C. Sauceda, H-T. Park, D. Sears, L. Ellies, N. Webster.** University of California and San Diego.

B492 **811.20** Selective Neddylation Facilitates Proteasome-Mediated Degradation of Serine Rich Splicing Factor 3 (SRSF3) in Non-Alcoholic Fatty Liver Disease. **D. Kumar, M. Das, C. Sauceda, H-T. Park, G. Bandyopadhyay, D.W. Burton, N. Webster.** University of California and San Diego.

812. METABOLISM AND NUTRITION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B493 **812.1** Saturated Fat-Enriched Diet Attenuates Brain-Derived Neurotrophic Factor Expression. **G. Marwarha, O. Ghribi.** University of North Dakota School of Medicine and Health Sciences.

B494 **812.2** Effects of a 6-Month Multi-Strain Probiotics Supplementation in Endotoxemic, Inflammatory and Cardiometabolic Status of T2DM Patients: A Randomized, Double-Blind, Placebo-Controlled Trial. **S. Sabico, N. Aldaghri, M. Alokail.** Warwick University, United Kingdom and King Saud University, Saudi Arabia.

B495 **812.3** Mango Ginger Ameliorates Endothelial Dysfunction by Regulating NADPH Oxidase and Sirtuin Pathways in Rats Fed High Fat/Sucrose Diet. **V. Juturu, K. Sahin, C. Orhan, M. Tuzcu, N. Sahin.** OmniActive Health Technologies Inc. and Firat University, Turkey.

B496 **812.4** Effect of Dietary Different Energy Sources on the Growth Performance, Amino Acid Profile, Blood Profile, Intestinal Morphology and Digestive Enzyme in Weaned Piglets. Institute of Subtropical Agriculture, Chinese Academy of Sciences, People's Republic of China, Hunan Normal University, China, People's Republic of and University of California.

B497 **812.5** Effects of Zyflamend Treatment on Adipogenesis. **V. Frankel, S. Chahed, D. Alanai, D. Puckett, B.H. Voy, D.R. Donohoe, J. Whelan, A. Bettaieb.** University of Tennessee and Knoxville.

B498 **812.6** Acetaminophen-induced Hepatotoxicity in Wistar Rats Treated with *Annona muricata* Aqueous Stem Extract. **I.J. Okpara, C.I. Nosiri, M. Chisom.** Nigeria Socisl Insurance Trust Fund, Nigeria and Abia State University, Nigeria.

B499 **812.7** Dietary Restriction Modulates Sleep in *Drosophila melanogaster.* **B. Varamini, H. Joel, J. Lee, E. Newman, K. Robinson, Z. Smith.** Biola University.

B500 **812.8** Expression Profile of Adiponectin and Adiponectin Receptors in High Fat Diet Feeding Chicken. **Y. Lin, S. Ding.** Tunghai University, Taiwan and National Taiwan University, Taiwan.

B501 **812.9** Lower Progesterone Receptors on Mast Cells Do Not Effect Blood Vessel Replication in Lipedema. **V. Rosas, S. Al-Ghadban, K. Herbst.** The University of Texas at El Paso and University of Arizona.

B502 **812.10** Heavy Metals Concentrations in Shell Fishes Found in Niger Delta Nigeria. **D.C. Belonwu, M.O. Wegwu, R.E. Idiabana.** University of Port Harcourt, Nigeria.

B503 **812.11** Evaluation of Antioxidant Activity by the Korean Bee Pollen. **J-H. Lee, J-S. Kim.** Kongju National University, Republic of Korea.

B504 **812.12** The Effect of Short-Term and Long-Term High Fat Diet on Pancreas Mitochondrial Function and Redox Balance Between Obesity-Prone and Obesity-Resistant Rats. **X. Tang, Y. Sun, Y. Li, S. Ma, K. Zhang, J. Sun, H. Xiao.** Jiangnan University, People's Republic of China and University of Massachusetts

B505 **812.13** HFE Mutation Impairs Manganese Metabolism in Mice. **Q. Ye, H. Alsulimani, J. Kim.** Northeastern University.

B506 **812.14** *Mogat1* Is a Fasting-Induced PPAR α Target Gene That Plays a Role in Coordinating the Hepatic Response to Food Deprivation. **A.J. Lutkewitte, K.S. McCommis, K.T. Chambers, M.J. Graham, A.M. Hall, B.N. Finck.** Washington University School of Medicine in St. Louis and Ionis Pharmaceuticals Inc.

B507 **812.15** Profiling the Oxylipin and Endocannabinoid Serum Metabolome in an 8-Week Almond Snacking Intervention. **J. Dhillon, K. Borkowski, J. Newman, R.M. Ortiz.** University of California, Merced, University of California and Davis.

B508 **812.16** *Gelidium elegans* Extract Ameliorates Type 2 Diabetes Mellitus Through the Regulation of Glucose Uptake. **J. Choi, E-J. Koh, Y-J. Seo, J-H. Song, S. Chei, S-Y. Choi, K. Lee, B-Y. Lee.** CHA University, Republic of Korea.

B509 **812.17** *Spirulina maxima* Extract Ameliorates Learning and Memory Impairments via Inhibiting GSK3-β Phosphorylation Induced by Intracerebroventricular Injection of Amyloid-Beta 1-42 in Mice. **E-J. Koh, K. Lee, J. Choi, J-H. Song, Y-J. Seo, S. Chei, S-Y. Choi, B-Y. Lee.** CHA University, Republic of Korea.

B510 **812.18** *Gelidium elegans* Extract and Fucosterol Suppress Lipid Accumulation in 3T3-L1. **J. Choi, E-J. Koh, Y-J. Seo, J-H. Song, S. Chei, S-Y. Choi, K. Lee, B-Y. Lee.** CHA University, Republic of Korea.

B511 **812.19** Effect of Korean Ginseng Extract on Oxidative Stress in Rats Subjected to Environmental Heat Stress. **J. Choi, J-H. Song, E-J. Koh, Y-J. Seo, S. Chei, S-Y. Choi, K. Lee, B-Y. Lee.** CHA University, Republic of Korea.

B512 **812.20** Ginsenoside Rg1 Induces Browning of 3T3-L1 Adipocyte. **K. Lee, Y-J. Seo, J. Choi, E-J. Koh, J-H. Song, S. Chei, S-Y. Choi, B-Y. Lee.** CHA University, Republic of Korea.

B513 **812.21** Anti-Obesity Effects of *Spirulina maxima* Extract in High Fat Diet Induced Obese Mice. **J. Choi, Y-J. Seo, K. Lee, E-J. Koh, J-H. Song, S. Chei, S-Y. Choi, B-Y. Lee.** CHA University, Republic of Korea.

B514 **812.22** Evaluation of *Spirulina maxima* Extract on Anti-Inflammation Property in RAW264.7 Cells. **K. Lee, S-Y. Choi, S. Chei, E-J. Koh, J. Choi, Y-J. Seo, J-H. Song, B-Y. Lee.** CHA University, Republic of Korea.

B515 **812.23** Anti-Inflammatory Activity of *Spirulina maxima* Extract in LPS-Treated THP-1 and RAW264.7 Cell. **K. Lee, S. Chei, S-Y. Choi, J. Choi, E-J. Koh, Y-J. Seo, J-H. Song, B-Y. Lee.** CHA University, Republic of Korea.

B516 **812.24** Temporal Alterations in Intraerythrocytic Hemoglobin in Mice. **M.N. Almashjary, S. Brooks, H. Ackerman.** National Institute of Allergy and Infectious Diseases and National Institutes of Health.

B517 **812.25** Lactate Stimulation Activates the AMPK and the mTORC1 Pathways Differentially According to Skeletal Muscle Type in Mouse. **H.R. Cerda Kohler, C. Henríquez Olguín, P. Llanos, T.E. Jensen, E. Jaimovich.** Universidad de Chile, Chile and University of Copenhagen, Denmark.

B518 **812.26** Investigation of Involvement of Ferric Reductases of Iron Uptake in *Drosophila S2* Cells. **A. Ochoa, M.J. Gorman, E.J. Ragan.** Metropolitan State University of Denver and Kansas State University.

B519 **812.27** Effects of Rosmarinic Acid on Alleviating the Formation of Polycyclic Aromatic Hydrocarbons During Roasting Seasoned Laver. **Y.S. Cho, S-J. Kang, S-H. Chun, M-J. Hwang, K-W. Lee.** Korea University, Republic of Korea and Ministry of Food and Drug Safety, Republic of Korea.

B520 **812.28** Validation of the Optimized Monier Williams Method for the Analysis of Sulfur Dioxides in Imported Wines. **H.J. Yoo, Y.S. Cho, S-H. Chun, K-W. Lee.** Korea University, Republic of Korea.

B521 **812.29** Analysis of 4 Polycyclic Aromatic Hydrocarbons According to Direct or Indirect Steam Process That Reduces Ochratoxin A. **K.Y. Jeon, M-J. Hwang, H.S. Shin, M.C. Pyo, H-S. Lee, J.M. Bae, K-W. Lee.** Korea University, Republic of Korea and Korean National Food Cluster FOODPOLIS, Republic of Korea.

B522 **812.30** Decreased Consumption of Specific Dietary Macronutrients Restores Metabolic Health to Diet-Induced Obese Mice. **D.W. Lamming, N.E. Cummings, H. Pak, E.M. Williams, E.N. Konon, M.M. Walter, M.E. Barnes, D. Yu.** University of Wisconsin—Madison.

B523 **812.31** Oleic Acid Protects Saturated Fatty Acid Mediated Lipotoxicity in Hepatocytes and Rat of Non-Alcoholic Steatohepatitis. **X. Chen, L. Li, X. Liu, R. Luo, G. Liao, G. Yang, L. Li, J. Liu, H. Li, J. Cheng, Y. Lu, Y. Chen.** West China Hospital and Sichuan University, People's Republic of China.

B524 **812.32** Oleic Acid Protected Pancreatic β-Cell Against Saturated Fatty Acid Induced Lipotoxicity. **X. Liu, X. Chen, L. Li, R. Luo, D. Long, Y. Lu, Y. Chen.** West China Hospital and Sichuan University, People's Republic of China.

B525 **812.33** Nutritional Composition of *Annona muricata* Extract Found in Covenant University. **O.E. Omotosho, N.A. IfeOluwa, J.J. Omini.** Covenant University, Nigeria.

B526 **812.34** Dairy Milk, Regardless of Fat Content, Protects Against Postprandial Hyperglycemia-Mediated Oxidative Stress That Impairs Nitric Oxide Bioavailability in Prediabetic Adults. **J.D. McDonald, P. Dey, B.D. Olmstead, F.A. Villamena, J.S. Volek, R.S. Bruno.** The Ohio State University.

B527 **812.35** PPARγ Agonists from *Kaempferia parviflora* Improve Glucose and Fat Metabolism in Mice. **M. Ochiai, T. Nozaki.** Kitasato University, Japan and BHN Co. Ltd., Japan.

B528 **812.36** Validation of Prediction Equation on Glycemic Response After Mixed Meal Consumption. **H. Lee, K. Nam, S.J. Chung, Y.K. Park.** Kyung Hee University, Republic of Korea, Pulmuone Co., Ltd., Republic of Korea and Kookmin University, Republic of Korea.

B529 **812.37** Characterizing Adaptive Changes in the Aerobic Metabolism of Mammalian Skeletal Muscle in Response to Unsaturated Fatty Acids and Exercise. **J.L. Blair, M.T. Petros, R.A. Heybloom, A. Schlater.** The College of St. Scholastica.

B530 **812.38** Characterizing the Physiologic Effects of Exogenous Ketone Supplements—an Alternative or Adjuvant to the Ketogenic Diet. **A. Poff, A. Koutnik, J. Deblasi, C. Rogers, S. Kesl, N. Ward, D. D'Agostino.** University of South Florida, Epigenix Foundation and Moffitt Cancer Center.

B531 **812.39** Effect of Elevated ω-3/ω-6 PUFA Ratio on High-Fat Diet and Acute Ethanol-Induced Obesity, Glucose Intolerance and Liver Injury in Mice. **S.G. Dastidar, D. Warner, Y. Song, J. Warner, C. McClain, I. Kirpich.** University of Louisville.

B532 **812.40** Redox Regulation of FGF21 in an Obese "Stress-Less" Mouse Model. **A. Roberts, D. Amos, N. Santanam.** Marshall University.

B533 **812.41** The Effects of Omega-3 Supplementation on the Lipid Profile and Adipose Indices in Hispanics with Type 2 Diabetes Mellitus. **T. Jehi, C. Mota, L. Beeson, A. Firek, Z. Cordero-MacIntyre, M. De Leon.** Loma Linda University

B534 **812.42** Native American Adolescent Obesity and Nutrient Intake. **H. Dai, S. Zheng.** California Baptist University.

B535 **812.43** Effect of Fsh-Sp on Inhibition Winkle Formation, Melaningenesis, and Promoting Skin Hydration in UVB-Irradiated Hrm-2 Hairless Mice. **D. Lee, M. Lee, S-J. Park, J-M. Yun, D. Kim, M. Lee, Y.H. Woo, J. Lee.** Kyung Hee university, Republic of Korea, FromBio co. and Ltd, Republic of Korea.

B536 **812.44** Effect of Herbal Mixture Extracts on Degenerative Arthritis in Vivo Models. **Y. Jeong Moon, L. Dasom, K. Dakyung, L. Minhee, P. Sujeung, L. Yongwook, H. Junkee, L. Jeongmin.** Kyung Hee University, Republic of Korea, Naturalendotech co. and Ltd , Republic of Korea.

B537 **812.45** Improvement of Joint Health by Anti-Inflammatory Activity of Natural Substances in Chondrocyte of Osteoarthritis. **D. Kim, M. Lee, S-J. Park, J-M. Yun, D. Lee, J. Sohn, M-K. Yun, J. Lee.** Kyung Hee University, Republic of Korea and SK Bioland Co. Ltd., Republic of Korea.

B538 **812.46** Selenium and Sex: Competition Between Brain and Testes for Selenium Results in Male-Specific Consequences in Mice and Men. **M.J. Berry, M. Pitts, P. Kremer, A. Hashimoto, L. Seale, A. Ogawa-Wong, D. Torres.** University of Hawaii.

813. LIPIDS, INFLAMMATION AND EICOSANOIDS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B539 **813.1** Characterization of Hepatic W-6 and W-3 PUFA Oxilipins in Ethanol-Induced Liver Injury in Mice. **D. Warner, S. Gosh Dastidar, H. Liu, C. McClain, I. Kirpich.** University of Louisville, College of Life Sciences and Zhejiang University, People's Republic of China.

B540 **813.2** The Effects of Fatty Acids on Brain Microglia Immune Responses. **J.R. Lowry, A. Klegeris.** University of British Columbia Okanagan Campus, Canada.

B541 **813.3** The Role of Sphingosine Kinase 2 in Chronic Alcohol-Induced Liver Injury and Disease. **E.K. Kwong, X. Li, R. Liu, X. Wang, P.B. Hylemon, H. Zhou.** Virginia Commonwealth University.

B542 **813.4** Sex Bias in Cytokines Transported by High-Density Lipoproteins in Patients with Coronary Artery Disease. **K.T. Creasy, E. Stock, C.R. Pullinger, M.J. Malloy, J. Kane.** University of California and San Francisco.

B543 **813.5** HMG-CoA Reductase Inhibitors Do Not Ameliorate Progressive Atherogenic Changes in Human Macrophages Treated with Systemic Lupus Erythematosus Patient Plasma: Implications for Statin Use and Novel Insight Into Systemic Lupus Erythematosus. **H.A. Arain, M. Petri, L.J. Kasselman, H.A. Renna, J. Zhen, J. De Leon, S.E. Carsons, A.B. Reiss, M.R. Dores.** Hofstra University , John Hopkins University School of Medicine and New York University Winthrop.

B544 **813.6** Myeloperoxidase-Derived 2-Chlorofatty Acids Make Neutrophils Go NETs. **E.N.D. Palladino, L.A. Katunga, D.A. Ford.** Saint Louis University.

B545 **813.7** 2-Chlorofatty Acid: A Functional Connection Between Neutrophils and Endothelial Weibel-Palade Body Mobilization. **C.L. Hartman, M.A. Duerr, C.J. Albert, W.L. Neumann, J. McHowat, D.A. Ford.** Saint Louis University and Southern Illinios University Edwardsville.

B546 **813.8** Meal-Induced Pro-Inflammatory Responses in Guatemalan Adults Are Associated with Body Mass Index and Are More Pronounced in Women. **S. He, N-A. Le, A.D. Stein.** Nutrition and Health Sciences Program, Laney Graduate School, Emory University, Atlanta Research and Education Foundation, Atlanta VA Medical Center, Rollins School of Public Health and Emory University.

814. LIPID STORAGE AND TRAFFICKING

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B547 **814.1** Effect of Fenton and Photo-Fenton Pretreatments on Solubilization of Lignocellulosic Biomass. **S.F. De la Rosa.** University of Nebraska-Lincoln.

B548 **814.2** Wild Yeast Strains Ferment Galactose in Whey Permeate. **M.R. Loughrin, S. Nold, R. Delshadi.** University of Wisconsin—Stout.

B549 **814.3** Modulation of Cellulase Activity of Fungi Isolates for Bioethanol Production by Using Cassava Bagasse. **M.N. Igwo-Ezikpe, W.O. Okunowo, O. Ayanshina.** University of Lagos, Nigeria.

B550 **814.4** Interorganellar Phosphatidylserine Transfer by Sec14 Family Protein Sfh1 in *Saccharomyces cerevisiae*. **A. Mizuike, S. Kobayashi, H. Horiuchi, A. Ohta, R. Fukuda.** The University of Tokyo, Japan and Chubu University, Japan.

B551 **814.5** Arb Treatment Ameliorates Triacylglycerol Accumulation During Insulin-Resistant Conditions in the Liver of Oletf Rats. **J.A. Godoy-Lugo, D. Lee, M.A. Thorwald, D. Nakano, A. Nishiyama, D. Hui, R.M. Ortiz.** University of California, Merced, Kagawa University Medical School, Japan and University of Cincinnati.

B552 **814.6** Perilipin 5 Protein-Protein Interactions. **E.K. Hughes, J.T. Tansey.** Otterbein University.

B553 **814.7** Targeting Molecular Chaperone Hsp90 to Treat Niemann-Pick Type C1 Disease. **N.H. Pipalia, F.R. Maxfield.** Weill Cornell Medicine and Cornell University.

B554 **814.8** Characterization of a Short Form of Perilipin 5 **R.C. Dalton, J.T. Tansey.** Otterbein University.

B555 **814.9** Elucidation of the N-Terminal Structure and Characteristics of Perilipin 5 **D.T. Wei, J.T. Tansey.** Otterbein University.

B556 **814.10** SAC1 Degrades Its Lipid Substrate Ptdins4P in the Er to Maintain a Steep Electrochemical Gradient on Donor Membranes. **G. Hammond, J. Zewe, S. Sangappa, R. Wills, B. Goulden.** University of Pittsburgh.

B557 **814.11** Unconventional Secretion of Adipocyte Fatty Acid Binding Protein (FABP4) by Adipocytes. **A. Josephrajan, A.V. Hertzel, D. Mashek, D-H. Kim, S-I. Imai, D.A. Bernlohr.** University of Minnesota and Washington University School of Medicine in St. Louis.

815. MEMBRANE PROTEINS AND LIPID INTERACTIONS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Authors at boards:
Board # ending in "0, 3 or 6," 12:15 pm–1:00 pm
Board # ending in "1, 4, 7 or 9," 12:45 pm–1:30 pm
Board # ending in "2, 5, or 8," 1:30 pm–2:15 pm

B558 **815.1** The Effect of Membrane Composition on PLCβ and $G\alpha_q$-Mediated Activation. **B.N. Hudson, S-H. Hyun, D.H. Thompson, A.M. Lyon.** Purdue University.

B559 **815.2** The Roles of the Juxtamembrane Cysteine and Glutamine Residues in Mucin 1 (MUC1) Dimerization. **E. Li, R. Herrera, K. Cani, C. Freeman.** Saint Joseph's University.

B560 **815.3** Regulating a G Protein-Coupled Receptor by Topological Inversion Through Regulated Alternative Translocation. **B. Denard.** The University of Texas Southwestern Medical Center.

B561 **815.4** Novel Role for Hedgehog Acyltransferase in the Uptake of Palmitoyl-CoA into the Endoplasmic Reticulum. **J.J. Asciolla, M. Resh.** Weill Cornell Medicine, Cornell University, Graduate School of Medical Sciences and Memorial Sloan Kettering Cancer Center.

B562 **815.5** Parathyroid Hormone Shows Novel Calcium Sensing Ability in Binding to Parathyroid Hormone 1 Receptor. **K.J. Culhane, E.C.Y. Yan.** Yale University.

B563 **815.6** Aggregation of Insulin on Langmuir Monolayers. **K. Saulcy, D.C. Crans, A.G. Sostarecz.** Monmouth College and Colorado State University.

B564 **815.7** A Novel Assay to Measure Scrambling of Natural Phospholipids in Reconstituted Proteoliposomes. **L. Wang, K. Pandey, B. Ploier, A.K. Menon, P. Bütikofer.** Institute of Biochemistry and Molecular Medicine, University of Bern, Switzerland, Department of Biochemistry and Weill Cornell Medical College.

B565 **815.8** Coq9 Membrane Association and Its Role in Coenzyme Q Biosynthesis. **H.C. Von Bank, D.C. Lohman, D. Aydin, R. Smith, C. Bingman, M. Dal Peraro, D.J. Pagliarini.** University of Wisconsin—Madison and École Polytechnique Fédérale de Lausanne and the Swiss Institute of Bioinformat, Switzerland.

B566 **815.9** Membrane Localization of HSPA1A, a Stress Inducible 70-kDa Heat Shock Protein, Is Mediated by the Lipid Phosphatidylserine. **A.D. Bilog, N. Nikolaidis.** California State University and Fullerton.

B567 **815.10** Sphingosine 1 Phosphate Regulates Store-Operated Calcium Entry Through Binding to STIM1. **H.M. El-Shewy, S. Parnham, D. Fedarovich, E. Bullesbach, L.M. Luttrell.** Medical University of South Carolina and Research Service of the Ralph H. Johnson Veterans Affairs Medical Center.

B568 **815.11** The Anthrax Toxin: A Molecular Trojan Horse. **H. Patel, R.G. Edmondson, J.R. Baugh, S.Z. Shabbir, S. Kenana.** Olathe North High School.

B569 **815.12** HSPA1A, a 70-kDa Heat Shock Protein, Contains Several Distinct Lipid-Binding Sites. **A.J. Daniels, L. Smulders, N. Nikolaidis.** California State University and Fullerton.

B570 **815.13** Phospholipid Molecular Species Profile and Functionality of Nicotinic Aceytilcholine Receptor Detergent Complex from *Torpedo californica* Solubillized with Lipid-Like Detergents. **O. Quesada, J. Colón, C. González, R. Maldonado, I.D. Rosado, J.A. Acevedo, J.A. Lasalde-Dominicci.** University of Puerto Rico, Puerto Rico.

B571 **815.14** Assisted Insertion of *Pseudomonas aeruginosa* Type Three Secretion Translocator PopD in Membranes by Translocator PopB. **Y. Tang, A.P. Heuck.** University of Massachusetts Amherst.

B572 **815.15** Probing the Function of Apolipoprotein A-I Using Chimera Proteins. **N. Patel, P.M.M. Weers.** California State University and Long Beach

Pathology

816. CELL DEATH, INJURY, AND REPAIR: WHAT DOESN'T KILL YOU, (POTENTIALLY) MAKES YOU STRONGER

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Cell and Tissue Injury

Cell Death

Presentation time: 11:45 am–12:45 pm

D1 **816.1** Diltiazem Improves Twitch Tension in Dysferlin-Null BLA/J Mice but Does Not Reduce Contraction-Induced Muscle Damage *in Vivo* J.**A. Roche, M. Begam, A.F. Collier.** Wayne State University and Washington University School of Medicine in St. Louis.

D2 **816.2** Myocardin-Related Transcription Factor Plays a Role in Myofibroblast Transdifferentiation of Retinal Pigment Epithelial Cells. **S. Ueda, K. McDonald, S. Tamiya.** University of Louisville

D3 **816.3** Small Molecule ER Proteostasis Regulators Rescue Activity of ATF6 Disease Mutants. **W-C. Chiang, P. Chan, R. Paxman, J.W. Kelly, R.L. Wiseman, J.H. Lin.** University of California, San Diego and Scripps Research Institute.

D4 **816.4** Resuscitation with Fresh Whole Blood Improves Long Term Restoration of Muscle Strength Following Hemorrhage and Limb Ischemia-Reperfusion Injury. **T.J. Walters, J.L. Roe, A. Aurora.** U.S. Army Institute of Surgical Research.

D5 **816.5** Metabolic Stress Directs WNK Kinases to Aggresomes for Pooling and Degradation in the Distal Convoluted Tubule of the Kidney. **M.N. Thomson, C. Cuevas Gallardo, T.M. Bewarder, D. Ellison, K. Mutig, S. Bachmann.** Charité-Universitätsmedizin Berlin, Germany and Oregon Health & Science University.

D6 **816.6** Lamin A/C Mutations Linked to Muscular Disease Result in Mechanically-Induced, Progressive Nuclear Envelope Rupture and DNA Damage in Muscle Fibers. **T. Kirby, A. Earle, G. Fedorchak, P. Isermann, J. Lammerding.** Cornell University.

D7 **816.7** Induction of Osteogenesis by Means of Continuous Delivery of Testosterone and TQ Using in Bone Fracture Rat Model. **H.A. Benghuzzi, M.A. Tucci.** University of Mississippi Medical Center.

D8 **816.8** Pericyte CD248 Promotes Fibrosis Through Induction of Pro-Fibrotic Macrophages During Kidney Injury. **C-H. Pai, Y-F. Tsai, C-T. Yen, S-R. Lin, S-L. Lin, S-W. Lin.** National Taiwan University, Taiwan and Chung Yuan Christian University, Taiwan.

D9 **816.9** Age-Related Loss of Mitochondrial Glutathione Exacerbates Vulnerability to Redox-Cycling Challenge. **N. Thomas, K. Shay, J. Butler, A. Kelley, T. Hagen.** Oregon State University.

D10 **816.10** *In Utero* Therapy for Hemophilia A Using EGFP Amniotic Fluid Stem Cells. **Y-T. Kao, Y-T. Chen, Y-W. Lan, C-M. Chen.** Department of Life Sciences, National Chung Hsing University, Taiwan, Department of Medical Biotechnology and Laboratory Science and Chang Gung Christian University, Taiwan.

D11 **816.11** Differentiation of Spermatogonial Stem Cell-Derived Embryonic Stem (SSC-ES) Cells Towards Retinal Ganglion Cells. **T-L. Lee, H.C.A. Suen, Y. Qian, J. Liao, C.S.A. Luk, W.Y. Chan, T.K.M. Ng, K.S.C. Leung.** School of Biomedical Sciences, The Chinese University of Hong Kong, Hong Kong and The Chinese University of Hong Kong, Hong Kong.

D12 **816.12** Human Retinal Engineering Using 3D PCL Scaffolds. **K.N. Gibson-Corley, J.R. Thompson, K.S. Worthington, E.E. Kaalberg, R.F. Mullins, E.M. Stone, I.C. Han, E.H. Sohn, B.A. Tucker.** University of Iowa.

D13 **816.13** Enpp1 Enzyme Replacement Prevents the Osteomalacia and Paradoxical Mineralization in the *Enpp1*$^{asj/asj}$ Mouse Model of Autosomal Recessive Hypophosphatemic Rickets Type-2. **D. Braddock, D. Kavanagh, X. Li, T. Carpenter, M. Levine, M. Horowitz.** Yale University, Perelman School of Medicine and University of Pennsylvania.

D14 **816.14** Correlating Increased Mechanical Forces with Tissue Lesions in Equine Navicular Disease. **E.W. Uhl, U. Blas-Machado, S.G.M. Kirejczyk, M.L. Osborn.** University of Georgia and Louisiana State University

817. INFLAMMATION AND IMMUNOPATHOLOGY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Inflammation/Immunity

Immunopathology

Presentation time: 11:45 am–12:45 pm

D15 **817.1** Benefits of Antibiotics During Viral Infections: Immuno-Modulating Properties of Tulathromycin in Porcine Reproductive and Respiratory Syndrome. **D. Desmonts de Lamache, M. Ruth, S. Affan, T. Feener, M. Gregory, N. McKenna, R. Yates, A. Buret.** University of Calgary, Canada.

D16 **817.2** Curcumin Suppresses Pro-Inflammatory Response Through Interference of NF-κB Activation in Human Umbilical Vein Endothelial Cells. **A-C. Cheng, Y-M. Yu, W-C. Chang.** Chang Jung Christian University, Taiwan, National Taichung University of Science and Technology, Taiwan, Taichung Tzu Chi Hospital and Buddhist Tzu Chi Medical Foundation, Taiwan.

D17 **817.3** Effects of Resuscitation Adjuncts on Indices of Inflammation and Oxidant Stress in Tissues from Swine Subjected to Traumatic Hemorrhage. **J.L. Barr, W.Z. Martini, T.W. Thomas, M.A. Dubick.** Unites States Army Institute of Surgical Research.

D18 **817.4** Linking Diets and Specific Dietary Components to Health and Well-Being Through Modulation of Gut Microbiota and Low Grade Inflammation (LGI). **G. Riscuta.** National Cancer Institute and National Institutes of Health.

D19 **817.5** GAS6/AXL Modulates Increased Inflammatory Cytokines During Preeclampsia in Rats. **P.D. Hall, B. Caskey, K.M. Hirschi, P.R. Reynolds, J.A. Arroyo.** Brigham Young University.

D20 **817.6** The Effects of Low Level Light Therapy, Diet, Exercise and Meditation as Combination Treatment Modalities for Treatment of Fibromyalgia. **L. Labrousse-Walker, G.P. Einstein, O.L. Tulp.** University of Science, Arts and Technology Montserrat, Montserrat and Einstein Medical Institute.

D21 **817.7** GPR18 Distribution and Expression in Human Placenta. **A. Yuil-Valdes, M. Mukherjee, A. Anderson-Berry, C.K. Hanson, E. Berry, T. Nordgren.** University of Nebraska Medical Center, University of California and Riverside.

D22 **817.8** Effects of Intrauterine Growth Restriction (IUGR) on the Surfactant System in Response to Sepsis. **L. McCaig, R. Khazaee, Z. Huang, D. Hardy, C. Yamashita, R. Veldhuizen.** University of Western Ontario, Canada.

D23 **817.9** Increased Levels of FOXM1 Transcription Factor in Bronchioalveolar Stem Cells Promote Epithelial Cell Repopulation in Injured Mouse Airway. **I-C. Wang, Y-S. Chiu, W-H. Chen, C-C. Li, Y-C. Lee.** National Tsing Hua University, Taiwan.

D24 **817.10** Biogenic Amines and Inflammatory Status in Nascent Metabolic Syndrome. **D.B. Lent-Schochet, R. Silva, M. Mclaughlin, B. Huet, I. Jialal.** California Northstate University College of Medicine and The University of Texas Southwestern Medical Center.

D25 **817.11** The Effect of Osteoarthritic Synovial Fluid on Immunomodulatory Properties of Adipose Mesenchymal Stem Cells. **A. Cifù, R. Domenis, M. Moretti, A. Vicario, C. Pistis, M. Pozzi, F. Bassini, P. Di Benedetto, A. Causero, M. Fabris, K.R. Niazi, P. Soon-Shiong, F. Curcio.** Università di Udine, Italy, VivaBioCell S.p.A., Italy, Azienda per l'Assistenza Sanitaria n. 3 Alto Friuli, Italy, Azienda Sanitaria Universitaria Integrata di Udine, Italy, NantBioScience and Inc.

D26 **817.12** Role of Tumor Necrosis Factor-Alpha in Rheumatoid Arthritis. **T. Link, A. Kepner, O. Coruso, M. Dilip, R. Jacobson, L. Stanovski.** Walton High School.

D27 **817.13** Frutapin Can Interact with TLR4 and Increase IL-6 Production by Fribroblasts. **R.A. Moreira, F.D. Sousa, A.F.B. Silva, S. Xu, J.S. Owen, D.J. Abraham, A.C.O. Monteiro-Moreira.** University of Fortaleza, Brazil, Federal University of Ceará, Brazil and University College London, United Kingdom.

D28 **817.14** Mast Cell Numbers of Rat Lungs in an Acute Model of Fat Embolism Are Reduced by Aliskiren and Losartan but Not by Captopril. **D. Arif, J. Colson, J. Colson, D. Voelker, A. Spaedy, S. Hamidpour, A. Poisner, M. Pour, P. Monaghan, F. Khalafi, A. Molteni.** University of Missouri—Kansas City, Mayo Clinic and Kansas University Medical Center.

D29 **817.15** Conformational and Thermodynamic Features of Meibum in Adolescents and Adults with Graft-Versus-Host Disease. **S.M. Sledge, R. Blackburn, A. Ramasubramanian, D. Borchman, M.C. Yappert.** University of Louisville School of Medicine and University of Louisville.

D30 **817.16** Osteopenia in a Spontaneous Mouse Model of Systemic Lupus Erythematosus. **S. Lotinun, K. Atjanasuppat, P. Visitchanakun, W. Saiworn, P. Pisitkun, A. Leelahavanichkul.** Chulalongkorn University, Thailand and Mahidol University, Thailand.

818. IMMUNOHISTOCHEMISTRY, MICROSCOPY, MOLECULAR METHODS, AND BIOMARKERS: STOCKING THE TOOLBOX TO UNDERSTAND PATHOLOGY AND DISEASE

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Imaging, Immunohistochemistry and Microscopy

Presentation time: 11:45 am–12:45 pm

D31 **818.1** Quantitative Deep Tissue Imaging of Target Engagement in Intact Live Animals. **M.M. Barroso, A. Rudkouskaya, N. Sinsuebphon, X. Intes.** Albany Medical College and Rensselaer Polytechnic Institute.

D32 **818.2** The NIH Common Fund Human Biomolecular Atlas Program (HuBMAP): Building a Framework for Mapping the Human Body. **J.M. Smith, R.M. Conroy.** National Institutes of Health.

D33 **818.3** Combined Laser Capture Microdissection and Mass Spectrometry (LCM-MS) to Identify, Localize and Quantify Biologics in Specific Anatomic Microenvironments. **S.P. O'Neil, S.A. Quazi, D.R. Dufield, B. Wei.** Pfizer Inc.

D34 **818.4** Multiplexed Immuno-Profiling of the Colorectal Carcinoma Microenvironment Using Archival Human Tissue. **J. Borowsky, J.A. Nowak, A. da Silva, T. Hamada, T. Morikawa, T.S. Twombly, K. Nosho, R. Nishihara, J.K. Lennerz, M. Giannakis, A.T. Chan, J.A. Meyerhardt, C.S. Fuchs, S. Ogino.** Dana-Farber Cancer Institute, Brigham and Women's Hospital and Harvard Medical School, Dana-Farber Cancer Institute and Harvard Medical School, The University of Tokyo, Japan, Sapporo Medical University School of Medicine, Japan, Massachusetts General Hospital and Harvard Medical School and Yale Cancer Center.

D35 **818.5** Multiplex Immunohistochemistry Provides Insight Into Cross-Talk Between Myoepithelial and Immune Cells in Ductal Carcinoma in Situ (DCIS) Progression. **S. Jindal, E.H. Mitchell, T. Chan, J. Narasimhan, E. Gray, Y.H. Chang, S.A. Weinmann, P. Schedin.** Oregon Health & Science University and Kaiser Permanente Northwest.

D36 **818.6** Evaluation of Competitive Elisa for Detection of Antibodies to Rift Valley Fever Virus in Cattle and Sheep Sera. **D. Upreti, I. Ragan, J.A. Richt, W.C. Wilson, A. Clavijo, A.S. Davis.** Kansas State University, Center for Grain and Animal Health Research and Canadian Food Inspection Agency, Canada.

D37 **818.7** Comparison of Peroxidase-Anti-Peroxidase and Avidin-Biotin-Peroxidase Complex (ABC) Immunohistochemical Staining Procedures for Tryptophan Hydroxylase in Rat Brain. **J.L. Butler, B.A. Heidenreich.** Illinois State University.

D38 **818.8** *Pneumocystis*: A Polysaccharide Anomaly. **K.N. Bradshaw, G. Kutty, J.A. Kovacs, A.S. Davis.** Kansas State University and National Institutes of Health

D39 **818.9** Methylmethacrylate Thin Sections Are Superior to Thick Ground NNA Sections for Histologic Evaluation of Complex Submillimeter Metallic Medical Devices. **M.T. O'Brien, T. Dorsey, L. Ensminger, L. Kuhn, B. Dieterle, J. Burgenson.** Charles River Laboratories.

D40 **818.10** Evaluating Approaches to Analyze Tissue Score Data. **D. Meyerholz, A. Beck.** University of Iowa Carver College of Medicine and Albert Einstein College of Medicine.

D41 **818.11** Profiling Apolipoproteins in Disease. **E.J. Dreskin, C. Brampton, B. Houser, A. Hendricksen.** Bio-Rad Laboratories and Inc.

D42 **818.12** Predicting Mouse Oocyte Methylome from Polar Body by Single-Cell Whole Genome Bisulfite Sequencing. **T-L. Lee, W-Y. Chan, Y. Qian, C. Qin, K-L. Yip, K.L. Chow, N.L.S. Tang, J. Liao, A.C.S. Luk, H.C. Suen, W.T. Lee, M.P. Zhao, G.W.S. Kong, H.S. Chung, D.C.Y. Leung, T.Y. Leung, T.C. Li.** School of Biomedical Sciences, The Chinese University of Hong Kong, Hong Kong, The Chinese University of Hong Kong, Hong Kong, Hong Kong University of Science and Technology, Hong Kong, Department of Chemical Pathology and The Chinese University of Hong Kong, Hong Kong.

D43 **818.13** Relation Asymmetry Facial and Symmetry Facial vs. Times and Fixations to Build a Diagnosis in a Histopathology Task. **E.J.A. Mondragon.** Universidad Militar Nueva Granada, Colombia.

D44 **818.14** Low-Shear Extrusion of Grains Retains Resistant Starch to Increase Saccharolytic Activity of the Canine Gut Microbiome. **M.I. Jackson, D.E. Jewell, C. Waldy.** Hill's Pet Nutrition and Inc.

D45 **818.15** Salivary Cortisol Levels and Body Composition in Mexican College Students. **P. Algara Suarez, E. Rodriguez Medina, J. Gallegos Martinez, M.L. Acebo Martinez, J. Reyes Hernandez.** Facultad de Enfermeria y Nutricion and UASLP, Mexico.

D46 **818.16** Agnostic Pathology of Molecular Biomarkers in Smell Loss (Hyposmia). **R. Henkin, M. Abdelmeguid.** Center for Molecular Nutrition and Sensory Disorders.

D47 **818.17** Low Intensity Ultrasound Can Affect Cell Behavior and Can Promote Drug Delivery. **D. Lucchetti, L. Perelli, F. Colella, G. Scoarughi, G. Barbato, R. De Maria, A. Sgambato.** Università Cattolica del Sacro Cuore, Italy, Promedica Bioelectronics S.r.l. and R&D, Italy.

D48 **818.18** Novel Molecular Markers in Succinic Semialdehyde Dehydrogenase Deficiency (SSADHD), an Orphan Disorder of GABA Metabolism. **D.C. Walters, M.N. Brown, M.A. Schmidt, A.B. Klein, P. Wellendorph, K.R. Vogel, G.R. Ainslie, J-B. Roullet, K.M. Gibson.** Washington State University, University of Copenhagen, Denmark, University of Wisconsin and Theravance Biopharma.

D49 **818.19** Pulmonary Cell Stained in a Rat Model of Fat Embolism for Renin and Prorenin Are Increased After Aliskiren Treatment, Which Ameliorates the Fat-Induced Inflammatory Process. **E. Al-Husseinawi, J.D. Colson, M. Van Dillen, A. Fotouhi, M. Asan, L. White, M. Pour, D. Arif, P. Monaghan, A. Poisner, A. Molteni.** University of Missouri—Kansas City and University of Kansas.

D50 **818.20** Activated Mesothelial Cells in Pleural Fluid After Lung Resection and Transplantation. **A. Kienzle, A.B. Servais, Y.B. Alexandra, B.C. Gibney, V.D. Cristian, W.L. Wagner, M. Ackermann, S.J. Mentzer.** Brigham and Women's Hospital and Harvard Medical School and University Medical Center of the Johannes Gutenberg University, Germany.

D51 **818.21** Red Blood Cell Deformability Distribution as a Risk Marker for Diabetic Microangiopathy. **J.K.S. Tan, N. Khandelwal, R. Agrawal, S. Kim.** National University of Singapore, Singapore, National Healthcare Group Eye Institute and Tan Tock Seng Hospital, Singapore.

819. PATHOGENESIS OF INFECTIOUS DISEASES

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Bacteria, Parasitology, Microbiome, Antibiotics

Immunopathology

Presentation time: 11:45 am–12:45 pm

D52 **819.1** Characterization of *s1289* in Biofilm Formation and Infection in *S. flexneri*. **E.M. Rodríguez-López, V. Koseoglu, H. Agaisse.** University of Puerto Rico at Ponce, Puerto Rico and University of Virginia.

D53 **819.2** Identifying KEAP1-Interacting *Coxiella burnetii* Proteins. **A. Ortiz, D.E. Voth.** University of Puerto Rico and University of Arkansas for Medical Sciences.

D54 **819.3** Contribution of Zika Virus Envelop Protein-Induced Autoantibodies in Neuropathy. **Y-C. Lai.** National Cheng Kung University, Taiwan.

D55 **819.4** Estrogen Related Receptor α Is Required for Efficient Arenavirus Multiplication. **K. Cintron, B. Cubitt, M. Iwasaki, J.C. de la Torre.** University of Puerto Rico at Ponce and Scripps Research Institute.

D56 **819.5** Gene Expression of Host Restriction Factors in HIV-1 Infected Monocyte-Derived Macrophages. **D.E. Rivera Rodriguez, L.J. Godoy Muñoz, M. Hill.** University of Puerto Rico at Ponce and Ponce Health Sciences University

D57 **819.6** Group A *Streptococcus* Prevents Lysosomal Acidification in THP-1 Macrophages by Inhibiting V-ATPase Complex Formation. **S. Nishioka, J. Snipper, H. Franscioni, I. Yuen, Y. Gao, C. Delahunty, J. Yates; III, C. Okumura.** Occidental College and Scripps Research Institute.

D58 **819.7** Group A *Streptococcus* (GAS) Inhibits the Oxidative Burst Response in a Human Macrophage-Like Cell Line by Preventing the Formation of NADPH Oxidase Complex. **J. Shiosaki, I. Yuen, M. McLain, C. Okumura.** Occidental College.

D59 **819.8** Role of the Arginine Deiminase Pathway in the Survival of Group A *Streptococcus* in the Phagolysosome. **S. Chen, R. Zhang, J. Snipper, C. Okumura.** Occidental College.

D60 **819.9** Group A *Streptococcus* Prevents Acidification of the Phagolysosome: Role of Lysosomal Leakage. **R. Zhang, J. Snipper, K. Zheng, H. No, C. Okumura.** Occidental College.

D61 **819.10** Benznidazole and Aspirin Association for the Treatment of Chronic Experimental *Trypanosoma cruzi* Infection. **R.S. Pereira, A.D. Malvezi, B.F.C. Lucchetti, V.L. Hideko Tatakihara, H.T. Suzukawa, M.I. Lovo-Martins, E.J. de Almeida Araujo, L.M. Yamauchi, S.F. Yamada-Ogatta, M.C. Martins-Pinge, P. Pinge-Filho.** State University of Londrina, Brazil and Fiocruz-ICC-PR, Brazil.

D62 **819.11** Localized Optimization of Measles Virus (MV) Hemagglutinin (H) Gene to Human Codon Usage Bias Increases Protein Expression. **E.W. Uhl, M.L. Osborn, F. Michel, T. Jelesijevic, R.J. Hogan.** University of Georgia and Louisiana State University

D63 **819.12** Anatomical Findings of Fetuses Vertically-Infected with Zika Virus. **L.F. Figueredo, J.A. Franco-Zuluaga, C. Carrère-Rivera, D.S. Rodriguez-Silva, V. Akle.** Universidad de los Andes, Colombia.

D64 **819.13** The Hypoxia Inducible Factor 1 Alpha Is Required for Optimal Gammaherpes Virus Lytic Replication and Reactivation from Latency. **D.M. Lopez-Rodriguez, E. Mesri, S. Andreansky.** University of Miami.

D65 **819.14** Skeletal Muscle Produces Acute Phase Proteins in Response to Polymicrobial Sepsis. **G.P. Robinson, A.J. Mattingly, C.K. Garcia, K.O. Murray, T.L. Clanton, O. Laitano.** University of Florida.

D66 **819.15** A Kinetic Approach to Study the Reproductive Events in *Caenorhabditis elegans* During Uropathogen Mediated Infection. **S. Rajasekharan, B. Krishnaswamy.** Alagappa University, India.

D67 **819.16** Modeling Multiple System Atrophy Prion Propagation in Astrocytes from Transgenic Mice. **Z. Krejciova, G. Carlson, K. Giles, S.B. Prusiner.** Institute for Neurodegenerative Diseases, Weill Institute for Neurosciences and University of Californi.

D68 **819.17** Dengue Fever: The Next Global Killer. **E.A. Raynes, K. Glymph, K. Coker, K. Agazuma, N. Michaels, M.R. Menchavez, J.Z.R. Raynes.** Tennessee State University, Belmont University, Private Practice and Boston College Morrissey College of Arts and Sciences.

D69 **819.18** Identification of Potential Broad-Spectrum Peptidomimetic Antivirals Active Against Zika Virus. **R. Khachatoorian, A.S. Buzzanco, A. Waring, R. Riahi, D. Jin, A. Dasgupta, V. Arumugaswami, P. Ruchala, S.W. French.** University of California, Los Angeles and Harbor-UCLA Medical Center.

D70 **819.19** Extracellular Vesicles Secreted by *Trypanosoma cruzi*: Relationship with Polyunsaturated Fatty Acids in the Modulation of Infection. **M.I. Lovo-Martins, A.D. Malvezi, N.G. Zanluqui, B.F.C. Lucchetti, H.T. Suzukawa, V.L. Hideko Tatakihara, S. Goldenberg, K. Fritsche, P.F. Wowk, P.I. Pinge-Filho.** State University of Londrina, Brazil, Fiocruz-ICC-PR, Brazil and University of Missouri.

D71 **819.20** Protein Expression from Measles (MV) L Protein Genes Optimized and Suboptimized to Human and Canine Codon Usage Bias Varies with Construct and Cell Type. **A. Shah, E.W. Uhl, M.L. Osborn, F. Michel, R.J. Hogan.** University of Georgia and Louisiana State University

Pharmacology

820. STIMULANTS III

Poster

(*Sponsored by:* ASPET Division for Behavioral Pharmacology)

(*Cosponsored by:* ASPET Division for Neuropharmacology (NEU))

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Behavioral Pharmacology

Neuroscience

Presentation time: 12:30 pm–2:30 pm

C1 **820.1** Modulation of Striatal Dopamine Release by Nicotinic Receptors in Adolescent and Adult Rats. **E. Pitts, T. Stowe, A. Fennell, L. Sexton, M. Ferris.** Wake Forest School of Medicine

C2 **820.2** Protein Kinase Cβ Inhibitors Attenuate Amphetamine-Stimulated Behaviors Through Direct and Indirect Mechanisms in Different Brain Regions. **R. Altshuler, M. Gnegy, E. Jutkiewicz.** University of Michigan.

C3 **820.3** Methylenedioxypryovalerone (MDPV) Rapidly Increases Dopamine Transporter and Vesicular Monoamine Transporter-2 Function. **C.L. German, C.P. Magee, P.S. Curtis, G.R. Hanson, A.E. Fleckenstein.** University of Utah.

C4 **820.4** Preclinical Assessment of the Abuse Potential of the Isomers of Ketamine. **K.L. Nicholson, E.C. Soehngen, J.C. Gillespie, C. Hill, K.L. Shelton.** Virginia Commonwealth University.

C5 **820.5** Effect of Environmental Enrichment on Relapse to Methamphetamine Seeking. **Y.S. Althobaiti.** College of Pharmacy and Taif University, Saudi Arabia.

C6 **820.6** Estrogens Are Necessary for Expression of Cocaine Seeking in Male Rats. **D.A. Acevedo, J. Alvarado, L. Torres, B. Santos-Vera, D. Mueller.** University of Puerto Rico at Ponce and Ponce Health and Science Unversity.

C7 **820.7** The Effects of a Selective Serotonin 2C (5HT2C) Receptor Agonist Way 163909 on Cocaine Self-Administration in Male and Female Rhesus Macaques Exposed to Early Life Stress. **A.G.P. Wakeford, H. Shields, S. Katznelson, M.M. Sanchez, L.L. Howell.** Yerkes National Primate Research Center, Emory University and Emory University.

C8 **820.8** An Unsuspected Role for Organic Cation Transporter 3 in the Actions of Amphetamine. **F.P. Mayer, A.W. Owens, S. Boehm, U. Gether, W. Koek, L.C. Daws, H.H. Sitte.** Institute of Pharmacology, Medical University of Vienna, Austria, The University of Texas Health Science Center at San Antonio, University of Copenhagen and Panum Institute, Denmark.

C9 **820.9** mGluR2/3 Agonist LY379268 on G-Protein Activation and CREB Phosphorylation. **C. Burgos Aguilar, M.J. Ferris, L.L. Sexton, S.R. Childers, R. Xiao, A.C. Howlett.** Wake Forest University and Wake Forest School of Medicine.

C10 **820.10** Marijuana, Crack and Cocaine Consumption in Undergraduate Brazilian Students. **R.P. Miranda, B.G.B. Olcerenko, C. Rebecchi, I.D. Taricano.** Universidade Nove de Julho, Brazil.

821. ETHANOL

Poster

(*Sponsored by:* ASPET Division for Neuropharmacology)

(*Cosponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Behavioral Pharmacology

Neuroscience

Presentation time: 12:30 pm–2:30 pm

C11 **821.1** Impulsivity Induced Neuronal Differentiation. **L.R. Peyton, A. Oliveros, P.A. Starski, D-S. Choi.** Mayo Clinic.

C12 **821.2** Sex Differences in Measures of Anxiety-Like Behaviors Following Chronic Intermittent Ethanol and/or Stress Exposures Using a Zebrafish Model System. **L. Devaud, M. Sano, L. Trupp, A. Cabuang, J. Lally.** Pacific University School of Pharmacy.

C13 **821.3** Environmental Enrichment Increases Alcohol Reward via Modulation of the Oxitocinergic System. **M. Rae, P. Zanos, P. Georgiou, A. Bailey, L. Devi, R. Camarini.** University of São Paulo, Brazil, University of Maryland, St George's, University of London, United Kingdom and Mount Sinai.

C14 **821.4** Doses of Pregabalin That Decrease Ethanol Intake Potentiate the Disruptive Effects of Ethanol on Learning in Outbred Rats. **P.F. Weed, M. Ketchum, P.J. Winsauer.** Louisiana State University Health Sciences Center.

C15 **821.5** Sex Differences in Oxytocin Effects on CEA GABAergic Signaling in Alcohol-Dependent and Naive Rats. **D. Kirson, M.Q. Steinman, M. Roberto.** Scripps Research Institute.

C16 **821.6** Ethanol Reinforcement Elicits Novel Response Inhibition Behavior in a Model of Ethanol Dependence. **S.S. Somkuwar, L. Quach, J. Quigley, D. Purohit, C.D. Mandyam.** VA San Diego Healthcare System, University of California, San Diego and Scripps Research Institute.

C17 **821.7** Grey Matter Dysmyelination During Abstinence in Ethanol Dependence. **S.S. Somkuwar, E. Villalpando, L.W. Quach, M. Scadeng, B. McKenna, M.J. Fannon, Y. Jones, A. Zemljic-Harpf, B.P. Head, C.D. Mandyam.** VA San Diego Healthcare System and University of California, San Diego.

C18 **821.8** Sex-Selective Effects of Prior Binge-Like Drinking Followed by Intermittent Stress and Ethanol Drinking on Alterations in Several Brain Protein Levels and Neurosteroids. **L. Devaud, M. Alavi, D. Finn.** Pacific University School of Pharmacy and VA Portland Health Care System.

C19 **821.9** Study on the Use of Alcohol and Its Relation with the Use of Ilicit Drugs and Undergraduation Area of São Paulo, Brazil. **B.G.B. Olcerenko, H.B. Ilg, M.C.C. Mendes, I.D. Taricano.** Universidade Nove de Julho, Brazil.

C20 **821.10** Ecstasy, Marijuana and Alcohol Use by Undergraduate Students. **H.B. Llg, C. Rebecchi, G.C.V. Lauar, I.D. Taricano.** Universidade Nove de Julho, Brazil.

C21 **821.11** Study on the Use of Illicit Drugs and Its Relation with Smoking, Alcoholism and Graduation Area, in Undergraduate Population of the City of São Paulo, Brazil. **C. Rebecchi, M.C. Chaves Mendes, A.M.A. Latrônico, I.D. Taricano.** Universidade Nove de Julho, Brazil.

C22 **821.12** Sulforaphane Protects Against Ethanol-Induced Apoptosis in Neural Crest Cells and Zebrafish Embryos Through Epigenetically Modulating the Expression of Sanil1 and Restoring EMT. **Y. Li.** University of Louisville.

822. DISCRIMINATION

Poster

(*Sponsored by:* ASPET Division for Neuropharmacology)

(*Cosponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Behavioral Pharmacology

Neuroscience

Presentation time: 12:30 pm–2:30 pm

C23 **822.1** Abuse-Related Discriminative Stimulus Effects of Synthetic Cathinones. **C.A. Paronis, S.J. Kohut, A.M. Sherwood, K.A. Brown, A.S. Zakarian, T.E. Prisinzano, J. Bergman.** McLean Hospital/Harvard Medical School and University of Kansas

C24 **822.2** Cocaine Enhances the Discriminative Stimulus Effects of Mephedrone. **L. Erwin, B. Jursic, P. Winsauer.** Louisiana State University Health Sciences Center and University of New Orleans.

C25 **822.3** Discriminative Stimulus Effects of Gabapentin. **M.R. Zuidema, L.K. Galbo, A.D. Lekander, L. Esterline, A.J. Prus.** Northern Michigan University.

C26 **822.4** Characterization of the Discriminative Stimulus Effects of the Delta-Opioid Receptor Agonist, SNC80, in Rats. **A.L. Matthews, K.C. Rice, E.M. Jutkiewicz.** The University of Michigan, National Institute on Drug Abuse and National Institutes of Health.

C27 **822.5** High Throughput Characterization of Aloin Bitter Taste Phenotypes in Human Subjects. **M. Stewart, R.K. Palmer.** Opertech Bio, Inc.

C28 **822.6** Multiple Discriminative Stimulus Effects of the $\alpha 4\beta 2$-Selective Agonists Ispronicline and Metanicotine. **M. Gehrlein, G. Winger, M. Ansari, J. Woods.** The University of Texas Health Science Center at San Antonio and University of Maryland.

C29 **822.7** Effects of Chronic, Intermittent Sucrose Consumption on the Discriminative Stimulus Effects of Dopamine or Opioid Antagonists. **M.A. Marek, D.R. Rothbauer, E.N. Schulz, A.C. Barton, A.M. Tryhus, D.J. Hardorn-Papke, L.J. Brandt, D.C. Jewett.** University of Wisconsin—Eau Claire.

C30 **822.8** Use of Solvents as Addition Drugs and Associated Factors Among Undergraduated in São Paulo, Brazil. **G.C.V. Lauar, A.M.A. Latrônico, B.G.B. Olcerenko, I.D. Taricano.** Universidade Nove de Julho , Brazil.

823. NEUROINFLAMMATION/NEUROREGENERATION

Poster

(*Sponsored by:* ASPET Division for Neuropharmacology)

(*Cosponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Behavioral Pharmacology

Neuroscience

Inflammation/Immunity

Presentation time: 12:30 pm–2:30 pm

C31 **823.1** The Effect of *Porphyromonas gingivalis* Lipopolysaccharide (LPS) on Rat Brain Microglia Classical and Alternative Activation *in Vitro*: MMP-9 Generation. **E. Czerwonka, Z. Memedovski, J. Han, J. Mayer, L.C. Klemm, M.L. Hall, A.M. Mayer.** Midwestern University, Chicago College of Osteopathic Medicine, Midwestern University, College of Health Sciences, Midwestern University, College of Dental Medicine—Illinois and University of Wisconsin—Madison.

C32 **823.2** Adenosine A3 Receptor, as a Novel Therapeutic Target to Reduce Secondary Events and Improve Neurocognitive Functions Following Traumatic Brain Injury. **S. Cuzzocrea, M. Campolo, I. Paterniti, E. Esposito, S. Farr, T. Doyle, D. Salvemini.** University of Messina, Italy, VA Medical Center Saint Louis and Saint Louis University.

C33 **823.3** The Soluble Guanylate Cyclase Stimulator IWP-550 Inhibits Neuroinflammation *in Vitro* and *in Vivo*. **G. Liu, S.S. Correia, S.G. Bernier, K. Tang, S. Jacobson, R. Sarno, V. Catanzano, B. Nguyen, E. Atwater, T.W. Lee, R. Iyengar, D.P. Zimmer, G.T. Milne, M.G. Currie, J.R. Hadcock.** Ironwood Pharmaceuticals, Inc.

C34 **823.4** Stimulatory Effects of the Flavanols (-)-Epicatechin and Its Enantiomer (+)-Epicatechin on Frontal Cortex Markers of Neurogenesis. **F. Villarreal, P. Mendoza-Lorenzo, T. Neri-Gomez, G. Manjarrez-Gutierrez, V. Navarrete-Yanez, G. Schreiner, S. Dugar, G. Ceballos, I. Ramirez-Sanchez.** University of California, San Diego, Universidad Juarez Autonoma de Tabasco, Mexico, IMSS Cardiologia, Mexico, IMSS Neurologia, Mexico, Instituto Politécnico Nacional School of Medicine, Mexico, Cardero Therapeutics, Inc.

C35 **823.5** The Role of the Fibrotic Scar in Repair Following Neuroinflammation. **C. Dorrier, E. Haenelt, R. Daneman.** University of California, San Diego.

C36 **823.6** Isoprenol-Induced Neuroprotection in Experimental Multiple Sclerosis. **K.D. Strawn, T.O. Kirby, M.N. Brown, D.C. Walters, K.M. Gibson, J-B. Roullet, J. Ochoa-Repáraz.** Eastern Washington University and Washington State University.

C37 **823.7** The Effects of Lipid Lowering Drugs on Neuroinflammation in Metabolic Syndrome Mice. **L-P. Hsieh, C.H. Yeh.** Cheng Ching General Hospital, Taiwan and Da-Yeh University, Taiwan.

C38 **823.8** Manganese Exposure Activates NLRP3 Inflammasome Signaling and Propagates Exosomal Release of ASC in Microglial Cells. **E. Malovic, S. Sarkar, D. Rokad, J. Luo, D. Harischandra, H. Jin, V. Anantharam, X. Huang, M. Lewis, A. Kanthasamy, A. Kanthasamy.** Iowa State University and Penn State Hershey Medical Center.

824. STROKE / SPINAL CORD INJURY

Poster

(*Sponsored by:* ASPET Division for Neuropharmacology)

(*Cosponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Behavioral Pharmacology

Neuroscience

Presentation time: 12:30 pm–2:30 pm

C39 **824.1** Neuroprotection via LRP-1 Signaling in the Retina of Diabetic Mice. **D.H. El-Desoky, J. Sherman, R. Freter, R. Adams, H. Mbony, T. Joeseph, D. Heron, A. Hossain, P.S. Bhattacharjee.** Xavier University of Louisiana.

C40 **824.2** Effects of Novel NKCC1 Inhibitors on Reducing Brain Damage and Neurological Deficits After Ischemic Stroke in Mice. **H. Huang, M.I.H. Bhuiyan, T. Jiang, S. Shankar, P. Schreppel, T. Erker, M. Hintersteininger, D. Sun.** University of Pittsburgh and University of Vienna, Austria.

C41 **824.3** Mechanisms of Retinal Ischemia/Reperfusion Injury: Arginase and the Mitochondria. **E. Shosha, A. Fouda, T. Lemtalsi, Z. Xu, R.W. Caldwell, S.P. Narayanan, R. Caldwell.** Augusta University.

C42 **824.4** Leukemia Inhibitory Factor Modulates the Post-Stroke Immune Response in Rats. **S.M. Davis, L.A. Collier, C.C. Leonardo, C.T. Ajmo, T.J. Kopper, J.C. Gensel, K.R. Pennypacker.** University of Kentucky and University of South Florida.

C43 **824.5** Structure-Activity Relationship of the Transient Receptor Potential Melastatin 2 (TRPM2) and a Novel Peptide Antagonist tat-M2NX: Potential Therapeutic Target in Cerebral Ischemia. **I. Cruz-Torres, P.S. Herson.** University of Colorado Anschutz Medical Campus.

C44 **824.6** Comprehensive Study on the Potential Therapeutic Use of Brevetoxin-2 to Aid Post-Stroke Recovery. **E. Sequeira, M. Pierce, D. Gomez, T. Murray.** Creighton University.

C45 **824.7** Upregulating the Expression of Survivin-HBXIP Complex Contributes to the Protective Role of IMM-H004 in Transient Global Cerebral Ischemia/Reperfusion. **S-F. Chu, Z. Zhang, Z-Z. Wang.** Institute of Materia Medica and Chinese Academy of Medical Sciences, People's Republic of China.

C46 **824.8** Pharmacological Induction of Mitochondrial Biogenesis Using the β_2-Adrenoreceptor Agonist Formoterol for the Treatment of Spinal Cord Injury. **N.E. Scholpa, W. Wang, D. Corum, A. Narang, S. Tomlinson, R.G. Schnellmann.** University of Arizona and Medical University of South Carolina.

C47 **824.9** Sodium Butyrate Exerts Neuroprotective Effects in Spinal Cord Injury. **M. Lanza, M. Campolo, G. Casili, A. Filippone, S. Cuzzocrea, E. Esposito.** University of Messina, Italy.

C48 **824.10** Effect of Vessilen®, a New Formulation of Adelmidrol and Sodium Hyaluronate, on Overactive Urinary Bladder Syndrome. **S. Cuzzocrea, A. Peritore, R. Crupi, M. Campolo, R. Siracusa, M. Cordaro, A. Filippone, E. Esposito.** University of Messina, Italy.

C49 **824.11** Hyperbaric Oxygen Therapy in Patients with Cerebral Small Vessel Disease. **C.H. Savage.** Washington University in St. Louis.

C50 **824.12** Myeloid Arginase 1 Protects Against Retinal Ischemia-Reperfusion Injury. **A. Fouda, Z. Xu, E. Shosha, J. Chen, W. Caldwell, P. Narayanan, R. Caldwell.** Augusta University.

825. CANNABINOIDS

Poster

(*Sponsored by:* ASPET Division for Neuropharmacology)

(*Cosponsored by:* ASPET Division for Behavioral Pharmacology (BEH))

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Behavioral Pharmacology

Neuroscience

Presentation time: 12:30 pm–2:30 pm

C51 **825.1** *In Vitro* and *in Vivo* Effects of Phase 1 Hydroxylated Metabolites of the Synthetic Cannabinoid Ab-Pinaca (S)-N-(1-Amino-3-Methyl-1-Oxobutan-2-Yl)-1-Pentyl-1h-Indazole-3-Carboxamide. **C.D. Wilson, R.D. Hutchison, B.M. Ford, P.L. Prather, W.E. Fantegrossi.** University of Arkansas for Medical Sciences and University of Arkansas at Little Rock.

C52 **825.2** Pharmacological Characterization of Synthetic Cannabinoid MAM-2201: Radioligand Binding and Abuse-Related Effects. **W.E. Fantegrossi, A. Janowski, A.J. Eshleman, S. Fukuda, J. Gogoi, C. Prioleau, A.S. Bale, S.R. Tella, M.G. Paule, T. Hiranita.** University of Arkansas for Medical Sciences, Oregon Health & Science University, Drug Enforcement Administration , National Center for Toxicological Research and U.S. Food and Drug Administration.

C53 **825.3** Estrogen- and Delay-Dependent Effects of Δ^9-THC on Memory in Female Rats. **A.F. DeLarge, P.J. Winsauer.** Louisiana State University Health Sciences Center.

C54 **825.4** RGS Protein Regulation of CB1 Receptor-Mediated Cannabinoid Behaviors. **S. Tai, R. Kandasamy, B. Barton, L. Parry, J.R. Traynor.** University of Michigan Medical School and University of Michigan.

C55 **825.5** CB2 Receptor Role in Anxiety-Like Behavior Using Validated CB2-KO Zebrafish. **A. Acevedo-Canabal, L. Colon-Cruz, G. Varshney, M. Behra, G. Yudowski.** University of Puerto Rico, Medical Sciences Campus , Puerto Rico, Oklahoma Medical Research Foundation, University of Puerto Rico and Institute of Neurobiology, Puerto Rico.

C56 **825.6** Age-Dependent Anti-Seizure and Neuroprotective Effect of Cannabidivarin in Neonatal Rats. **M. Huizenga, P. Forcelli.** Georgetown University.

C57 **825.7** Synthesis and Evaluation of Symmetrical and Unsymmetrical Diacyl Ureas, Acyl Urea/Carbamate/Thiocarbamate Derivatives and Their Evaluation for FAAH Inhibition. **A. El-Alfy, J. Johnson, A. Garcia Hernandez, G. Grooms, J. Stec.** Medical College of Wisconsin, Chicago State University and Marshall B. Ketchum University.

C58 **825.8** Inhibition of Fatty Acid Amide Hydrolase (FAAH) by Macamides. **M.M. Alasmari, M. Böhlke, C. Kelley, T. Maher, A. Pino-Figueroa.** Massachusetts College of Pharmacy and Health Sciences and MCPHS University.

C59 **825.9** Rab35 and Rab39 GTP-ases as Modulators of Cannabinoid Type 1 Receptor Signaling. **I. Ghita, P.J. Winsauer, C.M. Filipeanu.** Howard University and Louisiana State University Health Sciences Center.

C60 **825.10** Field Sobriety Test for Cannabis. **E. Pabon, H. de Wit.** University of Chicago.

C61 **825.11** Hyperlocomotion Induced by Inhalation of Nicotine and a Low Dose of Δ^9-Tetrahydrocannabinol in Female Rats. **M.J. Paydar, S.A. Vandewater, M.J. Taffe.** Scripps Research Institute.

C62 **825.12** Regulation of Hydrogen Sulfide Levels by Cannabinoids in the Bovine Isolated Retina. **L. Bush, J. Robinson, S. Kutse, C. Ebuzoeme, C. Onyenaka, I. Akpan, C. Opere, S. Ohia, Y.F. Njie-Mbye.** Texas Southern University and Creighton University.

C63 **825.13** Impact of *Cannabis* Use on the Antipsychotic Therapy of Schizophrenia Symptoms. **P-G.L. Thomas-Brown, J.S. Martin, C.A. Sewell, W.D. Abel, M.D. Gossell-Williams.** University of the West Indies at Mona, Jamaica.

C64 **825.14** The Effect of Cannabidiol on Epileptic Processes Through Microglial Modulation. **T.R. Victor, J.C. Nissen, M.W. Elmes, D.G. Deutsch, S.E. Tsirka.** Stony Brook University.

826. GENE EXPRESSION—REGULATION

Poster

(*Sponsored by:* ASPET Division for Molecular Pharmacology)

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:30 pm–2:30 pm

C65 **826.1** Glycogen Synthase Kinase-3 β Modulation of Basal Aryl Hydrocarbon Receptor Protein Levels in HeLa Cells. **Y. Yang, W.K. Chan.** University of the Pacific.

C66 **826.2** Population Genomics and Molecular Surveillance for *Plasmodium falciparum* Genetic Diversities in an Endemic Area. **T.M. Dokunmu, D.O. Oladejo, C.U. Adjekukor.** Covenant University, Nigeria.

C67 **826.3** HSPA9 Gene Regulates Erythroid Maturation in Human Hematopoietic Progenitor Cells. **T. Liu, R. Akileh, C. Butler.** West Virginia School of Osteopathic Medicine.

C68 **826.4** Crosstalk Between PTBP1 and miR-101/Ago2 on Targeting MCL1—a Novel Post-Transcriptional Mechanism for MCL1 Expression. **J. Cui, W.J. Placzek.** The University of Alabama at Birmingham.

C69 **826.5** Gene Expression Profiling of Retinal Pigment Epithelium Establish a Diverse Role of Glucocorticoids in the Eye. **R.S. Sulaiman, J.A. Cidlowski.** National Institute of Environmental Health Sciences, National Institutes of Health.

C70 **826.6** Regulation of UGT2A1 by miR-196a and miR-196b and Its Implications for Lung Cancer Risk. **A.K. Sutliff, G. Chen, C.J.W. Watson, P. Lazarus.** Washington State University.

C71 **826.7** Regulation of Hepatic UGT1A4 by Liver X Receptor LXRα, and Not LXRβ in *hUGT1* Mice. **E. Rettenmeier, E. Yoda, L. van der Schoor, S. Chen, O. Barbier, R. Tukey.** University of California, San Diego and Université Laval and the Faculty of Medicine, Canada.

C72 **826.8** Cottonseed Extracts and Gossypol Regulate Diacylglycerol Acyltransferase Gene Expression in Mouse Macrophages. **H. Cao, K. Sethumadhavan.** United States Department of Agriculture and Agricultural Research Service.

C73 **826.9** A Quantitative High-Throughput Screen to Identify Small Molecules for the Induction of Tristetraprolin Expression. **F. Bollmann, L-Q. Qiu, B.L. Snyder, K.R. Shockley, J. Inglese, P.J. Blackshear.** National Institute of Environmental Health Sciences, National Institutes of Health and National Center for Advancing Translational Sciences, National Institutes of Health.

C74 **826.10** Expression of Multiple Sulfotransferase (SULT) 1C4 Transcript Variants in Developing Human Liver. **S. Dubaisi, H. Fang, R. Gaedigk, C.A. Vyhlidal, T.A. Kocarek, M. Runge-Morris.** Wayne State University and Children's Mercy Kansas City.

C75 **826.11** Targeting of the Histone 3 Lysine 9 Methyltransferase Pathway in KRAS-Induced Cell Growth and Pancreatic Cancer. **G. Lomberk, G. Urrutia, M. Colon Caraballo, A. Salmonson, M. Missfeldt, A. Mathison, S. Tsai, N.V. Adsay, D. Evans, J. Iovanna, R. Urrutia.** Medical College of Wisconsin and Institut National de la Santé et de la Recherche Médicale (INSERM), France.

C76 **826.12** Human Antigen R (HuR) Regulates Structure and Function of Brown Adipose Tissue. **L. Lanzillotta, S.R. Anthony, K. Yamamoto, S. Jones, Z. Taylor, G. Yoshida, A.P. Owens III, M. Tranter.** University of Cincinnati.

C77 **826.13** Cyclooxygenase Inhibitors for Treating Preterm Labour? What Is the Evidence? **A.C. Liwa, D. Urrego, W.C. Cole, D.M. Slater.** University of Calgary, Canada.

C78 **826.14** Targeted Downregulation of MYC Through G-Quadruplex Stabilization: A Novel Therapeutic Approach for Breast Cancer and Lymphoma. **K.T. Chang, T. Hao, H.E.J. DeSouza, T.A. Brooks.** Binghamton University and City of Hope.

C79 **826.15** Signal Transduction Pathway Gene Regulation by Long-Term Treatment with CART Peptide. **L. Ma, G. Burgos, X. Wang, S. Prinster.** Touro University Nevada, University of Nevada and Reno.

827. SIGNAL TRANSDUCTION - DOPAMINE SIGNALING

Poster

(*Sponsored by:* ASPET Division for Molecular Pharmacology)

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 12:30 pm–2:30 pm

C80 **827.1** Discovery and Characterization of a Novel Series of D2 Dopamine Receptor-Selective Antagonists Through Iterative Chemistry of a BET Bromodomain Inhibitor. **C.T. Fearce, M.C. Donegan, M.M. Day, M. Yoshioka, J.W. Strovel, R.B. Free, D.R. Sibley.** Molecular Neuropharmacology Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health and ConverGene, LLC.

C81 **827.2** Immunohistofluorescence Study of the Actions of Manganese on the Phospholipase C Mechanism of Dopamine D2-Like Post-Synaptic Receptors in *Crassostrea virginica*. **P. Amoako, M. Eid, M.A. Carroll, E.J. Catapane.** Medgar Evers College.

C82 **827.3** A Role for Protein Kinase C in Gill Lateral Cell Activity of *Crassostrea virginica* K**. Ernest, A. Johnson, M.A. Carroll, E.J. Catapane.** Medgar Evers College.

C83 **827.4** *In Vivo* Behavioral Characterization of ML417, a Novel D3 Dopamine Receptor-Selective Agonist. **E.O. Akano, A.E. Moritz, M.W.J. Preston, C.J. Lobb, J.F. Du Hoffmann, R.B. Free, K.J. Frankowski, J.R. Walters, D.R. Sibley.** Molecular Neuropharmacology Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Neurophysiological Pharmacology Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Office of the Director, National Institute of Mental Health, National Institutes of Health and University of North Carolina at Chapel Hill.

C84 **827.5** Identification and Characterization of ML321: A Novel and Selective D2 Dopamine Receptor Anta,gonist with Predicted Atypical Antipsychotic Properties. **R.B. Free, J. Xiao, M. Ferrer, N. Southall, R. Mach, J. Bertz, L. Shi, J.H. Woods, J.J. Marugan, W. Wetsel, D.R. Sibley.** Molecular Neuropharmacology Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health, National Center for Advancing Translational Sciences, National Institutes of Health, Perelman School of Medicine, University of Pennsylvania, University of Michigan School of Medicine, Computational Chemistry and Molecular Biophysics Unit, National Institute on Drug Abuse, National Institutes of Health and Duke University School of Medicine.

C85 **827.6** Characterization of a Novel Series of D4 Dopamine Receptor Ligands Reveals Structure-Activity Relationships for Selective Partial Agonists. **M.M. Day, R.B. Free, C.R.T. Stang, C.A. Boateng, T.M. Keck, D.R. Sibley.** Molecular Neuropharmacology Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Department of Basic Pharmaceutical Sciences, Fred Wilson School of Pharmacy, High Point University, Department of Molecular and Cellular Biosciences, and Department of Chemistry and Biochemistry, Rowa.

C86 **827.7** CRISPR/Cas9-Mediated Knockout of G Proteins and β-Arrestins Determines Transducer Specific Contributions to Dopamine D1 Receptor Signaling. **M.K. Jain, A.N. Nilson, D.E. Felsing, A. Inoue, J.A. Allen.** The University of Texas Medical Branch and Tohoku University , Japan.

C87 **827.8** Positive Allosteric Modulators of the D_1 Dopamine Receptor Act at Diverse Binding Sites. **K.D. Luderman, J.L. Conroy, R.B. Free, N.T. Southall, M. Ferrer, J. Aubé, J.R. Lane, K. Frankowski, D.R. Sibley.** Molecular Neuropharmacology Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health, National Center for Advancing Translational Sciences, National Institutes of Health, University of North Carolina and Monash University, Australia.

C88 **827.9** Regulator of G-Protein Signaling 6 (RGS6) Modulates Dopamine D2 Autoreceptor Function in Mice. **Z. Luo, K.E. Ahlers-Dannen, J. Yang, H.E. Stevens, N.S. Narayanan, R.A. Fisher.** University of Iowa.

C89 **827.10** Characterization of the Novel Anti-Cancer Therapeutic ONC201 and Related Analogs as Non-Competitive Antagonists of the D_2 Dopamine Receptor. **C.A. Cuoco, R.B. Free, B.K. Willette, M.M. Day, J.R. Lane, J.E. Allen, D.R. Sibley.** Molecular Neuropharmacology Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Monash University, Australia and Oncoceutics, Inc.

C90 **827.11** Identification of Residues in the Fifth Transmembrane-Spanning Domain of the D2-Like Dopamine Receptors That Engender Signaling Bias. **M. Sanchez Soto, B.K.A. Willette, E.C. Gonye, A.M. Moore, L.S. Chun, A.E. Moritz, R.K. Verma, H. Yano, L. Shi, R.B. Free, D.R. Sibley.** Molecular Neuropharmacology Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health and Computational Chemistry and Molecular Biophysics Unit, National Institute on Drug Abuse, National Institutes of Health.

C91 **827.12** Evidence for a Stereoselective Mechanism of Action for Non-Competitive Antagonism of the D3 Dopamine Receptor by Extended-Length Bitopic Ligands. **A.E. Moritz, A. Guerrero, V. Kumar, A. Bonifazi, R.B. Free, J.R. Lane, R.K. Verma, L. Shi, A.H. Newman, D.R. Sibley.** Molecular Neuropharmacology Section, National Institute of Neurological Disorders and Stroke, NIH, Medicinal Chemistry Section, National Institute on Drug Abuse, National Institutes of Health, Monash University, Australia and Computational Chemistry and Molecular Biophysics Unit, National Institute on Drug Abuse, National Institutes of Health.

C92 **827.13** Investigating the Interactions of GRK2 with a G-Protein Signaling-Biased D2 Dopamine Receptor. **B.K.A. Willette, M. Sanchez Soto, E.C. Gonye, A.E. Mortiz, R.B. Free, D.R. Sibley.** Molecular Neuropharmacology Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health.

C93 **827.14** Striatal ERK Is Activated in Response to L-DOPA Administration in a Knock-In Mouse Model of DOPA-Responsive Dystonia. **M. Briscione, C. Donsante, X. Fan, S. Campbell, D. Bernhard, A. Downs, D. Gutman, T. Sardar, A. Shannon, D.J. Sutcliffe, H.A. Jinnah, E.J. Hess.** Emory University.

C94 **827.15** Electrophysiological and Neurochemical Effects of Antidiabetic Sulphonylurea Tolbutamide in the Rat Ventral Tegmental Area and Prefrontal Cortex. **A.A. Omoloye, B. Gronier.** De Montfort University, United Kingdom.

828. DRUG DISCOVERY: ANTI-INFECTIVES AND ANTI-PARASITICS

Poster

(*Sponsored by:* ASPET Division for Drug Discovery and Development)

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C95 **828.1** Targeting Topoisomerases for Antileishmanial Chemotherapeutics and Deciphering the Role of MRE11 in Topoisomerase Induced DNA Damage Repair in *Leishmania donovani*. **S. Roy Chowdhury, H.K. Majumder.** CSIR-Indian Institute of Chemical Biology, India.

C96 **828.2** Identification/Optimization of Novel Small Molecule Inhibitors of Zika Virus Infection. **R. Khachatoorian, E.D. Micewicz, A.S. Buzzanco, R. Riahi, D. Jin, P. Ruchala, S.W. French.** University of California, Los Angeles.

C97 **828.3** Development of Prodrug Approaches for Long-Acting Nanoformulations of Emtricitabine-Based Regimens. **A. Al-Khouja, J.J. Hobson, S. Henriquez, D. Meyers, P. Curley, M. Siccardi, A. Owen, C. Flexner, S. Rannard, C.L. Freel Meyers.** Johns Hopkins University School of Medicine and University of Liverpool, United Kingdom.

C98 **828.4** Exploiting the Components Leading to Mutational Resistance in Rigid and Flexible Non-Nucleoside Reverse Transcriptase Inhibitors (NNTRIs). **S.M. Azeem, A.N. Muwonge, M. Ivatarov, M. Yunayev, K.M. Frey.** Long Island University.

C99 **828.5** Transporter Roles in the Pharmacokinetics and Tissue Distribution of Voxilaprevir, a Pan-Genotypic HCV NS3/4A Protease Inhibitor. **Y. Wang, C. Yang, J. Hao, K. MacLennan, B. Wong, J. Mwangi, B. Murray, X. Liang, Y. Lai, J.G. Taylor.** Gilead Sciences, Inc.

829. DRUG DISCOVERY: OTHER

Poster

(*Sponsored by:* ASPET Division for Drug Discovery and Development)

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Drug Discovery and Development

Presentation time: 12:30 PM–2:30 PM

C100 **829.1** Relaxation of Porcine Isolated Irides by Novel Hydrogen Sulfide-Releasing Compounds. **J. Robinson, L. Mitchell-Bush, M. Whiteman, C. Opere, S. Ohia, Y.F. Njie-Mbye.** Texas Southern University, University of Exeter Medical School, United Kingdom and Creighton University.

C101 **829.2** Development of C-CBL Antagonists to Promote Corneal Epithelial Wound Healing. **B. Ceresa.** University of Louisville.

C102 **829.3** Repurposing Griseofulvin as a Non-Toxic Angiogenesis Inhibitor. **S.P.B. Sardar Pasha, D. White, T.W. Corson.** Eugene and Marilyn Glick Eye Institute and Indiana University School of Medicine.

C103 **829.4** The Structure Based Combination Drug Design and RAGE for Diabetic Retinopathy. **S. Sriramoju, K. Goetz.** Ardsley High School and National Eye Institute, National Institutes of Health.

C104 **829.5** Fibroblast Growth Factor Binding Protein 3 a Novel Target for Glucose Intolerance and Nonalcoholic Fatty Liver Disease Treatment. **K. Garman, E. Tassi, M. Schmidt, A. Wellstein.** Georgetown University.

C105 **829.6** Angiotensin II Type 2 (AT2) Receptors: Novel Target in Asthma. **M. Kurade, M. Patel, S. Rajalingam, A. Siddiquee, D. Narke, D.S. Ponnoth.** Long Island University.

C106 **829.7** Compound 21 (C21), a Selective Angiotensin Type 2 (AT2) Receptor Agonist Attenuates Bleomycin Induced Alveolar Epithelial Cell Death. **A. Nalbandyan, A. Shenoy, U.M. Steckelings, M. Katovich, V. Shenoy.** California Health Sciences University, University of Southern Denmark, Denmark and University of Florida.

C107 **829.8** Discovery, Characterization, and Preclinical Development of a KIR4.1 (*KCNJ10*) Inhibitor for the Treatment of Hypertension. **S.V. Kharade, H. Kurata, E. Figueroa, A.L. Blobaum, M. Kramer, C. Lindsley, C.R. Hopkins, J.S. Denton.** Vanderbilt University Medical Center.

C108 **829.9** Identification of Small Molecule Ligands Targeting GPR83, a G-Protein Coupled Receptor Activated by the Abundant Neuropeptide PEN. **L.M. Lueptow, I. Gomes, A. Gupta, R. Sanchez, L. Devi.** Icahn School of Medicine at Mount Sinai.

C109 **829.10** Renal Responses Produced by the Central Microinjection of Salvinorin A and B in Conscious Rats. **C. Franklin, E. Anatrella, P. Bombaywala, S. Kaur, E. Lucas, R. Henderson, Y. Rangel, H. Gottlieb.** UIW and The University of Texas Health Science Center at San Antonio.

C110 **829.11** Lansoprazole Inhibits Adipocyte Differentiation via LXR-Independent Mechanism. **A. Benchamana, S. Soodvilai.** Mahidol University, Thailand.

830. MEDICINAL CHEMISTRY/DRUG DELIVERY

Poster

(*Sponsored by:* ASPET Division for Drug Discovery and Development)

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Drug Discovery and Development

Presentation time: 12:30 PM–2:30 PM

C111 **830.1** Predicting Resistance to Investigational Microbicide MIV-150 Using Structure-Based Methods and Fluorescence Enzyme Inhibition. **A.N. Muwonge, S.M. Azeem, K.M. Frey.** Long Island University.

C112 **830.2** Peg-Peptide Scavenger Receptor Inhibitors for Non-Viral Gene. **R. Allen, K. Rice, B. Mathew.** University of Iowa

C113 **830.3** The 4 Position of 5-HT_{2A} Structural Agonists Imparts the Anti-Inflammatory Propensity Responsible for Reducing Airway Hyperresponsiveness in Allergic Asthma. **T.W. Flanagan, A.N. Landry, M. Hibicke, C.D. Nichols.** Louisiana State University Health Sciences Center—New Orleans.

C114 **830.4** Exploring the Mechanisms by Which Small Molecule Nef Inhibitors Suppress HIV-1 Infectivity. **R.P. Staudt, L. Emert-Sedlak, T.E. Smithgall.** University of Pittsburgh.

C115 **830.5** Translocation of Engineered Nanomaterials from the Maternal Lungs to the Fetal Compartment After Instillation. **P. Stapleton, J. D'Errico, S. Fournier.** Rutgers University.

C116 **830.6** Role of Regulator of G-Protein Signaling 5 Protein in Modulating Emotional Behaviors in the Absence and Presence of Angiotensin II-Induced Hypertension. **T. Guisinger, H. Norman, S.L. Seeley, B.R. Rorabaugh, M.S. D'Souza, S. Chrissobolis.** Ohio Northern University.

C117 **830.7** Synthesis and Evaluation of Bioactive Estrogen Conjugated Naphthalimides. **K. Skubic, C.K. Arnatt.** Saint Louis University

C118 **830.8** Development of Inert, Injectable Sustained Release Formulation for Recombinant Human TIMP-2 in Peptide Hydrogels. **A. Chowdhury, Y. Yamada, J.P. Schneider, W.G. Stetler-Stevenson.** National Cancer Institute and National Institutes of Health.

C119 **830.9** Design, Synthesis, and Biological Evaluation of G Protein-Coupled Estrogen Receptor (GPR30/GPER) Ligands That Contribute to the First Structure-Activity-Relationship for the Receptor. **C. Sondergard, C. Arnatt.** Saint Louis University

C120 **830.10** Structure-Activity Relationships of a Distinct Family of Selective Agonists of α7-mAChRs. **G.A. Camacho-Hernandez, K. Kaczanowska, L. Doan, H. Bindig, C. Stokes, R.L. Papke, P. Taylor.** University of California, San Diego and University of Florida.

C121 **830.11** A Nanotechnology System for Augmenting the Intranasal Delivery of Oxytocin. **K.S. Murnane, A. Oppong-Damoah, R.U. Zaman, M. D'Souza.** Mercer University.

831. MITOCHONDRIAL PHARMACOLOGY AND TOXICOLOGY

Poster

(*Sponsored by:* ASPET Division for Toxicology)

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Molecular Pharmacology

Toxicology

Metabolism and Metabolic Disease

Cell Signaling, Signal Transduction

Presentation time: 12:30 pm–2:30 pm

C122 **831.1** The Polybrominated Flame Retardant BDE-47 Increases Steroidogenesis and Alters Mitochondrial Activity and Morphology in the HAC15 Human Adrenocortical Cell Line. **H. Sharthiya, C. Schupbach, P. Kopf, K. Dineley, L. Malaiyandi.** Midwestern University.

C123 **831.2** Taurine Reduces the Toxic Effects of Manganese on Mitochondrial Membrane Potential. **C. Florestan, K. Gazca, M.A. Carroll, E.J. Catapane.** Medgar Evers College.

C124 **831.3** Effects of Nicorandil on Electron Transport Chain Activity in Skeletal Muscle Mitochondria. **E. Sanchez, X. Trujillo-Trujillo, C. Cortes-Rojo, A. Saavedra-Molina, L.A. Sánchez-Briones, M. Huerta, R. Montoya-Pérez.** Universidad de Guanajuato Campus León, Mexico, Universidad de Colima, Mexico and Universidad Michoacana de San Nicolás de Hidalgo, Mexico.

C125 **831.4** MitoBK Channels as a Therapeutic Target in Renal Cold Storage and Transplantation. **S. Shrum, N. Parajuli, N. Rusch, L.A. Macmillan-Crow.** University of Arkansas for Medical Sciences.

C126 **831.5** Estrogen and Mitochondrial Function in Cerebral Arteries and Endothelium in Rats and Mice. **I. Rutkai, T.C. Dean, G.T. Curtin, A. Adivi, D.W. Busija.** Tulane University.

C127 **831.6** Role of Ferrochelatase in Mitochondrial Bioenergetics of Ocular Endothelial Cells. **T. Shetty, S.P.B. Sardar Pasha, T.W. Corson.** Indiana University School of Medicine.

C128 **831.7** Mitophagy Is Required for Proper Mitochondrial Network Remodeling During Cardiac Progenitor Cell Differentiation. **M. Lampert, A. Orogo, R. Najor, Á. Gustafsson.** University of California, San Diego.

C129 **831.8** Theoretical Considerations of Novel Nanocarbon Onion-Like Fullerene Material (NOLF) in Mitochondrial Quantum Processes, Mediation of Disruptive Perturbation, and Maintenance of Intracellular Quantum Electrodynamics. **D.J. Bourassa, O.L. Tulp, G.P. Einstein.** Einstein Medical Institute, University of Science and Arts and Technology Montserrat, Montserrat.

832. INFLAMMATION AND TISSUE INJURY

Poster

(*Sponsored by:* ASPET Division for Toxicology)

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Toxicology

Inflammation/Immunity

Cell and Tissue Injury

Cell Biology

Presentation time: 12:30 pm–2:30 pm

C130 **832.1** Activation of NLRP3 Inflammasomes in Non-Alcoholic Steatohepatitis: A Novel Molecular Target of FTZ Remedy for Metabolic Syndrome. **Y. Chen, X. He, X. Yuan, J. Hong, P. Li, J. Guo.** Virginia Commonwealth University and Guangdong Pharmaceutical University, People's Republic of China.

C131 **832.2** Effect of Omega-3 Fatty Acid Supplementation on Resolvin (RvE1)-Mediated Suppression of Inflammation in a Mouse Model of Asthma. **A. Siddiquee, M. Patel, S. Rajalingam, M. Kurade, D. Narke, D.S. Ponnoth.** Long Island University.

C132 **832.3** Role of Aldose Reductase in LPS-Inducible Intrahepatic Immune Infiltration and Inflammation. **M. Wang, S. Barve, C. McClain, S. Joshi-Barve.** University of Louisville.

C133 **832.4** Effects of FXR Deficiency in Acute Phase Response After Bacterial Infection. **S. Chung, L. Armstrong, B. Kong, G.L. Guo.** Fordham University and Rutgers University.

C134 **832.5** Longitudinal Assessment of TDP43 Mouse Brain with Non-Invasive MRI and MRS. **H. Liu, S. Su.** Biogen.

C135 **832.6** Th2-Driven Innate Immune Responses in Carbon Nanotube-Induced Lung Fibrosis. **Q. Ma, J. Dong.** National Institute for Occupational Safety and Health and Centers for Disease Control and Prevention.

C136 **832.7** Effect of Staphylococcal Enterotoxins Type A (SEA) and B (SEB) on the Neutrophil Dysfunction During *Staphylococcus aureus*-Induced Sepsis. **A.P.F. Duarte, A.S. Pinheiro-Torres, I.A. de Souza, E. Antunes.** Faculty of Medicine of Jundiai , Brazil and University of Campinas, Brazil.

C137 **832.8** Effects of Resveratrol on IL-1α and Nitric Oxide Levels in GTM-3 Cells. **K. Russell-Randall, S. Avotri, D. Eatman.** Morehouse School of Medicine.

C138 **832.9** Involvement of TLR4 and PPAR-α Receptors in Host Response and NLRP3 Inflammosome Activation, Against Pulmonary Infection with *Pseudomosas aeruginosa*. **E. Gugliandolo, R. Fusco, G. Ginestra, R. D'amico, C. Bisignano, G. Mandalari, S. Cuzzocrea, R. Di Paola.** University of Messina, Italy.

C139 **832.10** Formyl Peptide Receptor 1 Signalling Promotes Experimental Colitis in Mice. **R. Fusco, R. Di Paola, E. Gugliandolo, R. D'Amico, M. Perretti, S. Cuzzocrea.** University of Messina, Italy and Queen Mary University of London, United Kingdom.

C140 **832.11** The Anti-Inflammatory Effects of Adelmidrol + Sodium Hyaluronate (Vessilen®) in Preclinical and Clinical Studies. **S. Cuzzocrea, A. Peritore, D. Impellizzeri, M. Cordaro, R. Siracusa, R. Fusco, E. Gugliandolo, R. Crupi, R. Di Paola.** University of Messina, Italy.

C141 **832.12** BPC 157 Rescues No-System in Perforated Stomach and Caecum. **D. Drmic, T. Vidovic, J. Vlainic, M. Samara, S. Gojkovic, I. Krezic, J. Jeyakumar, Z. Bilic, S. Seiwerth, P. Sikiric.** School of Medicine, University of Zagreb, Croatia and Rudjer Boskovic Institute, Croatia.

C142 **832.13** BPC 157 Therapy Heals Tendon Muscle Junction in Rats. **M. Japjec, M. Staresinic, B. Sebecic, K. Horvat Pavlov, D. Drmic, T. Vidovic, J. Vlainic, S. Seiwerth, P. Sikiric.** School of Medicine, University of Zagreb, Croatia and Rudjer Boskovic Institute, Croatia.

C143 **832.14** The Effect of BPC 157 on Tracheocutaneous Fistula Healing in Rat. **G. Madzarac, V. Cesarec, Z. Djakovic, T. Becejac, D. Hirsl, D. Drmic, S. Seiwerth, D. Stancic-Rokotov, P. Sikiric.** School of Medicine and University of Zagreb, Croatia.

C144 **832.15** Stable Pentadecapeptide BPC 157 and Vesicovaginal Fistulas in Rats. **D. Rasic, M. Sever, A. Zenko Sever, K. Horvat Pavlov, M. Baric, D. Drmic, A. Boban Blagaic, S. Seiwerth, P. Sikiric.** School of Medicine and University of Zagreb, Croatia.

C145 **832.16** Caustic Lesions of Esophagus in Rats and Therapy with Stable Gastric Pentadecapeptide BPC 157 **M. Peklic, D. Drmic, K. Horvat Pavlov, A. Boban Blagaic, S. Seiwerth, P. Sikiric.** School of Medicine and University of Zagreb, Croatia.

C146 **832.17** D-Ribose Induced NLRP3 Inflammasome Activation in Podocytes by Increase in Advanced Glycation End-Products. **J. Hong, Q. Zhang, G. Li, J. Ritter, W. Li, X. Wang, P. Li.** Virginia Commonwealth University and Peking University First Hospital, People's Republic of China.

C147 **832.18** Sphingosine Kinase 2 Expression in CD11b$^+$ Macrophages Negatively Regulates cGAS-Sting Activity and Resolves Lung Injury. **J.C. Joshi, I. Rochford, S. Baweja, B. Joshi, M.Z. Akhter, M. Tauseef, K.R. Chava, V. Natarajan, D. Mehta.** University of Illinois at Chicago and Chicago State University.

833. DRUG METABOLISM: GENERAL

Poster

(*Sponsored by:* ASPET Division for Drug Metabolism)

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Drug Metabolism and Disposition

Chemical Biology

Presentation time: 12:30 pm–2:30 pm

C148 **833.1** Influence of Liver-Specific Ablation of GP78 E3-Ligase on Hepatic Cytochrome P450-Dependent Drug Metabolism: Clinical Implications. **D. Kwon, S-M. Kim, M.A. Correia.** University of California, San Francisco.

C149 **833.2** MALDI Mass Spectrometry Imaging Reveals Heterogenous Distribution of Tenofovir and Tenofovir-Diphosphate in Human Colorectal Tissue. **H.K. Seneviratne, C.W. Hendrix, N.N. Bumpus.** Johns Hopkins University School of Medicine.

C150 **833.3** Distribution, Metabolism and Elimination of BIA 10-2474 in the Rat. **A.I. Loureiro, C. Fernandes-Lopes, P. Moser, P. Soares-da-Silva.** BIAL, Portugal.

C151 **833.4** Investigation into the Effects of Testosterone on Drug Metabolizing Enzymes in Hepatic and Intestinal Human Cell Lines. **D.R. Brocks, A. Abdussalam, A.A. Elsherbiny, O.H. Elshenawy, M.G. Oefelein, G.V. Betageri, T.R. Thirucote.** University of Alberta, Canada and TesoRx Pharma, LLC.

C152 **833.5** Pharmacokinetics, Metabolism, and Biodistribution of a Liver-Targeted siRNA Therapeutic in Preclinical Species. **J.M. Lade, M. Thayer, D. Doherty, B. Basiri, F. Xie, B.M. Rock.** Amgen.

C153 **833.6** Specifics of Non-Specific Drug-Membrane Interactions Affecting Drug Action and Disposition: Membrane Permeability, Location and Orientation. **J.G.C., S. Natesan.** Washington State University.

C154 **833.7** Simulation of CYP3A4-Mediated Metabolic Interactions of 1α,25-Dihydroxyvitamin D_3 with Selected Kinase Inhibitors. **S. Deb, H. Hagemann.** Larkin University College of Pharmacy.

C155 **833.8** Midazolam Hydroxylation Assay as a Marker for Endogenous CYP3A4-Mediated Metabolism: Metabolic Interaction with Natural Health Supplements. **S. Deb, K. Clay, K. Zaleski, L. Alexander.** Larkin University College of Pharmacy.

C156 **833.9** CYP2J2 Inhibition: The Arcane Mechanism of Dronedarone-Induced Proarrhythmia. **E.C.Y.Y. Chan, A. Karkhanis, A. Mehta, W. Shim.** National University of Singapore, Singapore and National Heart Centre Singapore, Singapore.

C157 **833.10** Differential Inactivation Mechanism and Covalent Adduct Formation of ALDH1A1 and ALDH1A2 by Win18,446 **G. Zhong, A. Zelter, T.N. Davis, M.R. Hoopmann, R.L. Mortiz, M. MacCoss, W.L. Nelson, N. Isoherranen.** University of Washington.

C158 **833.11** A Mechanistic Study on the Inhibition of Nicotine Metabolism by *Trans*-Cinnamaldehyde. **M. Espiritu, S. Black, C. Johnston, J. Chan, J. Harrelson.** Pacific University.

C159 **833.12** Utilizing SULT4A1 Mutant Mouse Models to Characterize SULT4A1. **P.L. Garcia, M.I. Hossain, S.A. Andrabi, C.N. Falany.** University of Alabama at Birmingham.

C160 **833.13** Age Differences in the Stimulation of Murine Hepatic XBP-1 Splicing in Response to the Anti-HIV Drug Efavirenz. **A.N. Hamlin, C.J.S. Heck, N.N. Bumpus.** Johns Hopkins University School of Medicine.

C161 **833.14** Activation of X-Box Binding Protein 1 Splicing Contributes to Efavirenz-Mediated Hepatocyte Death. **C.J.S. Heck, A.N. Hamlin, N.N. Bumpus.** Johns Hopkins University.

834. DRUG METABOLISM: PHARMACOKINETICS AND MODELING

Poster

(*Sponsored by:* ASPET Division for Drug Metabolism)

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Drug Metabolism and Disposition

Translational and Clinical Pharmacology

Presentation time: 12:30 pm–2:30 pm

C162 **834.1** Pharmacokinetic Modeling of Acetylcholine-Induced Contraction of Mouse Trachea. **C.M. Kieffer, P.W. Abel.** Creighton University School of Medicine.

C163 **834.2** A Pharmacokinetic Study of Irinotecan (CPT-11) During Inflammation in Mice. **P.K. Chityala, L. Wu, G. Taneja, D. Chow, M. Hu, S. Gao, R. Ghose.** University of Houston.

C164 **834.3** Vinca Alkaloid Pharmacokinetics in the Context of a Physiologically-Based Murine Model. **K.P. Collins, J.D. Mannheimer, D.L. Gustafson.** Colorado State University.

C165 **834.4** Evaluation of Pharmacokinetic Compatibility of Xuebijing Injection with Antibiotics Co-Administered in Management of Sepsis. **C. Li.** Shanghai Institute of Materia Medica and Chinese Academy of Sciences, People's Republic of China.

C166 **834.5** Ocular Retention and Bioavailability Studies of Bromfenac Mucoadhesive Nanoparticles by Sustained Ophthalmic Delivery. **B.Bhavani, P. Swathi Kumar, E.K. Kilari.** Vignan Institute of Pharmaceutical Technology, India and AU College of Pharmaceutical Sciences, India.

C167 **834.6** Maternal-Fetal Toxicokinetics of the Shellfish Toxin Domoic Acid. **S. Shum, K.S. Grant, R. Petroff, B. Crouthamel, J. Jing, T.M. Burbacher, N. Isoherranen.** University of Washington.

C168 **834.7** Age- and Genotype-Dependent UGT2B7 and UGT2B17 Proteomics Data Explain the Inter-Individual Variability in Metabolism of Codeine and MK-7246. **R. Chapa, B. Prasad.** University of Washington.

C169 **834.8** Effect of Oral Testosterone on Steroid Metabolome and Discovery of a Potential Serum Biomarker of UGT2B17 Interindividual Variability. **A. Basit, J.K. Amory, B. Prasad.** University of Washington, School of Pharmacy and University of Washington.

C170 **834.9** Improved Prediction of Clinical Drug-Drug Interactions Using a Novel Numerical Method for Evaluation of Time-Dependent Inhibition of Cytochrome P450. **J. Yadav, K. Korzekwa, S. Nagar.** Temple University.

835. COMBINATION THERAPY FOR CANCER

Poster

(*Sponsored by:* ASPET Division for Cancer Pharmacology)

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Cancer and Therapy

Drug Discovery and Development

Translational and Clinical Pharmacology

Neoplasia

Presentation time: 12:30 PM–2:30 PM

C171 **835.1** Synergistic Effect of Combined Inhibition of the Checkpoint Kinase 1 and G9a Methyltransferase Pathways in Pancreatic Cancer. **G. Urrutia, A. Salmonson, G. Lomberk.** Medical College of Wisconsin.

C172 **835.2** Quantifying Multi-Dimensional Drug Synergy Along Axes of Potency and Efficacy in Anti-Cancer Combinations. **C.T. Meyer, D.J. Wooten, J.A. Bauer, L.A. Harris, D.R. Tyson, V. Quaranta.** Vanderbilt.

C173 **835.3** Searching for a New Cancer Drug: Kentucky Hemp-Induced Modulation of Ovarian Cancer Cell Proliferation and Total Cell Death. **A. Duff, A. Wang, S. Biela, W. Sumanasekera.** Sullivan University College of Pharmacy.

C174 **835.4** Characterization and Evaluation of Sunitinib and Janus Kinase Inhibitors in a Renal Cell Carcinoma Cell Line, Caki-2 **K.M. Budd, K. Hege, B. LePage, Z. Walker, G. Wilson, J. Hafron, A. Banes-Berceli.** Oakland University and Beaumont BioBank.

C175 **835.5** TAK1 Inhibitor 5Z-7-Oxozeaenol Sensitizes Glioblastoma to Chemotherapy. **G. Casili, M. Campolo, M. Lanza, A. Filippone, S. Cuzzocrea, E. Esposito.** University of Messina, Italy.

C176 **835.6** Raloxifene Compromises Mitochondria, Induces ROS Stress and the Unfolded Protein Response, and Synergizes Gemcitabine's Cytotoxicity in Pancreatic Cancer Cells. **H. True, J. Trinh, Q. Love, A. Badejo, D. Rao, A. Malhotra.** School of Pharmacy, Pacific University and College of Arts and Sciences, Pacific University.

C177 **835.7** Combination of RAGE Inhibitors and Gemcitabine to Mitigate Chemo-Resistance in Pancreatic Cancer. **P. Swami, T. Caffrey, P. Radhakrishnan, S. Shin, P. Patil, A. Crawford, K. O'Connell, J. Grunkemeyer, M. Hollingsworth, E. Leclerc.** North Dakota State University and University of Nebraska Medical Center.

C178 **835.8** Anticancer and Chemosensitizing Effects of WEE-1 Kinase Inhibitor MK-1775 in Triple Negative (MB-231) Breast Cancer Cells. **N.M. Nieves Aviles, N. Mayo, A.O. Diaz-Quiñones, I.K. Salgado, W.I. Silva, H.M. Maldonado.** Universidad Central del Caribe, Puerto Rico and UPR Medical Sciences Campus, Puerto Rico.

C179 **835.9** Differential Response of MET Inhibition by Glesatinib (MGCD265) and Sitravatinib (MGCD516) in Non-Small Cell Lung Cancer and Malignant Mesothelioma. **T. Mirzapoiazova, C. Tan, J. Wang, I. Mambetsariev, B. Mambetsariev, P. Kulkarni, A. Pozhitkov, Y. Wang, J. Christensen, L. Engstrom, R. Salgia.** City of Hope National Medical Center, The University of Chicago and Mirati Therapeutics Inc.

C180 **835.10** Targeting Androgen Receptor and Trail: A Novel Treatment Paradigm for Breast Cancer. **Y. Xie, L. Chen, P.W. Abel, T. Wei, X. Luo, Y. Tu.** Creighton University, Institute of Biophysics, Chinese Academy of Sciences, People's Republic of China and University of Nebraska Medical Center.

C181 **835.11** Characterization and Targeting Cancer Stem-Like Cells in Triple Negative Breast Cancer. **F. Hossain, C. Sorrentino, A. Bilyeu, M. Matossian, J. Crabtree, A. Pannuti, M. Burow, K. Xu, T. Golde, B. Osborne, L. Miele.** Louisiana State University Health Sciences Center, Tulane University, University of Maryland Medical Center, University of Florida and University of Massachusetts Medical School Amherst.

836. NOVEL CANCER DRUGS

Poster

(*Sponsored by:* ASPET Division for Cancer Pharmacology)

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Cancer and Therapy

Drug Discovery and Development

Breast Cancer

Neoplasia

Presentation time: 12:30 PM–2:30 PM

C182 **836.1** Pharmacological Evaluation of Novel Chloroquine Analogues in Breast Cancer Cells. **P. Cao, D. Patel, D. Ventura, Y. Heakal.** D'Youville School of Pharmacy and D'Youville College.

C183 **836.2** A Potent and Selective Allosteric PTP4A3 Phosphatase Inhibitor Enhances Microvascular Barrier Function and Inhibits Human Tumor Cell Growth. **J.S. Lazo, K.E. McQueeney, J.M. Salamoun, N. Barabutis, J.D. Catravas, P. Wipf.** University of Virginia, University of Pittsburgh and Old Dominion University.

C184 **836.3** Identification of Novel Small Molecule Kinase Antagonists of the Prolactin Receptor in Breast Cancer. **C. Bakshi.** University of Cincinnati College of Medicine.

C185 **836.4** Screening of a New Class of Janus Kinase 3 Inhibitors Targeted at Its Non-Kinase Domain. **J. Mishra, J.K. Das, N. Kumar.** Texas A&M University.

C186 **836.5** Structure-Activity Relationship of Novel Compounds Based on Tamoxifen with Proposed Sigma-2 Receptor Activity. **C.R.T. Stang, L.R. Inbody, C.B. Orahood, M.J. Dick, A.M. Eichel, A.H. Mohamed, A.D. Faler, A.E. Zaibek, D.H. Kinder, R.A. Schneider.** University of Findlay College of Pharmacy and Ohio Northern University College of Pharmacy.

C187 **836.6** Development of Inhibitors for Activated Cdc42-Associated Kinase (ACK) to Reverse V-Ras-Induced Cancerous Phenotype of Mammalian Cells. **J. Shepherd, A. Nur-E-Kamal, I. Ahmed.** Medgar Evers College and City University of New York.

C188 **836.7** New Rock Inhibitors Action Analysis in the Cytoskeleton and Cell Migration of Tumour Cell Line MDA-MB 231 **F.S. Guerra, R.G. de Oliveira, C.A.M. Fraga, C.d.S. Mermelstein, P.D. Fernandes.** Universidade Federal do Rio de Janeiro, Brazil.

C189 **836.8** SHetA2 and Its Analogs Induce Growth Inhibition in Human Glioblastoma Cells. **A. Chan, S. Liu, V. Rajagopalan.** Touro University-California.

C190 **836.9** A Putative PPAR Beta/Delta Agonist Induces Cell Death in Human Cancer Cell Lines. **D.K. Strom, D. Li, H. Brinkman, S. Gleason, S. Hershberger, M. Cumbay, M. LaFontaine, T. Boncher, E. Hegwood.** Marian University, Ferris St. and St. Vincent's Hospital.

C191 **836.10** Structure-Activity Analysis of Bisphenol-Z Derivatives for Anticancer Activity. **C.R.T. Stang, L.R. Inbody, L.M. Stitzlein, M.J. Dick, A.M. Eichel, C.B. Orahood, A.H. Mohamed, R.W. Dudley, R.A. Schneider.** University of Findlay College of Pharmacy.

C192 **836.11** Evaluation of SHetA2 Analogs as Anti-Cancer Agents on Human Prostate Cancer Cells. **V. Ly, P. Kane, S. Huang, A. Chan, S. Liu, V. Rajagopalan.** Touro University-California.

C193 **836.12** Preparation and Cytotoxicity Evaluation of Acetylated Fijianolides (a.k.a. Laulimalide). **C.V. Cook, T.A. Johnson, D. Coppage, N.L. McIntosh, M.A. Ogarrio, K. Tenney, F.A. Valeriote, P. Crews.** Dominican University of California , University of California, Santa Cruz and Henry Ford Hospital.

C194 **836.13** Evaluation of the Anticancer Activity of a Newly Synthetic Combretastatine Analogue Against Hepatocellular Carcinoma. **M.A. El-Moselhy, E.M. Aboubakr, O.M. Aly, A. Taye.** Ibn Sina National College for Medical Studies, Saudi Arabia, Faculty of Pharmacy, South Valley University, Egypt and Faculty of Pharmacy, Minia University, Egypt.

C195 **836.14** K145, a Sphingosine Kinase 2 Inhibitor, Inhibits Solitary Plasmacytoma Cell Growth. **J. Li, X. Li, D. Zhao, X. Wang, R. Liu.** Glen Allen High School and Virginia Commonwealth University.

C196 **836.15** Activity of Single and Double-Modified Salinomycin Analogs Against Primary Acute Lymphoblastic Cells *in Vitro*. **A.J. Urbaniak, M.R. Delgado, M. Antoszczak, B. Borgström, D. Strand, A. Huczyński, T.C. Chambers.** University of Arkansas for Medical Sciences, Adam Mickiewicz University , Poland and Lund University, Sweden.

C197 **836.16** A Novel Inhibitor That Targets Both p53-Dependent Apoptotic and Autophagy Pathways as a Pancreatic Cancer Therapeutic. **J. Cheng, D-H. Lee, K.J. Okolotowicz, A.M. Lowy, J.R. Cashman.** Human BioMolecular Research Institute, University of California, San Diego.

C198 **836.17** Anti-Neoplastic Effects of Metformin Against Renal Clear Cell Carcinoma. **S. Munusamy, M. Pasha, A. Agouni.** Drake University College of Pharmacy and Health Sciences and Qatar University College of Pharmacy, Qatar.

C199 **836.18** Mithramycin Analogues with Reduced Toxicity for the Treatment of Ets Transcription Factor Driven Tumors. **M. Leggas, J.M. Eckenrode, R. Hayden, J.S. Thorson, P. Mitra, J. Rohr.** University of Kentucky.

C200 **836.19** Alkylated Pyridyl Amphiphiles Display a Pro-Apoptotic Profile in Cancerous Cell Lines Dependent on Hydrophobic Chain Length. **M.A. Carrillo-Alvarado, E.A. Hernandez, A.A. Pardo, A.A. Varela-Ramirez, J.A. Noveron.** The University of Texas at El Paso.

837. ENDOTHELIAL CELLS

Poster

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology)

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C201 **837.1** PAR1 and p38 MAPK Regulation of Endothelial Pro-Inflammatory Responses. **C. Rada, N. Grimsey, I. Canto, H. Mejia-pena, J. Trejo.** University of California, San Diego.

C202 **837.2** Endothelial Dysfunction as a Result of Hypercaloric Intake: Underlying Mechanism in Absence of Hyperglycemia. **R. Alaaeddine, M. El-Khateeb, E.I. Saad, H.H. Fouad, M. El-Sabban, F. Plane, A.F. El-Yazbi.** American University of Beirut, Lebanon, University of Alexandria, Egypt and University of Alberta, Canada.

C203 **837.3** Endothelial SIRT1 Prevents Age-Induced Impairment of Vasodilator Responses by Enhancing the Expression and Activity of Soluble Guanylyl Cyclase. **Y. Wang, Y. Guo, C. Xu, A.W.C. Man, P.M. Vanhoutte.** The University of Hong Kong, Hong Kong.

C204 **837.4** Effects of Resveratrol on Contractions of the Rat Tail Artery: Role of the Endothelium. **J.D. Peuler, I.R. VanAntwerp, L.E. Phelps.** Midwestern University.

C205 **837.5** Curcumin Attenuates Expression of Adhesion Molecules by IL-1 β in Huvecs. **W-C. Chang, Y-M. Yu, A-C. Cheng.** Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Taiwan, National Taichung University of Science and Technology, Taiwan and Chang Jung Christian University, Taiwan.

C206 **837.6** Inhibition of STAT3 Phosphorylation by Curcumin Partly Reduces Adhesion Molecule Expression in Vascular Endothelial Cell. **H.Y. Ahn, Y.S. Cho, S. Sankaralingam.** Chungbuk National University, Republic of Korea and Qatar University, Qatar.

C207 **837.7** AK Maintenance of Endothelial Mechanotransduction Controls Epigenetic Repression of KLF2 and S1PR1 Transcription. **M.Z. Akhter, P. Yazbeck, N.N. Srivastava, M. Tauseef, T. Tennes-Schmidt, S.B. Lenzini, J-W. Shin, D. Mehta.** University of Illinois at Chicago.

C208 **837.8** Inhibition of Acid Sphingomyelinase-Mediated Autophagic Flux Contributes to Amitriptyline-Induced Perturbation of Tube Formation in Murine Endothelial Cells. **Y. Guan, X. Li, S. Koka, Y. Zhang.** University of Houston.

C209 **837.9** The Effects of a Metformin—Methylglyoxal Metabolite on Endothelial Cell Function. **H.T. Nguyen, T. Hargraves, S. Lau, T. Monks.** Wayne State University and University of Arizona.

C210 **837.10** Endothelial TRPV4 Channel Function Is Impaired in Pulmonary Arterial Hypertension. **C. Marziano, K. Hong, E.L. Cope, S.K. Sonkusare.** University of Virginia.

C211 **837.11** The Inhibitive Effect of Salidroside on Apoptosis of EA.hy926 Cells Induced by H_2O_2 Under Simulated Microgravity. **M. Yuan, M. Jia, J. Wang, M. Yuan.** China Astronaut Research and Training Center, People's Republic of China, Guang'anmen Hospital and China Academy of China Medical Sciences, People's Republic of China.

838. DIABETES AND CARDIOVASCULAR DISEASE

Poster

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology)

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C212 **838.1** A Novel Small-Molecule Inhibitor of the Wnt/β-Catenin Pathway Show Efficacy in Treating Diet Induced Alteration of Glucose and Lipid Metabolism. **O. Obianom, W. Yang, Y. Li, Y. Ai, F. Xue, Y. Shu.** University of Maryland.

C213 **838.2** Pharmacologic Inhibition of FoxO1 Improves Cardiac Function by Enhancing Glucose Metabolism and Attenuating Apoptosis in Type-1 Diabetic Rats. **D. Yan, Y. Cai, J. Luo, J. Liu, M.G. Irwin, Z. Xia.** The University of Hong Kong, Hong Kong and The Second Affiliated Hospital of Guangzhou Medical University, People's Republic of China.

C214 **838.3** Chloroquine Blunts Diabetes Mellitus in Streptozocin-Induced Toxicity in Rats Through Upregulation of Peroxisome Proliferating Activating Receptor-Gamma. **A.A. Adedapo, T.M. Ajileye, A.A. Oyagbemi, T.O. Omobowale, A.T. Adeoye, B.O. Adeoye, J.M. Afolabi, B.S. Ogunpolu, O.O. Falayi.** University of Ibadan, Nigeria.

C215 **838.4** Effect of Infliximab and Tocilizumab on Fructose Induced Hypertension and Insulin Resistance in Rats. **B.H. Ali, Y.M. Suleimani, A.M. Abdelrahman.** Sultan Qaboos University, Oman.

C216 **838.5** Ablation of MMP9 Prevents Cardiac Pyroptosis of $Ins2^{+/-}$ T1DM Mice Heart. **S.K. Yadav, P.K. Mishra.** University of Nebraska Medical Center.

C217 **838.6** Reversal of Diabetic Stem/Progenitor Cell Mobilopathy by a Nonapeptide Antagonist of Leptin Receptor. **S. Joshi, G. Vasam, L. Otvos, Y. Jarajapu.** North Dakota State University and OLPE LLC.

C218 **838.7** Effect of Berberine on Insulin, GLP-1R and Dpp4 Gene Expression Levels in Streptozotocin Induced Diabetic Rats. **E.K. Kilari, P. Swathi.** A.U. College of Pharmaceutical Sciences, India.

C219 **838.8** HDAC7 Is Downregulated in Bladder Tissue from Type 1 Diabetic Mice: A Potential Therapeutic Target for Diabetes-Related Bladder Complications. **A.S. Hazari, M.A. Carrillo-Sepulveda.** New York Institute of Technology College of Osteopathic Medicine.

C220 **838.9** Biphasic Electrical Stimulation Promotes Insulin Release. **D. Siegel, D. Thompson, M. Mower, D. Ross.** Skaggs School of Pharmacy and University of Colorado Anschutz Medical Campus.

C221 **838.1** Sirtuin 3 Attenuates Diabetic Cardiomyopathy via Suppression of p53 Acetylation and Regulating Cardiomyocyte Metabolism. **J-X. Chen, H. Zeng, L. Li.** University of Mississippi Medical Center.

C222 **838.11** Disrupted Adiponectin-Connexin43 Signaling Underlies the Exacerbated Myocardial Dysfunction in Diabetic Female Rats. **K.E. Leffler, A. Abdel-Rahman.** East Carolina University and Brody School of Medicine.

C223 **838.12** Cardiac-Specific Overexpression of miR-133a Decreases Pyroptosis in $Ins2^{+/-}$ T1DM Mice Heart. **T.N. Kambis.** University of Nebraska Medical Center.

839. CARDIAC PHARMACOLOGY

Poster

(*Sponsored by:* ASPET Division for Cardiovascular Pharmacology)

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C224 **839.1** Gender Differences on the Effects of Ibuprofen on Proteasome Function in Mice Heart. **S. Tiwari, A.V. Gomes.** University of California, Davis

C225 **839.2** CCR5 Antagonism as a Potential Therapeutic Approach for Cardiac Fibrosis. **W. Liang, M.W. Gorr, P.A. Insel.** University of California, San Diego.

C226 **839.3** Protective RhoA Signaling Regulates DRP1 and Mitochondrial Fission in Cardiomyocytes. **C.S. Brand, V.P. Tan, J. Heller Brown, S. Miyamoto.** University of California, San Diego.

C227 **839.4** Reprogramming Human Cardiac Progenitor Cells into Pacemaker Cells for Heart Repair. **S. Raghunathan, D. Iyer, V. Potaman, R.J. Schwartz, B.K. McConnell.** University of Houston College of Pharmacy, University of Houston and Texas Heart Institute.

C228 **839.5** Identification of Human Antigen R (HuR) as a Central Mediator of Cardiac Fibrosis. **L.C. Green, S.R. Anthony, L. Lanzillotta, S. Jones, M. Nieman, J. Lorenz, X. Wu, L. Xu, M. Tranter.** University of Cincinnati and Kansas University.

C229 **839.6** Actions of Nitric Oxide Synthase Inhibitors on Mitochondrial Respiration in Isolated Rat Heart Mitochondria. **M.H. Dholakia, S.S.V.P. Sakamuri, V.N. Sure, J.A. Sperling, R. Satou, P.V.G. Katakam.** Tulane University School of Medicine.

C230 **839.7** RBFOX1 Regulates Proteasomal Activity and K48-Linked Ubiquitination. **S. Umar, J. vanBerlo.** University of Minnesota.

C231 **839.8** The Addition of GFP to Exosomes Influences Cardioprotective Potential Through an RNA Binding Mechanism. **L. Haar, T. Lynch, A. Guo, Y. Wang, G. Kuffel, W.K. Jones.** Loyola University Chicago.

C232 **839.9** Impact of Chronic Angiotensin Treatment on the Responses of Isolated Cardiac Fibroblasts to Acute Pro-Fibrotic Stimuli. **A.M. Garvin, O. Perez, B.A. McCormick, T.M. Hale.** University of Arizona College of Medicine.

C233 **839.10** The Novel Mechanism of Bitter Taste Receptors Attenuating Rat Ventricular Contractility. **W. Xin, T. Wang, Y. Jing, V.S.L. Fernandes.** Southwest University, People's Republic of China and University Hospital Foundation Alcorcón, Spain.

C234 **839.11** A Novel *PRKAG2* Mutation (K475E): Early-Onset Cardiac Phenotype and Targeted Therapy. **Y. Xu, H. Liu, C. Phornphutkul, G. Hardie, S.C. Dudley, J.F. Padbury, Y-T. Tseng.** Women & Infants Hospital of Rhode Island, Department of Medicine, University of Minnesota, Rhode Island Hospital, School of Life Sciences and University of Dundee, United Kingdom.

C235 **839.12** Carvedilol Uniquely Stimulates βarrestin2-Dependent SERCA2a Activity via the β_1-Adrenergic Receptor to Exert Positive Inotropy in Cardiac Myocytes. **B.M. Parker, K.A. McCrink, A. Brill, J. Maning, V.L. Desimine, Y. Duarte, S.L. Wertz, A. Lymperopoulos.** Nova Southeastern University.

C236 **839.13** Protein Expression Differences in Hypertrophic Cardiomyopathy Transgenic Mice. **M.R. Shah.** The Johns Hopkins Medical Institutions.

C237 **839.14** Multi-Omic Approach to Identifying Altered Metabolic and Signaling Pathways in the Mouse Heart with Chronic Exposure to Atypical Antipsychotic Medications. **M. Beauchemin, K. Nevola, A.R. Guntur, D. Barlow, P.T. Le, C. Vary, K.J. Motyl, C. Duarte, K.L. Houseknecht.** University of New England, Tufts University and Maine Medical Center Research Institute.

840. EARLY PRE-CLINICAL PHARMACOLOGY

Poster

(*Sponsored by:* ASPET Division for Translational and Clinical Pharmacology)

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Translational and Clinical Pharmacology

Vascular Biology

Presentation time: 12:30 PM–2:30 PM

C238 **840.1** Cramp Deletion Exacerbates Alcohol-Induced Organ Damage via Regulation of Gut Microbiota and Inflammasome Activation. **F. Li, C. McClain, W. Feng.** University of Louisville.

C239 **840.2** Ursodesoxycholic Acid Display a Role of Experimental Anti-Hepatic Fibrosis by Inhibiting the Expression of BNIP3L Protein. **L-H. Teng, Q-L. Liu, J-W. Zhang, Z-F. Liu, L. Chen, G. Zhang.** The People's Hospital of Guangxi Zhuang Autonomous Region, People's Republic of China.

C240 **840.3** The Effects of Pre-Natal Nicotine Exposure on Anxiety-Like Behavior and Ethanol Place Preference in Adolescent Zebrafish. **R.A. Harenchar, R.A. Bell, S.M. Anderson.** Saint Vincent College.

C241 **840.4** Alkaloid Fraction of *Alstonia boonei* Stem Bark Demonstrate Antiobesity Potential on High Fat Diet Induced Obesity in Male Sprague-Dawley Rats. **G.O. Anyanwu, C.E. Onyeneke, J. Iqbal, M.U.D. Qamar, S.U. Khan, S.U. Rehman, K. Rauf, N.U. Rehman.** Bingham University, Nigeria, University of Benin, Nigeria, COMSATS Institute of Information Technology, Pakistan, Monash University, Malaysia and University of Agriculture, Pakistan.

C242 **840.5** Tiger Nut Extracts Inhibit Cell Migration, RhoA, and RhoC GTPases, but Induce Rac1/2/3 in MCF7 and MDA-MB231 Cancer-Origin Cell Lines. **S.E. Achoribo, M.T. Ong.** University of Science Malaysia, Malaysia.

C243 **840.6** Role of α9 Nicotinic Acetylcholine Receptor in Murine Dextran Sodium Sulfate-Induced Colitis Model. **S. AlSharari, W. Toma, M. McIntosh, D. Imad.** King Saud University and Virginia Commonwealth University, Virginia Commonwealth University and University of Utah.

C244 **840.7** Restoration of Delayed Gastric Emptying and Impaired Gastric Compliance by Anethole in an Animal Model of Functional Dyspepsia. **T. Asano, M. Takenaga.** St. Marianna University, Japan.

C245 **840.8** Therapeutic Exosome Preparations: Relative Bioactivities of Intra- and Extra-Vesicular Components. **K. Luther, J. Liu, E. Marban.** Cedars-Sinai Medical Center.

C246 **840.9** Omega-3 Polyunsaturated Fatty Acids Protect Monocytes Adhesion to Endothelial Cells Induced by MAC-1 Expression Through FFA4 in Monocytes. **S-J. Lee, D-S. Im.** College of Pharmacy and Pusan National University, Republic of Korea.

C247 **840.10** Estrogen Receptor Signaling and Intracellular Calcium Regulation in Human Airway Smooth Muscle. **B. Sangeeta, J. Connell, M.A. Thompson, C.M. Pabelick, P. YS, S. Venkatachalem.** North Dakota State University and Mayo Clinic.

C248 **840.11** Downregulation of Guanylate Cyclase Enzyme in Human Asthma Model to Investigate NO-sGC-cGMP as a Therapeutic Pathway in Asthma. **S. London, C. Koziol-White, C. Guo, R. Panettieri, A. Gow.** University of Pennsylvania , Rutgers Institute for Translational Medicine & Science, Rutgers University and Rutgers University.

C249 **840.12** Enoxaparins Derived from Ovine (Sheep) Tissues Are Biosimilar to Branded Enoxaparin of Porcine (Pig) Origin. **A. Kouta, D. Hoppensteadt, S. Abro, D. Clarizio, W. Jeske, Y. Yao, J. Fareed.** Loyola University Medical Center, Ronnsi Pharma Co. and Ltd., People's Republic of China.

841. NATURAL PRODUCTS III

Poster)

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C250 **841.1** Diuretic Effect of *Cassia occidentalis* Leaf and Seed Extracts in Sprague Dawley Rats. **T.A. Blair, E. Thomas, L. Lindo, D. McGrowder, P. Singh.** University of the West Indies at Mona, Jamaica.

C251 **841.2** *Cymbopogon proximus* Essential Oil Protects Against Isoproterenol Induced-Cardiac Hypertrophy in Rats. **H. Althurwi, M. Abdel-kader, K. Alharthy, M. Al-salkini, F. Albaqami.** Prince Sattam bin Abdulaziz University, Saudi Arabia.

C252 **841.3** Ellagic Acid Ameliorates Insulin Sensitivity and Hepatic Oxidative Stress in Diabetic Female Rats: A Potential Anti-Oxidant Agent for Type II Diabetic Complications. **C.M. Burke, L.M. França, B. Kramer, M.A. Carrillo-Sepulveda.** New York Institute of Technology College of Osteopathic Medicine and Universidade Federal do Maranhão, Brazil.

C253 **841.4** Muscadine Grape Extract Improves Arterial Stiffness in Hypertensive (mREN2)27 Female Rats. **F. Ryalat, L.M. Yamaleyeva, N. Cruz-Diaz, J. Varagic, P.E. Gallagher, E.A. Tallant, D.I. Diz.** Wake Forest University School of Medicine.

C254 **841.5** The Cardioprotective Potential of Caffeic Acid Phenethyl Ester (CAPE) on H_2O_2-Induced H9C2 Cell Damage Compared to Common Anti-Oxidants. **D.S. Lefkowitz, R. Sandhu, A. Kim, P. Wieczorek, A. Castellano, R. Barsotti, L. Young, Q. Chen.** Philadelphia College of Osteopathic Medicine.

C255 **841.6** Effects of Methanol Extracts from Roots, Leaves, and Fruits of the Lebanese Strawberry Tree (*Arbutus andrachne*) on Cardiac Function Together with Their Antioxidant Activity. **E. Abidi, J. Habib, N. Chahine, T. Mahjoub, A. Elkak.** American University of Beirut, Lebanon, Lebanese University, Lebanon and Faculty of Pharmacy of Monastir, Tunisia.

C256 **841.7** Possible Protective Efficacy of Ethanol Extract of Garcinia Kola Seed on Candidiasis Complication in Diabetes Mellitus. **T.E. Adeyeoluwa, B.I. Okeleye, L. McGaw, A.O. Ashafa.** University of Ibadan, Nigeria, University of Free State, South Africa and University of Pretoria, South Africa.

C257 **841.8** Antihyperglycemic Activity of *Asparagus gonoclados* Root Tubers in Streptozotocin-Induced Diabetic Rats. **A. Chippada, P. Kotha, R. Allagadda, K.R. Badri.** Sri Venkateswara University, India and Morehouse School of Medicine.

C258 **841.9** Anti-Inflammatory Effect of a New Formulation: Palmitoylethanolamide/Baicalein in a Murine Model of Myocardial Ischaemia/Reperfusion Injury. **S. Cuzzocrea, R. D'Amico, R. Fusco, E. Gugliandolo, R. Crupi, D. Impellizzeri, R. Di Paola.** University of Messina, Italy.

C259 **841.10** Attenuation of Diabetic Retinopathy by *Momordica cochinchinensis* Through Inhibition of AGEs and PCO in Streptozotocin Diabetic Rats. **S. Putta, E.K. Kilari.** A.U. College of Pharmaceutical Sciences, India.

842. PHARMACOLOGY—OTHER (GENERAL)

Poster

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 12:30 PM–2:30 PM

C260 **842.1** Low-Density Lipoprotein Receptor-Related Protein 1 (LRP1) Is Degraded Primarily by the Lysosomal Degradation System in Hepatocellular Carcinoma (HepG2) Cells. **K. Tenglin, B. Aranibar Aragòn, S. Huaynasi Aguirre, A.N. Rondon-Ortiz, A. Pino-Figueroa.** Massachusetts College of Pharmacy and Health Sciences and Catholic University of Santa María, Peru.

C261 **842.2** Changes in Some Liver Enzymes Activities of Albino Rats After Prolonged Intake of Antihypertensives; B-Blockers and Moduretics. **F.C. Anacletus, B.M. Onyegeme-Okerenta, A.P. Onwuka.** University of Port Harcourt, Nigeria and University of Port Harcourt Teaching Hospital, Nigeria.

C262 **842.3** Maternal and Embryo-Fetal Historical Background Control Data in the Hsd:Sprague Dawley®SD® Rat. **M. Horn, D. Williams, R. Parker.** Envigo.

C263 **842.4** Pregnancy Rate of Bunaji Cows in a Fixed Time AI Synchronization Protocol Using Ovatide. **S.A. Ubah, I.P. Rekwot, B.A. Adewuyi, O.B. Omontese, A.A. Adewale.** University of Abuja, Nigeria, National Animal Production Research Institute, Nigeria and Usman Danfodiyo University, Sokoto, Nigeria.

C264 **842.5** AMPK Phosphorylation of FXR at Threonine Controls Hepatic Glucose Production. **C.Y. Han.** School of Medicine and Wonkwang University, Republic of Korea.

C265 **842.6** ZFP36L1 Is a Post-Transcriptional Regulator of Lipid Metabolism. **E.J. Tarling, B.L. Clifford, J. Cheng, P. Morand, A. Cheng, E. Lester, T. Sallam, M. Turner, T.Q. de Aguiar Vallim.** University of California, Los Angeles and The Babraham Institute, United Kingdom.

C266 **842.7** Effects of Taurine on Manganese Accumulations in Gill of the Eastern Oyster, *Crassostrea virginica.* **E. Agyei, R. Santos, E. Griffith, E.J. Catapane, M.A. Carroll.** Medgar Evers College and Notre Dame High School.

C267 **842.8** A Novel Potent and Selective Inhibitor of Glycogen Synthase Kinase-3 (GSK-3) M**.S. Noori, M.C. Courreges, S.C. Bergmeier, K.D. McCall, D.J. Goetz.** Ohio University.

C268 **842.9** Small Molecule Inhibition of IFN-γ-Induced Major Histocompatibility Complex Class II Expression by Thyroid Cells. **A.E. Allen, M.S. Noori, K.D. McCall, S.C. Bergmeier, D.J. Goetz.** Ohio University.

C269 **842.10** Pharmacological Cathepsin C Inactivation Eliminates Proteinase 3, the Antigen in Autoimmune Vasculitis. **S. Seren, S. Dallet-Choisy, S. Marchand-Adam, B. Korkmaz.** Institut National de la Santé et de la Recherche Médicale (INSERM) U1100, France

Physiology

843. NOVEL DISCOVERIES IN VASCULAR PHYSIOLOGY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A1 **843.1** Low, Physiologically-Relevant, Concentrations of Hydrogen Peroxide Inhibit IP_3 Receptor Activity in Endothelial Cells in Intact Blood Vessels. **X. Zhang, C. Wilson, M. Lee, J. Girkin, C. Saunter, J.G. McCarron.** University of Strathclyde, United Kingdom and University of Durham, United Kingdom.

A2 **843.2** Parallel Processing of Multiple Stimuli in the Vascular Endothelium. **M.D. Lee, C. Wilson, C.D. Saunter, J.M. Girkin, J.G. McCarron.** University of Strathclyde, United Kingdom and Durham University, United Kingdom.

A3 **843.3** TRPV4 Activation Evokes Coordinated, Multicellular Signalling via Ip_3-Evoked Ca^{2+} Signalling in the Endothelium of Intact Blood Vessels. **H.R. Heathcote, M.D. Lee, C. Wilson, C.D. Saunter, J.M. Girkin, J.G. McCarron.** University of Strathclyde, United Kingdom and University of Durham, United Kingdom.

A4 **843.4** In Hypertension, Global Endothelial Calcium Underlies a Protective Mechanism That Limits Arterial Vasoconstriction. **C. Wilson, M.D. Lee, C.D. Saunter, J.M. Girkin, J.G. McCarron.** University of Strathclyde, United Kingdom and University of Durham, United Kingdom.

A5 **843.5** Complex Interactions of Excitatory and Inhibitory Stimuli in the Vascular Endothelium. **M. Ratnayake, C. Wilson, M.D. Lee, J.M. Girkin, C.M. Saunter, J.G. McCarron.** University of Strathclyde, United Kingdom and Durham University, United Kingdom.

A6 **843.6** Junctophilin-2 Supports Functional Coupling Between Type 2 Ryanodine Receptors and BK Channels in Vascular Smooth Muscle Cells. **E. Yamasaki, H.A.T. Pritchard, P.W. Pires, S. Earley.** The University of Nevada and Reno School of Medicine.

A7 **843.7** Cerebral Capillary TRPA1 Channels Mediate Functional Hyperemia *via* Retrograde Conducted Vasodilation. **P.W. Pires, H.A.T. Pritchard, S. Earley.** University of Nevada and Reno School of Medicine.

A8 **843.8** Targeting Mitochondrial Deacetylase SIRT3 in Endothelial Dysfunction and Hypertension. **A.E. Dikalova, A.K. Pandey, H.A. Itani, T. Sidorova, E. Verdin, J. Auwerx, D.G. Harrison, S.I. Dikalov.** Vanderbilt University Medical Center, Gladstone Institutes, University of California, San Francisco and Ecole Polytechnique Fédérale de Lausanne, Switzerland.

A9 **843.9** Rho-Kinase Inhibition Improves Hemodynamic Responses and Circulating ATP During Hypoxia and Exercise in Healthy Older Adults. **M.L. Racine, J.D. Terwoord, N.B. Ketelhut, N.P. Bachman, J.C. Richards, G.J. Luckasen, F.A. Dinenno.** Colorado State University and Medical Center of the Rockies Foundation.

A10 **843.10** Pregnancy Promotes Inflammation and Pro-Contractile Effects in Uterine Perivascular Adipose Tissue. **O. Osikoya, S. Goulopoulou.** University of North Texas Health Science Center.

A11 **843.11** Aging-Induced Mitochondrial Dysfunction in the Mouse Brain Microvessels: Effect of Neuronal Nitric Oxide Synthase Inhibition. **V.N.L.R. Sure, S.S.V.P. Sakamuri, J.A. Sperling, I. Merdzo, P.S. Mahalingam, W.R. Evans, P.V.G. Katakam.** Tulane University School of Medicine

A12 **843.12** Endothelial Function and Cardiovascular Stress Markers After a Single Dive in Aging Rats (APOE Knockout Rats). **S. Berenji Ardestani, I. Eftedal, V. Matchkov, M. Pedersen.** Aarhus University, Denmark and Norwegian University of Science and Technology, Norway.

A13 **843.13** mTORC1 Signaling Regulates Vascular Endothelial Function via Reactive Oxygen Species and Nfκb Signaling. **J.J. Reho, D-F. Guo, A. Olson, K. Rahmouni.** University of Iowa.

A14 **843.14** Long-Acting Beta-Agonist Use Is Associated with Lower Carotid Artery Stiffness and Greater Carotid Artery Compliance in Individuals with Chronic Obstructive Pulmonary Disease. **R.E. Luehrs, K.L. Moreau, A.P. Comellas, H.D. Weinberger, J.D. Crapo, F. Wamboldt, K.F. Hoth, G.L. Pierce.** University of Iowa, The University of Colorado and National Jewish Health.

A15 **843.15** Smooth Muscle Cullin-3 Deficiency Causes Vascular Dysfunction, Arterial Stiffness and Severe Hypertension. **L.N. Agbor, A.R. Nair, J. Wu, D.R. Davis, H.L. Keen, K-T. Lu, F.W. Quelle, J.D. Singer, J.A. McCormick, C.D. Sigmund.** University of Iowa, Portland State University and Oregon Health & Science University.

A16 **843.16** VE-Cadherin Controls Mechanotransduction Signaling in Embryonic and Postnatal Lymphatic Valves. **J.P. Scallan, Y. Yang, B. Cha, M. Burgos Angulo, S. Srinivasan.** University of South Florida and Oklahoma Medical Research Foundation.

A17 **843.17** Applied Predictive Modeling of Coronary Microvascular Disease Using Coronary Doppler and Cardiac Echocardiography. **K.U. Patel, I.L. Sunyecz, P.E. McCallinhart, C.W. Bartlett, A.J. Trask.** The Research Institute at Nationwide Children's Hospital.

A18 **843.18** Cerebrovascular Compliance Is Affected by Posture. **M.E. Moir, M. Zamir, S.A. Klassen, C.S. Balestrini, J.K. Shoemaker.** University of Western Ontario, Canada.

A19 **843.19** Enhancer-Associated Long Non-Coding RNAs Regulate Vascular Endothelial Function. **Z. Chen, Y. Miao, F-M. Lin, T-S. Huang, N. Ajami, S. Subramaniam, S. Chien.** City of Hope, University of California and San Diego.

A20 **843.20** Bone-Like Particles Circulate in the Peripheral Blood of 6- and 18-Month-Old Male Fischer-344 Rats. **S. Lee, S. Guderian, R. Prisby.** The University of Texas at Arlington and University of Delaware.

A21 **843.21** Peroxynitrite-Induced Reversible Impairment of Endothelial TRPV4 Channel Function in Obesity. **K. Hong, E. Cope, C. Marziano, L. DeLalio, B. Isakson, S. Sonkusare.** University of Virginia.

A22 **843.22** Extracellular Histones Trigger Endothelial Calcium Signals That Paradoxically Do Not Cause Vasodilation, and Instead, Compromise Endothelial Function. **D.M. Collier, N.M. Villalba, A. Sackheim, A.M. Bonev, M.T. Nelson, K. Freeman.** University of Vermont.

A23 **843.23** Junctional Pericytes Serve as Directional Control Elements in K^+-Mediated Functional Hyperemia. **A.L. Gonzales, M. Nelson.** University of Vermont.

A24 **843.24** Dynamic Blood Flow Control by ATP-Sensitive K^+ Channel in Heart. **G. Zhao, H.C. Joca, W.J. Lederer.** University of Maryland School of Medicine.

A25 **843.25** Investigating the Role of Vascular Endothelial Growth Factor in Hematopoietic Stem Cell Driven Perivascular Niche Remodeling. **R.K. Bubenheimer, O.J. Tamplin.** University of Illinois at Chicago.

A26 **843.26** New Insights into the Role of Inducible Nitric Oxide Synthase in Marfan Syndrome Associated Aortic Aneurysm. **N. Talley, B. Hoxha, T. Alexander, E.L. Cameron, J. Vallejo-Elias, M. Esfandiarei.** Midwestern University.

A27 **843.27** Which Alpha Globin Gene Is Primarily Expressed in the Vascular Endothelium?. **S. Brooks, C. Carhuas, A. Keller, H.C. Ackerman, B.E. Isakson.** National Institute of Allergy and Infectious Diseases, National Institutes of Health, National Heart, Lung, and Blood Institute, National Institutes of Health and University of Virginia.

A28 **843.28** AT1R Dependence of Proangiogenic Ang-(1-7)/Mas Signaling in Endothelial Cells and Endothelial Progenitors. **E.C. Exner, T.J. Stodola, B.R. Hoffmann, A.S. Greene.** Medical College of Wisconsin.

A29 **843.29** Inositol Trisphosphate Dynamics Underlie Physiological Calcium Signals Within the Coronary Artery Endothelium. **C.M. Francis, J.M. Knighten, M.S. Taylor.** University of South Alabama.

A30 **843.30** Increased Soluble Protein Oligomer in Sepsis Is Associated with the Induction of Pro-Inflammatory Signal Transduction in Intra-Renal Arteries. **A. Komic, C.F. Wenceslau, P. Martinez-Quinones, C.G. McCarthy, S. Ogbi, R.C. Webb.** Augusta University.

A31 **843.31** Formyl Peptide Receptor Exerts a Sentinel Role and Is Important for the Dynamic Plasticity of the Vasculature. **C.F. Wenceslau, C.G. McCarthy, F.B. Calmasini, R.C. Webb.** Augusta University.

A32 **843.32** Leptin-Induced Endothelial Dysfunction Is Mediated by Endothelial Mineralocorticoid Receptor Epithelial Sodium Channel Activation in Female Mice. **J.L. Faulkner, S. Kennard, I. Jaffe, E.J. Belin de Chantemele.** Augusta University and Tufts University.

844. NOVEL APPROACHES, TECHNIQUES AND MODELS IN WATER AND ELECTROLYTE RESEARCH

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A33 **844.1** Virally Mediated Clophensorn Chloride Imaging in the Supraoptic Vasopressin Neurons. **K. Balapattabi, G.E. Farmer, J.T. Little, M.E. Bachelor, J. Yuan, J.T. Cunningham.** University of North Texas Health Science Center.

A34 **844.2** Three-Dimensional Analysis of Potassium Deprivation-Induced Tubular Remodeling Using Optical Clearing. **T. Saritas, V. Puelles, J. McCormick, D. Ellison.** Oregon Health & Science University and University Hospital RWTH Aachen, Germany.

A35 **844.3** Measurement of Electrolytes, Including Acetate in Various Physiological Samples Using Ion Chromatography. **A.D. Chapp, S. Schum, J.E. Behnke, M.J. Huber, E. Jiang, R.A. Larson, Z. Shan, Q-H. Chen.** Michigan Technological University.

A36 **844.4** Hypertensive and Pre-Hypertensive African Green Monkeys Display Increased Proteinuria. **M.K. Rhoads, J.L. Osborn.** University of Kentucky.

A37 **844.5** Reducing Disparities in the Treatment of Hypertension in African Americans Using Computational Modeling. **J.S. Clemmer, W.A. Pruett, R.L. Hester.** University of Mississippi Medical Center.

A38 **844.6** Polymer Size Affects Biodistribution and Placental Accumulation of the Drug Delivery Biopolymer Elastin-Like Polypeptide in a Rodent Pregnancy Model. **M. Kuna, J.P. Waller, O.C. Logue, G.L. Bidwell.** University of Mississippi Medical Center.

845. PROTECTIVE MECHANISMS IN THE VASCULATURE

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A39 **845.1** Local Angiotensin 1-7 Administration Augments Microvascular Endothelial Function in Women Who Have Had Preeclampsia. **A. Stanhewicz, L. Alexander.** Pennsylvania State University.

A40 **845.2** Endothelial TRPA1 Channels Are Activated by Hypoxia in Cerebral Arteries and Protect Against Ischemic Damage. **P.W. Pires, S. Earley.** University of Nevada and Reno School of Medicine.

A41 **845.3** Protective Effects of Diet and Sex on Cell Death and Intracellular Calcium in Resistance Arteries During Oxidative Stress. **C.E. Norton, S.Y. Sinkler, C.M. Manrique, S.S. Segal.** University of Missouri.

A42 **845.4** Loss of Lymphocyte Adaptor Protein Lnk Predisposes to Acute Aortic Dissection. **F. Laroumanie, M.A. Saleh, L. Xiao, B.L. Dale, K.A. Gavulic, A. Korneva, M.R. Bersi, J.D. Humphrey, M.S. Madhur.** Vanderbilt University Medical Center and Yale University.

A43 **845.5** Roles of Vascular Risk Factors in a Neurological Disease. **J.W. Shim.** Boston University School of Medicine.

A44 **845.6** Neoadjuvant Chemotherapy Decreases Angiogenesis Potential and Microvascular Function in Human Breast Cancer Patients. **L.E. Norwood Toro, J. Linn, J.C. Hockenberry, A.L. Kong, M.J. Flister, A.M. Beyer.** Medical College of Wisconsin.

A45 **845.7** Cd70 Modulates the Role of eNOS in Endothelial Cells. **A.K. Pandey, J.D. Brown, D.G. Harrison, H.A. Itani.** Vanderbilt University Medical Center.

A46 **845.8** Mitochondrial-Targeted Antioxidant (MitoQ) Improves Vascular Function in Healthy Late Middle-Aged and Older Adults. **M.J. Rossman, J.R. Santos-Parker, C.A.C. Steward, N.Z. Bispham, L.M. Cuevas, H.L. Rosenberg, K.A. Woodward, M. Chonchol, R.A. Gioscia-Ryan, M.P. Murphy, D.R. Seals.** University of Colorado Boulder, University of Colorado Anschutz Medical Campus and Medical Research Council Mitochondrial Biology Unit, United Kingdom.

A47 **845.9** *In Vivo* Endothelial Cell-Specific Expression of AMPKα Attenuates Cold-Induced Pulmonary Vascular Dysfunction and Hypertension by Mitigating Inflammation. **S. Wang, Y. Xing, Y. Xu, K. Chen, Q. Ali, M. Ullah, Z. Sun.** University of Oklahoma Health Sciences Center.

846. ENDOTHELIAL CELL BIOLOGY IN HEALTH AND DISEASE I

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A48 **846.1** A Disintegrin and Metalloproteinase 15-Mediated Glycocalyx Disruption Contributes to Vascular Leakage During Septic Injury. **X. Yang, J.E. Meegan, M. Jannaway, D.C. Coleman, S. Rodriguez Ospina, S.Y. Yuan.** University of South Florida.

A49 **846.2** Mitochondria N-Formyl Peptides in Plasma of Polytrauma Patients Cause Vascular Endothelial Barrier Dysfunction Through Formyl Peptide Receptor-1 Activation. **P. Martinez Quinones, C. White, C.G. McCarthy, S. Ogbi, K. O'Malley, R.C. Webb, C. Ferreira Wenceslau.** Medical College of Georgia at Augusta University.

A50 **846.3** Acute Nitric Oxide Synthase Inhibition Enhances Trans-Endothelial Insulin Efflux and Muscle Insulin Sensitivity *in Vivo*. **I.M. Williams, P.M. McClatchey, N.A. Mignemi, O.P. McGuinness, D.H. Wasserman.** Vanderbilt University.

A51 **846.4** Roles of Cell-Cell Junction and Substrate Stiffness in Determining 3D Forces of Endothelial Cells. **S.S. Hur, Y-T. Yeh, K. Lee, Y. Wang, Y-S. Li, S. Chien.** University of California and San Diego.

A52 **846.5** N-Cadherin Signaling via RhoGEF Trio Stabilizes VE-Cadherin Junctions and Regulates Vascular Permeability. **K.J. Kruse, Q. Lee, Y. Sun, X. Yang, J. Klomp, F. Huang, S. Vogel, L.M. Tai, A.B. Malik, J.W. Shin, Y.A. Komarova.** University of Illinois at Chicago.

A53 **846.6** Activation of Notch Signalling by Soluble Dll4 Decreases Permeability via a cAMP/PKA-Dependent Pathway. **D.O. Bates, R. Boardman, V. Pang, L. Leach, M.J. Machado.** University of Nottingham, United Kingdom.

A54 **846.7** Estrogen Receptor Alpha Mediated Activation of the Endothelial Epithelial Sodium Channel: Role in the Genesis of Arterial Stiffness. **C. Manrique, Y. Yang, A. Lising, D. Chen, A. Aroor, J.R. Sowers, M. Hill.** University of Missouri.

A55 **846.8** The Role of Cytoplasmic Deacetylase, SIRT2, in Stabilizing Lung Endothelial Barrier Function. **X. Yang, D. Yang, Z. Chen, Y. Komarova.** University of Illinois at Chicago.

A56 **846.9** Arterial Dysfunction Displayed by Old Mice with Repressed Endothelial Cell Autophagy Is Rescued by Pharmacological Activation of Purinergic 2Y1 Receptors. **O.S. Kwon, J.M. Cho, S-K. Park, L.P. Bharath, R.S. Richardson, P.V.B. Anandh, S. Boudina, J.D. Symons.** University of Utah.

A57 **846.10** H_2O_2 Regulates Arachidonic Acid-Induced TRPV4-Mediated Vasodilation in Human Coronary Arterioles. **N.S. Zinkevich, D.D. Gutterman, D.X. Zhang.** Carroll University and Medical College of Wisconsin.

A58 **846.11** Radiation-Induced Endothelial Dysfunction Markers Are Differentially Modulated by Simulated Microgravity. **P. Chowdhury, A. Bachri, M. Hauer-Jensen, R. Pathak.** University of Arkansas for Medical Sciences and Southern Arkansas University.

A59 **846.12** Effect of Nrf2 Activation on Endothelial Function, Microvessel Density, and Gene Expression in Rats Fed High Salt Diet. **N. Uche, K. Kozak, K. Fink, J. McCord, J.H. Lombard.** Medical College of Wisconsin and University of Colorado Denver.

A60 **846.13** Roles of mircoRNAs in Atherosclerosis and Neointimal Lesion Formation Under Flow. **J-J. Chiu, L-J. Chen, D-Y. Lee.** National Health Research Institutes, Taiwan.

A61 **846.14** Enhanced Epithelial Sodium Channel Signaling in Endothelial Cells Promotes Arterial Stiffness. **G. Jia, A.R. Aroor, M.A. Hill, Y. Yan, J. Habibi, C. Manrique, G. Lastra, A. Whaley-Connell, F. Jaisser, J.R. Sowers.** University of Missouri School of Medicine and Paris Descartes and UPMC Universities, France.

A62 **846.15** Cx43 Response of Endothelial Cells to DHA Is Not Mediated by the FFA.R4. **M. Sundblad, D. Kurjiaka.** Grand Valley State University.

A63 **846.16** Amyloidogenic Medin Impairs Endothelial Cell Autophagy and Viability That Is Reversed by Monosialoganglioside Nanoliposomes. **N. Karamanova, S. Truran, V. Weissig, J. Madine, H. Davies, D. Guzman-Villanueva, R. Migrino.** Phoenix VA Health Care System, Midwestern University and University of Liverpool, United Kingdom.

A64 **846.17** The Effect of Dietary Nitrate on Vascular Function in Chronic Kidney Disease. **M.G. Ramick, D.L. Kirkman, J.M. Stock, B.J. Muth, J.A. Chirinos, D.G. Edwards.** West Chester University, University of Delaware, Perelman School of Medicine and University of Pennsylvania.

847. HYPERTENSION II

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A65 **847.1** Altered Mitochondrial Dynamics Contributes to Endothelial Dysfunction in Hypertension. **G. Li, J. Wu, Z. Hou, X. Zhang, F. Gao.** The Fourth Military Medical University, People's Republic of China.

A66 **847.2** Intensive Physical Training Reduces Intermittent Hypoxia-Related Vascular Dysfunction by Affecting the Mechanisms of Smooth Muscle from Molecular to Physiological Scales. **E.J-C. Esteve, Z. El Dirani, S. Chaouni, E. Lemarie, W. Joumaa, A. Daher, A. Leclercq-Samson, G. Faury.** University of Grenoble Alps, France and Université Libanaise , Lebanon.

A67 **847.3** Effects of *Spirulina* Extracts on Vasodilator Function of Arteries from Hypertensive Rats. **D.M. Villalpando, C. Verdasco, I. Plaza, J. Gómez Rivas, F.R. de Bethencourt, C. Otero, M. Ferrer.** Universidad Autónoma de Madrid, Spain, Instituto de Catálisis y Petroleoquímica, CSIC, Spain, ETSI Agrónomos, UPM, Spain and Hospital Universitario La Paz, Spain.

A68 **847.4** A Novel Role for Sox6 in Renin Expression Control During Renal Artery Stenosis Induced Hypertension. **J.A. Gomez, M. Saleem, L. Xiao, K.D. Horton, K.D. Horton, C.P. Hodgkinson.** Vanderbilt University Medical Center and Duke University.

A69 **847.5** Prospective Study to Investigate the Prevalence of the 90 kDa Isoform of Angiotensin Converting Enzyme in Vitória—Brazil. **A.C. Gomes, F.B. Fernandes, M.d.C. Franco, J.G.C. Mill, D.E. Casarini, D.E. Casarini.** Federal University of São Paulo, Brazil and Federal University of Sao Paulo, Brazil.

A70 **847.6** Alamandine Counteracts Inflammation in the Central Nervous System of Hypertensive Animals. **M.J. Campagnole-Santos, L.A.C. Souza, L.M. Kangussu, R.A.S. Santos, M. Bader.** Universidade Federal de Minas Gerais, Brazil and Max Delbruck Center for Molecular Medicine, Germany.

A71 **847.7** Poor Sleep Quality Is Independently Associated with Cardiometabolic Risk Factors. **K.L. Smith, A.R. Boeve, V.K. Somers, J. Bukartyk, E.K. St. Louis, N. Covassin.** Mayo Clinic.

A72 **847.8** Absence of Sympathetic Vasodilation During Mental Stress with Non-Dipping Circadian Blood Pressure Pattern in Young White and Black Adults Could Be an Early Indicator of Hypertension. **A.O. Aiku.** University of Birmingham, United Kingdom.

A73 **847.9** Treating the Network: Application of a Combination of Two MicroRNA Inhibitors to the Brainstem Prevents Hypertension Development in the Spontaneously Hypertensive Rat. **J. Gorky, D. DeCicco, S. Achanta, J. Schwaber, R. Vadigepalli.** Thomas Jefferson University.

A74 **847.10** Sodium Chloride Cotransporter Upregulation in Settings of Zinc Deficiency Offers New Insight into Blood Pressure Dysregulation in Chronic Diseases. **M. Mistry, R. Mallick, A. Mistry, A.M. Cheryian, C.L. Ellis, B. Ko, R.S. Hoover, C.R. Williams.** Emory University and University of Chicago

A75 **847.11** Blood Pressure and Vascular Function in Hypertensive Individuals: Partitioning Cause and Effect. **D.T. La Salle, R.M. Broxterman, S.M. Ratchford, R.S. Richardson, J.D. Trinity.** University of Utah and George E. Whalen VA Medical Center.

A76 **847.12** Validation of Evans Blue Inhibits Compound 48/80 Induced Inflammation in Hypertension Rat Models. **S-I. Lue, T. Lu, Y-S. Fu.** Kaohsiung Medical University, Taiwan and Brigham and Women's Hospital and Harvard Medical School.

A77 **847.13** Enhanced Blood Pressure Lowering Responsiveness with Endocrine-Sympathoinhibitory Electroacupuncture in Middle-Aged Hypertensive Women. **S. Tjen-A-Looi, L. Xie, L-W. Fu, P. Li, S. Malik.** University of California and Irvine.

A78 **847.14** High Salt Diet May Stimulate Fructose Uptake in Brain Neurons and Contribute to Neuronal Apoptosis. **T.H. Hahka, Y.Y. Fan, Q.H. Chen, Z.J. Shan.** Michigan Technological University.

A79 **847.15** Effect of Dietary Nitrate on Blood Pressure and Vascular Control in Post-Menopausal Hypertensive Women. **J.T. Caldwell, J.C. Craig, H.K. Post, G.M. Lovoy, S.L. Sutterfield, H.R. Banister, D.R. Baumfalk, S.W. Copp, C.J. Ade.** Kansas State University.

A80 **847.16** Overactivation of Ca^{2+}/Calmodulin-Dependent Protein Kinase IV and IIδ Contributes to Enhancing Pulmonary Arterial Smooth Muscle Cell Proliferation in Patients with Idiopathic Pulmonary Arterial Hypertension. **S.G. Carr, S. Song, K. Wu, Z. Wang, J.X-J. Yuan.** University of Arizona.

A81 **847.17** HDAC1 Mediates High Salt-Induced α-Adrenergic Sensitivity in Mouse Aorta. **L.S. Dunaway, B.M. Fox, J.M. Allen, P. Pati, K.A. Hyndman, J.S. Pollock.** University of Alabama at Birmingham.

A82 **847.18** The Effect of Beetroot on Vascular Contractile Response in Ovariectomized Rats. **A. Deng, H. Nguyen, A.B. Longo, W. Ward, R.E.K. MacPherson, H.D. Wang.** Brock University, Canada.

848. CARDIAC FUNCTION, DYNAMICS AND ELECTROPHYSIOLOGY I

Poster

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 10:00 AM–12:00 PM

A83 **848.1** Evaluation of Cardiovascular Hemodynamics in Response to Recumbent Positions by Using Magnetic Resonance Imaging. **K. Sasaki, H. Ota, T. Kimura, T. Onuma, T. Nagasaka, Y. Saiki, R. Maruyama.** Tohoku University Graduate School of Medicine, Japan and Tohoku University Hospital, Japan.

A84 **848.2** Adverse Cardiac Effects Due to Cardiac Specific Disruption of the Nuclear Receptor Corepressor 1 (Ncor1). **J. Zhang, D.E. Vatner, S.F. Vatner.** Rutgers New Jersey Medical School.

A85 **848.3** What the Current Arterial-Ventricular Coupling Index Fails to Tell Us. **P.L. Kerkhof, J.P. Merillon, N. Handly.** VU University Medical Center, Netherlands, Hopital Foche, France and Drexel University.

A86 **848.4** High Fat Diet Induces Early Diastolic Dysfunction and Cardiac Hypertrophy in Mice. **Y.P. Utreras-Mendoza, J.P. Peña, L. Montesinos, G. Sánchez, P. Donoso.** Facultad de Medicina, Universidad de Chile, Chile and Universidad de Viña del Mar, Chile.

A87 **848.5** The Mouse Heart Attack Research Tool (MHART) 1.0 Database. **K.Y. DeLeon-Pennell, Y. Ma, A. Yabluchanskiy, E. Flynn, G.V. Halade, L. De Castro Bras, M.L. Lindsey.** University of Mississippi Medical Center, University of Oklahoma Health Sciences Center, The University of Alabama at Birmingham and East Carolina University.

A88 **848.6** Distinct Biaxial Mechanical Properties Between Right and Left Ventricles in Healthy Adult Sheep. **M. Nguyen-Truong, K.M. Labus, W. Liu, K. McGilvray, C.M. Puttlitz, Z. Wang.** Colorado State University.

A89 **848.7** The Nuclear Receptor NR4A2 Coordinates Transcriptional Remodeling of Metabolic, Calcium, and Growth Signaling Networks in Adult Rat Ventricular Myocytes. **S. Ashraf, R. Harmancey.** University of Mississippi Medical Center.

A90 **848.8** Role of Vasopressin on Intrinsic Cardiac Activity in Conscious Wistar Rats. **D.S. da Silva, E.M. Cafarchio, B. do Vale, B.B. Antonio, D.P. Venancio, J.S. de Souza, J.M. Volejnik Pino, G. Giannocco, M.A. Sato.** Faculdade de Medicina do ABC, Brazil and Universidade Federal de São Paulo, Brazil.

A91 **848.9** Persistent Left Ventricular Diastolic Stiffening Despite Cessation of Intermittent Myocardial Stretch in Swine. **B.R. Weil, C. Smith, F. Konecny, G. Techiryan, H. Zimmer, J.M. Canty; Jr.** University at Buffalo, State University of New York and McMaster University, Canada.

A92 **848.10** CNS-Specific Leptin Receptor Deficiency Impairs Cardiac Reserve. **F.N. Gava, S.P. Moak, J.M. do Carmo.** University of Mississippi Medical Center.

A93 **848.11** Development of Cardiac Dysfunction in Sepsis-Surviving Rats. **T. Corrêa, J.E.D. Silva-Santos.** Universidade Federal de Santa Catarina, Brazil.

A94 **848.12** The Effects of Dopamine Receptor D3 Deficiency in Age-Dependent Left Ventricular Remodeling. **G.A. Grilo, P.R. Shaver, H.J. Stoffel, K.R. Kennedy, C.A. Morrow, R.P. Iyer, S. Clemens, L.E. de Castro Brás.** East Carolina University.

A95 **848.13** Detrimental Effects of Aging, Ovariectomy and Weight Gain on Left Ventricular Structure and Function: A Potential Preclinical Model of Early Stage HFpEF. **M. Bustamante, A. Garate-Carrillo, M. Loredo, R. Garcia, N. Carson, B. Ito, G. Ceballos, J. Omens, I. Ramirez-Sanchez, F. Villarreal.** University of California, San Diego School of Medicine, Universidad Panamerica School of Medicine, Mexico, BMS and Instituto Politécnico Nacional School of Medicine, Mexico.

A96 **848.14** Cardiovascular Mathematics: Prevention, Promotion and Treatment. **P. Calvachi, A. Pizano, F. Girón, J.M. Cordovez.** Universidad de los Andes, Colombia.

A97 **848.15** Evaluation of Patient-Specific *mterf4* Variants in Gene-Edited Human iPSC-Derived Cardiomyocytes. **M. Marquez, C. McDermott-Roe, M. Grzybowski, D. Helbling, D.P. Dimmock, J.W. Verbsky, A. Geurts.** Medical College of Wisconsin, University of Pennsylvania and Rady Children's Institute for Genomic Medicine.

A98 **848.16** E-Cigarette Vapor Elevates Heart Rate in Mice with Limited Reactive Aldehyde Metabolism. **P. Sinharoy, S. McAllister, E.R. Gross.** Stanford University.

849. ACUTE KIDNEY INJURY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A99 **849.1** Loss of Biliverdin Reductase-A (BVRA) Promotes Lipid Accumulation and Lipotoxicity in Mouse Proximal Tubule Cells. **S.O. Adeosun, D.M. Gordon, M-F. Weeks, K.H. Moore, J.E. Hall, T.D. Hinds, D.E. Stec.** University of Mississippi Medical Center and University of Toledo College of Medicine and Life Sciences.

A100 **849.2** Silencing of Map Kinase Phosphatase 1 Blocks the Renal Inflammatory Response Induced by Chronic Stress. **M.M. Roland, C. Langreck, V. Duric, V. Babich, F. Di Sole.** Des Moines University and Mercy College of Health Sciences.

A101 **849.3** Arginase-2 Protects the Kidney Against Ischemia-Reperfusion Injury. **C. Ansermet, G. Centeno, S. Rotman, J-L. Barras, N. Dattner, D. Firsov.** University of Lausanne, Switzerland and University Hospital of Lausanne, Switzerland.

A102 **849.4** RNA Sequencing Analysis in the Transition from Acute to Chronic Kidney Injury with Identification of MYOC as a Marker of Sustained Kidney Impairment. **H. Fattah, K. Sriram, P.A. Insel, W. Huang, R. Patel, A. Shigeoka, S. Kasimsetty, P. Singh, D. McKay, V. Vallon.** University of California, San Diego and VA San Diego Healthcare System.

A103 **849.5** Absence of the Na-Glucose Cotransporter SGLT1 Ameliorates Kidney Recovery in a Murine Model of Acute Kidney Injury. **J. Nespoux, R. Patel, W. Huang, H. Koepsell, B. Freeman, V. Vallon.** University of California, San Diego and VA San Diego Healthcare System and University of Würzburg, Germany.

A104 **849.6** Mechanical Ventilation Induces Renal Mitochondrial Injury Detectable by Urine Mitochondrial DNA and ATP Synthase-β. **M.L. Hepokoski, Y. Li, P. Luna, A. Fazal, T. Mai, A. Moshensky, L.E. Crotty Alexander, P. Singh.** University of California and San Diego.

A105 **849.7** In-Common and Unique Gene Expression Patterns in Acute Kidney Injury of Different Aetiology Implicates Myc-Pathway in Damage Progression. **M. Hultström, S. Jönsson, M. Becirovic Agic.** Uppsala University, Sweden.

A106 **849.8** Angiotensin At_2 Receptor Stimulation Is Protective in Lipopolysaccharide-Induced Inflammation and Renal Injury. **T. Hussain, I. Dhande, S.N. Patel, Q. Ali.** University of Houston College of Pharmacy.

A107 **849.9** Evaluation of Sarcopenia in Patients with Acute Kidney Injury: Use of Serum Biomarkers. **L.G. Lanzoni, A. Morales; Jr., C.G.A. Silveira, C.C. Grabulosa, T. Tinucci, R.M.A. Moysés, B.M.R. Quinto, M.C. Batista, M.A. Dalboni.** Universidade Nove de Julho , Brazil and Universidade Federal de São Paulo, Brazil.

A108 **849.10** Evaluation of Mineral Bone Disease in Patients with Acute Kidney Injury. **A. Morales; Jr., L.G. Lanzoni, C.G.A. Silveira, C.C. Grabulosa, W.P. Pinto, T. Tinucci, R.M.A. Moysés, B.M.R. Quinto, M.C. Batista, M.A. Dalboni.** Universidade Nove de Julho , Brazil and Universidade Federal de São Paulo, Brazil.

A109 **849.11** MicroRNA-21 Antagonism Attenuates Inflammation and Endothelial-Mesenchymal Transition in Aged Kidney Ischemia Reperfusion Injury. **S. Pushpakumar, G. Weber, S. Majumder, U. Sen.** University of Louisville.

A110 **849.12** Pharmacological Inhibition of TRPV4 Channels Protects Against Early Renal Hypoperfusion Induced by Ischemia-Reperfusion in Neonatal Pigs. **H. Soni, D. Peixoto-Neves, M.A. Olushoga, A. Adebiyi.** University of Tennessee Health Science Center.

A111 **849.13** Hemoglobin Inhibits Uptake of Filtered Proteins by Proximal Tubule Cells: Implications for Sickle Cell Disease and Vitamin D Status. **M.L. Eshbach, A. Kaur, Y. Rbaibi, Y. Agarwal, Q. Zhang, T.D. Nolin, J. Tejero, O.A. Weisz.** University of Pittsburgh School of Medicine and University of Pittsburgh School of Pharmacy.

A112 **849.14** Resveratrol Exerts Dose-Response Anti-Fibrotic and Pro-Fibrotic Effect in Renal Tubular Epithelial Cells. **S. Liu, M. Zhao, Y. Zhou, L. Li, Y. Yuan, C. Wang, Y. Chen, J. Cheng, Y. Lu, J. Liu.** West China Hospital and Sichuan University, People's Republic of China.

A113 **849.15** Twist2 Is a Novel Pro-Fibrotic Mediator in the Aging Kidney. **A.R. Parrish, E. Grunz-Borgmann.** University of Missouri.

A114 **849.16** Endoplasmic Reticulum Stress Promotes the Development and Progression of Lupus Nephritis. **E.I. Boesen, M.L. Bonnemaison.** University of Nebraska Medical Center.

A115 **849.17** Albumin Induces CD44 Expression in Glomerular Parietal Epithelial Cells by Activating the ERK Signaling Pathway. **X. Zhao, X. Chen, A. Cobbs, J. George, Y. Zhang, A. Chima, N. Emmett.** Morehouse School of Medicine.

A116 **849.18** Albumin and Palmitate Overload Increases Osteopontin Production in Renal Tubule Epithelial Cells. **A. Cobbs, K. Ballou, X. Chen, J. George, X. Zhao.** Morehouse School of Medicine.

A117 **849.19** Palmitic Acid Induces Extracellular Vesicle Release in Human Renal Proximal Tubule Epithelial Cells. **A. Cobbs, S. Muthusamy, X. Chen, J. Sims, R. Chatterjee, X. Zhao.** Morehouse School of Medicine.

A118 **849.20** Reno-Protective Effects of Everolimus vs. Bone Marrow-Derived Stem Cells in Rat Model of Glomerulonephritis. **M.M. Zedan, A.K. Mansour, A.A. Bakr, M.A. Sobh, B. Baban, A.A. Elmarakby.** Faculty of Medicine, Egypt and Augusta University.

850. SYSTEMS BIOLOGY AND SEX DIFFERENCES

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A119 **850.1** Aldosterone-Induced Transcripts Identified from Rapidly Isolated Collecting Duct Cells. **E.A. Swanson, J.W. Nelson, S. Jeng, K.J. Erspamer, C-L. Yang, S. McWeeney, D.H. Ellison.** Oregon Health & Science University.

A120 **850.2** Single Nephron Proteomes Connect Morphology and Function in Proteinuric Kidney Disease. **M. Rinschen.** University Hospital Cologne, Germany.

A121 **850.3** Proteomic Determination of the Rat Native Inner Medullary Collecting Duct Lysine Acetylome and Phosphoproteome. **K.A. Hyndman, C-R. Yang, H.J. Jung, E.N. Umejiego, C-L. Chou, M.A. Knepper.** University of Alabama at Birmingham, National Heart, Lung, and Blood Institute and National Institutes of Health.

A122 **850.4** Mathematical Model of Megalin Trafficking in Differentiated Proximal Tubule Cells. **K.E. Shipman, K.R. Long, Y. Rbaibi, C.J. Baty, O.A. Weisz.** University of Pittsburgh School of Medicine.

A123 **850.5** Sex Differences in Renal Inflammation and Injury in High Fat Diet Induced Hypertension in Dahl Salt Sensitive Rats. **R. Fernandes, H. Garver, J.J. Harkema, J.J. Galligan, G.D. Fink, H. Xu.** Michigan State University.

A124 **850.6** The Protective Effect of Estrogen on Cisplatin-Induced Cytotoxicity of HK-2 Cells. **Y-W. Liu, S-Y. Lin, Y-T. Chen, T-S. Lu, Y-S. Fu.** Kaohsiung Medical University, Taiwan and Brigham and Women's Hospital and Harvard Medical School.

A125 **850.7** Female Spontaneous Hypertensive Rats (SHR) Have Better Recovery in Response to Renal Ischemia Reperfusion Injury Than Males. **R. Mohamed, R.G. Crislip, S. Ray, Q. Wei, J.C. Sullivan.** Augusta University.

A126 **850.8** Gonadectomy Affects Water-Deprivation-Induced Urinary Concentration in Female and Male Mice. **D. Delaney, C. Waturuocha, L. Fan, A. Rouch.** Oklahoma State University Center for Health Sciences.

A127 **850.9** Lithium Induces Cilia Expression in Renal Intercalated Cells. **A.V. Nair, G. Franken, T. Paunescu, D. Capen, D. Brown.** Massachusetts General Hospital and Harvard Medical School.

A128 **850.10** Application of Optical Tweezers to Understand the Effect of Renal Ciliary Length Alterations on Ciliary Biomechanics. **S. Nag, A. Resnick.** Cleveland State University.

A129 **850.11** Reduced Renal Primary Cilia Expression in Humanized Sickle Cell Mice. **C.M. Taylor, M. Kasztan, B. Yoder, J.S. Pollock, D. Pollock.** UAB.

A130 **850.12** Renal Ischemia-Related Apical Blebbing Is Attenuated by Suppression of Vacuole Membrane Protein 1 **A.J. Kriegel, V. Singh, K. Goodreau, M.R. Paterson.** Medical College of Wisconsin.

851. NUTRITION, EXERCISE AND METABOLIC SYNDROME

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A131 **851.1** Effect of Fructose Overconsumption Since Early Age on Renal Function and Sympathetic Nerve Activity. **G.N. Gomes, E.E. Nishi, R. Argeri, D.C. Kimura.** Federal University of São Paulo, Brazil.

A132 **851.2** Aerobic Exercise Training Prevents Renal Lipotoxicity Associated with Insulin Resistance in Mice. **C.R. Muller, A.L.V. Américo, R.O. Pereira, A.J. Matsumoto, P. Fiorino, F.S. Evangelista.** Faculty of Medicine, University of São Paulo, Brazil, Health and Biological Science Center, Mackenzie University, Brazil, School of Arts, Sciences and Humanities and University of Sao Paulo, Brazil.

A133 **851.3** Determining the Influence of a Novel Americanized Rodent Diet on Renal Health in Wild-Type Mice Administered Angiotensin II. **A.W. Johnson, J. Convissar, J. Joshua, D. Pogarcic, J.C. Gigliotti.** Liberty University

A134 **851.4** Gyy4137 Mitigates Caveolin-Dependent Renal Remodeling in Hyperhomocysteinemia. **A.M.S. Papu John, S. Pushpakumar, U. Sen.** University of Louisville.

A135 **851.5** Determining the Influence of a Novel Rodent Diet on Body Weight Gain and Renal Health in Male Mice from 2 Different Strains. **B. Browning, H. Ter Harr, B. Lutz, J.C. Gigliotti.** Liberty University.

A136 **851.6** A Boolean Model of Microvascular Rarefaction to Predict Renal Outcomes in Renovascular Disease. **E. Guise, W.A. Pruett, A.R. Chade.** University of Mississippi Medical Center.

A137 **851.7** Apol1-Like Gene Insertion Associated with Increased Blood Pressure in the African Green Monkey. **M.K. Rhoads, C.C. Weaver, J.L. Osborn.** University of Kentucky

A138 **851.8** Non-Invasive Multiparametric MRI of the Kidneys. **P. Eckerbom, P. Hansell, E. Cox, C. Buchanan, J. Weis, F. Palm, S. Francis, P. Liss.** Uppsala University , Sweden and University of Nottingham, United Kingdom.

A139 **851.9** CRISPR/Cas9 Deletion of a Portion of Exon 2 in the *TRPC6* Gene Produces a Hypomorphic Variant That Confers Protection in the Chronic Puromycin Aminonucleoside Nephrosis Model in Sprague-Dawley Rats. **S. Dryer, P. Yazdizadeh Shotorbani, E.Y. Kim.** University of Houston.

A140 **851.10** Translational Traits of a Swine Model of CKD: Inflammation. **J.E. Engel, M. Williams, E. Guise, H. Drummond, A. Chade.** University of Mississippi Medical Center.

A141 **851.11** Cepharanthine Improves Glycemic Status and Slows the Progression of Renal and Vascular Injury in Streptozotocin-Induced Diabetic Rats. **Y.A. Samra, M.A. Katary, M.M. El-Shishtawy, L.A. Essa, B. Baban, A.A. Elmarakby.** Augusta University, College of Pharmacy and Mansoura University, Egypt.

A142 **851.12** Effects of Metformin on the AMPK Pathway, Cystogenesis and Metabolomic Biomarkers in ADPKD Kidney Epithelial Cells. **H. Li, A. Naser-Tavakolian, P. Huang, D. Rivera, K.R. Hallows.** University of Southern California.

A143 **851.13** Metabolic Acidosis Inhibits AMPK Function in Kidney Cells. **N.M. Pastor-Soler, R. Rajani, V. Mancino, K. Omi, K.R. Hallows.** Keck School of Medicine of the University of Southern California.

852. REGULATION OF CARDIAC SKELETAL/ MUSCLE CONTRACTION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A144 **852.1** The Regulation of Skeletal Muscle Function by Muscle Gp130 Signaling. **B. VanderVeen, D. Fix, B. Counts, J. Hardee, J. Carson.** University of South Carolina.

A145 **852.2** Carbonic Anhydrase Inhibition Does Not Impact Force Generation or Fatigue Following Sustained Voluntary Maximal Isometric Contractions. **K.E. Kinney, G.B. Robbins, W.F. Brechue.** A.T. Still University.

A146 **852.3** Submaximal Level Single Twitch Kinetics Dependent on Disease State in Duchenne Muscular Dystrophy Mouse Model. **K.K. Peczkowski, N. Rastogi, E.J. Schultz, J.A. Rafael-Fortney, P.M.L. Janssen.** The Ohio State University.

A147 **852.4** Dietary Nitrate Enhances Peak Power in Aged Murine Diaphragm. **R.C. Kelley, R.A. Kumar, D. Hahn, L.F. Ferreira.** University of Florida.

A148 **852.5** History-Dependence of the Force-Velocity Relationship in *mdm* Mouse Muscles. **L. Piwinski, N. Rice, U. Tahir, J. Monroy, K. Nishikawa.** Claremont Colleges and Northern Arizona University.

A149 **852.6** Regulation of Skeletal Muscle Sarcomere Length Through Titin Changes in *iMSBmal1* mice. **J.R. Mijares, L. Riley, K.A. Esser.** University of Florida.

A150 **852.7** Adipose Triglyceride Lipase Activity in Adipocytes, but Not Skeletal Myocytes, Is Essential for Maintaining Normal Contractile Function in Both Young and Old Mice. **S. Wahler, F. Ambrosio, E. Kershaw, M. Sitnick.** Montclair State University and University of Pittsburgh.

A151 **852.8** Calcium Dependent Properties of Ig 80-83 of N2A Titin. **B.M. Thompson, S. Dutta, J. Monroy, K. Nishikawa.** Claremont Colleges and Northern Arizona University.

853. EXPLORING NOVEL MECHANISMS TO IMPROVE EXERCISE TOLERANCE IN HEALTH AND DISEASE (POSTERS)

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A152 **853.1** The Ventilatory Response to Muscle Metaboreflex Activation During Concurrent Hypercapnia Is Attenuated by Local Muscle Training. **J. AlGhaith, M. White.** University of Birmingham, United Kingdom.

A153 **853.2** Inorganic Nitrate Supplementation Improves Exercise Tolerance and Calf Vascular Function in Patients with Peripheral Artery Disease. **J. Bock, D. Treichler, K. Ueda, W. Hughes, D. Casey.** University of Iowa.

A154 **853.3** Combined Exercise Training and Sodium-Glucose Cotransporter 2 Inhibition Improves Glycemic Control and Exercise Tolerance When Compared to Pharmacotherapy Alone in a Model of Type 2 Diabetes. **M.A. Linden, T.T. Ross, D.A. Beebe, K.L. Hamilton, B.F. Miller, B. Braun, W.P. Esler.** Department of Health and Exercise Science, Colorado State University, Internal Medicine Research Unit and Pfizer Inc.

A155 **853.4** Skeletal Muscle Parvin Regulates Exercise Tolerance and Glucose Homeostasis in Mice. **D.S. Lark, J.R. Kwan, L. Lantier, R. Zent, A. Pozzi, D.H. Wasserman.** Vanderbilt University.

A156 **853.5** Acute Sildenafil Treatment Improves Exercise Capacity in Patients with Cystic Fibrosis. **V. Gonzalez, N. Siegler, R. Crandall, K.T. Mckie, C. Forseen, P. Rodriguez-Miguelez, M. Tucker, R.A. Harris.** Medical College of Georgia and Augusta University

A157 **853.6** Effect of Electrical Stimulation Frequency and Pattern on Muscle Fatigue in Spinal Cord Injured Individuals. **A.E. Draghici, S. Qiu, G. Picard, J.A. Taylor.** Spaulding Rehabilitation Hospital.

A158 **853.7** Dairy Exosome Effects on Mitochondria Function and Antioxidant Enzymes in Growing Male and Female Rats. **H.A. Parry, C.B. Mobley, P.W. Mumford, M.A. Romero, Y. Zhang, J. Zempleni, K.C. Young, M.D. Roberts, A.N. Kavazis.** Auburn University, University of Nebraska-Lincoln and Edward Via College of Osteopathic Medicine-Auburn Campus.

A159 **853.8** Neuronal Nitric Oxide Synthase Expression Is Increased, but Contraction-Induced Phosphorylation Is Impaired in Hindlimb Muscles of Rats with Femoral Artery Ligation. **J.M. Kuczmarski, J.E. Harms, G.D. Thomas.** Pennsylvania State University.

A160 **853.9** The Effect of a Proprietary Maca Blend on Mitochondrial Biogenesis in Muscle. **K. Sahin, S. Perez Ojalvo, S. Sylla, J. Komorowski, C. Orhan, M. Tuzcu, N. Sahin.** Firat University, Turkey, Nutrition 21 and LLC.

A161 **853.10** Heat Therapy Decreases Adipose Tissue Inflammation and Improves Insulin Signaling in Polycystic Ovary Syndrome. **B.R. Ely, Z.S. Clayton, C.E. McCurdy, K.W. Needham, J. Pfeiffer, C.T. Minson.** University of Oregon and PeaceHealth Medical Group Surgery Center.

A162 **853.11** Mechanisms of Exercise Intolerance in Heart Failure with Reduced Ejection Fraction: Influence of COPD. **J.R. Smith, E.H. Van Iterson, T.P. Olson.** Mayo Clinic.

A163 **853.12** Impact of Heat Therapy on Skeletal Muscle Structure and Function in a Mouse Model of Peripheral Arterial Disease. **K. Kim, B.A. Reid, B. Ro, B.C. Hester, C.A. Casey, Q. Song, B.T. Roseguini.** Purdue University and Dong-A University, Republic of Korea.

A164 **853.13** Beneficial Effects of Tetrahydrobiopterin on Intracellular PO_2 and Skeletal Muscle Metabolic Demand in Patients with COPD. **G. Layec, S. Decker, O-S. Kwon, T. Thurston, Y. Le Fur, J. Trinity, E-K. Jeong.** University of Utah and University Aix-Marseille, France.

A165 **853.14** Influence of *Priming* Exercise on Pulmonary Oxygen Uptake Kinetics During Heavy-Intensity Cycle Exercise from an Elevated Baseline in Type 2 Diabetes. **N. Gildea, J. Rocha, S. Green, D. O'Shea, M. Egaña.** Trinity College Dublin, Ireland, Abertay University, United Kingdom, Western Sydney University, Australia and St. Columcille's and St. Vincent's Hospitals, Ireland.

A166 **853.15** Central Cardiac Determinants of the Speed-Duration Relationship in Heart Failure Rats. **J.C. Craig, T.D. Colburn, J.T. Caldwell, D.M. Hirai, A. Tabuchi, J.H. Merino, C.J. Ade, D.C. Poole, T.I. Musch.** Kansas State University.

A167 **853.16** Exercise Mitigates Cognitive Impairment in High Fat Diet Fed Mice via Metabolic and Epigenetic Dysregulation. **K.E. Kelly, J. Behera, N.K. Mondal, N. Tyagi.** University of Louisville.

A168 **853.17** Exercise Intolerance in Adolescents Born Preterm Associated with Left Ventricular Diastolic Dysfunction. **K. Haraldsdottir, O. Wieben, G. Barton, K. Goss, A. Watson, M. Eldridge.** University of Wisconsin—Madison.

A169 **853.18** Training Heart Failure Patients with Reduced Ejection Fraction Attenuates Their Muscle Metaboreflex and Lowers Muscle Sympathetic Nerve Activity at Rest and During Mild Dynamic Exercise. **C.F. Notarius, P.J. Millar, D.A. Keir, H. Murai, N. Haruki, E. O'Donnell, S. Marzolini, P. Oh, J.S. Floras.** University Health Network and Mount Sinai Hospital, Canada, University of Guelph, Canada, Loughborough University, United Kingdom, Toronto Rehabilitation Institute and University Health Network, Canada.

A170 **853.19** Ultrasound Analysis of a Novel Therapeutic Intervention for Neuropathy: Intraneural Facilitation Acute Effects on Idiopathic and Chemotherapy Induced Peripheral Neuropathy. **M. Bussell, R. Coleman, J. Alido, K. Bruhjell, L. Berk.** Loma Linda University Health and Loma Linda University School of Allied Health Professions.

A171 **853.20** Impact of Cell-Free Hemoglobin on Contracting Skeletal Muscle Oxygen Pressure Dynamics: Potential Therapeutic Role of Haptoglobin. **S.K. Ferguson, D.I. Pak, J.W. Harral, K. Redinius, K. Stenmark, P.W. Buehler, D.C. Irwin.** University of Colorado Denver and U.S. Food and Drug Administration.

A172 **853.21** Deoxyhemoglobin Kinetics During Low Intensity Exercise Step-Transitions in Aging Men and Women. **E.H. Van Iterson, J.R. Smith, T.J. Barstow, E.J. Bruhn, B.S. Simmons, T.P. Olson.** Mayo Clinic and Kansas State University.

A173 **853.22** Obese Mice Are Protected from Increased Energy Intake in Response to Voluntary Wheel Running. **J.R. Kwan, D.S. Lark, L. Lantier, D.H. Wasserman.** Vanderbilt University.

A174 **853.23** Nutraceutical and Pharmaceutical Interventions Improve Fatigue Resistance in Dystrophic Skeletal Muscle. **H.R. Spaulding, T. Quindry, J. Quindry, J. Selsby.** Iowa State University and University of Montana.

854. CARDIAC RESPONSES TO EXERCISE

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A175 **854.1** Blood Pressure and Stroke Volume Response to Exercise in Adolescent Children Born Very Preterm. **C. Jarrard, K. Haraldsdottir, C. Francois, O. Wieben, D. Pegelow, K. Goss, A. Watson, M. Eldridge.** University of Wisconsin—Madison.

A176 **854.2** Effects of Exercise Prior to and During Isoproterenol-Mediated Cardiac Disease. **C.N. Olson, N. McLaughlin, S. Soo, S. Luckey.** Seattle University

A177 **854.3** Isometric Handgrip Echocardiography Is a More Powerful Diastolic Discriminator Than Conventional Cycle Echocardiography. **T.J. Samuel, R. Beaudry, M. Haykowsky, S. Sarma, M.D. Nelson.** The University of Texas at Arlington and Texas Health Presbyterian Hospital.

A178 **854.4** Obesity and PM2.5 Exposure Effects Cardiac Function During Exercise in Mice. **J. Grimmer, V. Tanwar, A. Katapadi, D. Youtz, N. Schwieterman, L. Baer, K. Stanford, L. Wold.** The Ohio State University.

A179 **854.5** Effects of a Pre-Clinical Model of Prostate Cancer on Left Ventricular Function in Sedentary and Exercise Trained Rats. **D.R. Baumfalk, A.B. Opoku-Acheampong, J.T. Caldwell, C.J. Ade, T.I. Musch, B.J. Behnke.** Kansas State University.

A180 **854.6** Effect of Voluntary Exercise on Neurotrophic Factor Protein Content in Cardiac Muscle of Young Rats. **G. Almeida Alves, J.M. Spitsbergen.** Western Michigan University.

855. EXERCISE TRAINING RESPONSES

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A181 **855.1** Do Sprinters and Distance Runners Have the Same Autonomic Nervous System Activity and Hemodynamic Responses? X**. Sun, S. Saito, H. Yang, J. Hoshi, H. Tanno, E. Kanno, R. Maruyama.** Tohoku University Graduate School of Medicine, Japan.

A182 **855.2** The Effect of Exercise Training on Sympathetic Vasoconstrictor Responsiveness and Sympatholysis in Female Rats. **D.S. DeLorey, T.P. Just, I.R. Cooper, S. Liu.** University of Alberta, Canada.

A183 **855.3** The Effect of Beta-Adrenergic Receptor Blockade on Sympathetic Vasoconstrictor Responsiveness in Sedentary and Exercise-Trained Female Rats. **D.S. DeLorey, T.P. Just, S. Liu, I.R. Cooper.** University of Alberta, Canada.

A184 **855.4** After Effects of a Single Boat of Aerobic Exercise in the Hemodynamic and Autonomic Variables in Stage 3 Chronic Kidney Disease Patients. **R.A. Rezende, W.P. Pinto, M.A. Dalboni, T. Tinucci.** Universidade de São Paulo, Brazil and Universidade Nove de Julho, Brazil.

A185 **855.5** High-Intensity Interval Training Enhanced Platelet Mitochondrial Bioenergetics in Patients with Heart Failure. **J-S. Wang.** Chang Gung Christian University, Taiwan.

A186 **855.6** High Intensity Walking Time Is a Key Determinant to Increase VO_{2peak} After 5-Month Interval Walking Training in Middle-Aged and Older People. **S. Masuki, M. Morikawa, H. Nose.** Shinshu University Graduate School of Medicine, Japan.

A187 **855.7** Effect of High-Intensity Interval Training and Moderate-Intensity Continuous Training on Circulating microRNAs in Sedentary Males. **K.M. Chen, C-H. Huang, J-S. Wang.** Chang Gung Christian University, Taiwan.

A188 **855.8** The Effects of Short-Term High-Intensity Interval Versus Moderate-Intensity Continuous Training on Vascular Function in Older Adults. **M.W. O'Brien, S. Robinson, S. Mekary, D. Kimmerly.** Dalhousie University, Canada and Acadia University, Canada.

A189 **855.9** Circulating microRNAs Can Reflect Muscular Fatigue Caused by Intense Exercise. **C-H. Lin, C-H. Huang, J-S. Wang.** Chang Gung Christian University, Taiwan.

A190 **855.10** Impact of Aging on Inspiratory and Expiratory Work During Exercise. **J.C. Weavil, T.J. Hureau, T.S. Thurston, J.R. Gifford, R.S. Richardson, M. Amann.** University of Utah, University of Strasbourg, France and Brigham Young University.

A191 **855.11** Influence of Inspiratory Muscle Training on Sympatho-Excitation in Healthy Young Adults. **T.E. Foulds, C.M. Delucia, G.E. Ramos Barrera, E.F. Bailey.** University of Arizona.

A192 **855.12** Respiratory Muscle Training Positively Affects Vasomotor Response in Young Healthy Women. **F. Esposito, A.V. Bisconti, M. Devoto, M. Venturelli, R. Bryner, M.I. Olfert, P. Chantler.** Università degli Studi di Milano, Italy and West Virginia University.

A193 **855.13** Differential Effects of Inspiratory Muscle Training Between Athletes and Performing Artists. **J.V. Winkler, A.K. Bunker.** Morningside College.

A194 **855.14** Children with Severe Burn Injury Do Not Display Sex Differences for Exercise Capacity and Exercise Induced Training Adaptations. **E. Rivas, M. Chapa, J. Cambiaso-Daniel, V.G. Rontoyanni, I.L. Gutierrez, J. Tran, K. Sanchez, D. Herndon, J.O. Lee, O.E. Suman.** Texas Tech University and Shriners Hospitals for Children and University of Texas Medical Branch Galveston.

A195 **855.15** Left Ventricular Systolic Function Is Improved in Well-Healed Burn Survivors After Six Months of Exercise Training. **G. Moralez, M. Hieda, S. Sarma, S.A. Romero, M.N. Cramer, M. Huang, C.G. Crandall.** The University of Texas Southwestern Medical Center and Institute for Exercise and Environmental Med and University of North Texas Health Science Center.

A196 **855.16** Fitness and Performance Responses to Load Carriage Specific Training in Reserved Officers Training Corps. **B. Stone, R.M. Miller, A.D. Heishman, J.A. Campbell, J.M. Kellawan.** University of Oklahoma.

A197 **855.17** Emg Activity of Four Lower Body Muscles During the Back Squat with Three Different Depths and Loads in Recreationally Trained Females. **V. Flores, J. Becker, J.A. Cotter.** California State University, Long Beach and Montana State University.

A198 **855.18** The Effect of Selective Breeding for High Voluntary Wheel-Running Behavior on Femoral Nutrient Canal Abundance and Size. **N.L. Schwartz, B.A. Patel, T. Garland; Jr., A.M. Horner.** University of California, Riverside, University of Southern California, California State University and San Bernardino.

A199 **855.19** Exercise Training Does Not Alter Prostate Tumor Cell Growth in Rat Serum or Prostate Conditioned Media. **S. Ardery, A. Horn, A. Opoku-Acheampong, D. Baumfalk, B. Behnke.** Kansas State University.

A200 **855.20** Resistive Exercise with or Without Super-Imposed Whole-Body Vibration Acutely Induces Bone Resorption. **P. Lau, Á. Beijer, A. Rosenberger, J. Zange, J. Rittweger.** German Aerospace Center (DLR), Germany.

A201 **855.21** Lower Extremity Resistance Training Enhances Balance Ability in Patients with Hemiparesis. **H-C. Liu, C-P. Chen, D. Han, J-S. Wang.** Chang Gung Christian University, Taiwan, National Taiwan University Hospital and Bei-Hu Branch, Taiwan.

A202 **855.22** Can Six-Weeks of Whole-Body Resistance Training Improve Endothelial Function in Older Adults? **M.W. O'Brien, S. Robinson, K. Evans, S. Mekary, D. Kimmerly.** Dalhousie University, Canada and Acadia University, Canada.

A203 **855.23** Low-Load Resistance Exercise with Blood Flow Restriction Changes Hypoxia-Induced Genes Expression. **G. Laurentino, M. Aoki, R. Fernandes, A. Soares, C. Ugrinowitsch, H. Hoschel, V. Tricoli.** School of Physical Education and Sports, University of São Paulo, Brazil, School of Arts, Sciences and Humanities, University of São Paulo, Brazil, Institute of Biomedical Science and University of São Paulo, Brazil.

A204 **855.24** Exercise Induces Depot-Specific Adaptations to White and Brown Adipose Tissue. **L.A. Baer, A.C. Lehnig, R.S. Dewal, K.M. Kitching, D.A. Sindeldecker, L.J. Goodyear, K.I. Stanford.** The Ohio State University and Joslin Diabetes Center.

A205 **855.25** Effects of AICAR Treatment on Muscular, Cardiorespiratory, and Hsp25 Adaptations to Treadmill Versus Running Wheel Exercise Training in Mice. **K. Huey, B. Moeller, K. Godwin.** Drake University.

A206 **855.26** Exercise, but Not Statins Improve Vasodilation in Obesity-Induced Endothelial Dysfunction in Wistar Rats. **I. Urbaneck, F. Lorenz, I. Materzok, L. Maletzki, M. Dörr, S.B. Felix, R. Busch, M. Bahls.** University of Greifswald Medical School, Germany.

A207 **855.27** Exercise Training in Standardbred Horses Alters the Skeletal Muscle Metabolome and Plasma Amino Acid Profile: Implications for the *Athlete's Paradox.* **D.J. Klein, E.T. Mirek, T.G. Anthony, K.H. McKeever.** Rutgers University.

A208 **855.28** Moderate-Intensity Treadmill-Training and Functional Changes in Solid Meal Gastric Emptying in a Rodent Model. **E.M. Besecker, T.M. Blickenstaff.** Gettysburg College.

A209 **855.29** Independent but Synergistic Effects of Dairy and Exercise Training on Gut Microbiota, Serum Metabolomics and Weight Gain Attenuation in Obese Rats. **M.S. Trudeau, D.C. Wright, S.K. Trottier, Y. Korchemagin, R.A. Reimer, K. Blote, J. Shearer.** University of Calgary, Canada and University of Guelph, Canada.

A210 **855.30** Moderate Intensity Endurance Exercise Training Increases Muscle Glycogen Content but Does Not Alter Substrate Oxidation in C57BL6 Mice. **S. Fuller, J. Simon, T-Y. Huang, H. Batdorf, M. Scott, C. Waskom, N. Essajee, S. Burke, J. Collier, R. Noland.** University of Louisiana at Lafayette and Pennington Biomedical Research Center.

856. MUSCLE ATROPHY AND HYPERTROPHY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A211 **856.1** Amniotic Membrane Improves Force Production After Repair of a Massive Rotator Cuff Tear. **J.W. Kepple, M. Saad, D.R. Claflin, D. Kovacevic, C.L. Mendias.** University of Michigan and Yale University.

A212 **856.2** Muscular Strength in Well Healed Burn Survivors Is Similar to Controls. **M. Jaffery, S. Romero, G. Moralez, N. Kennedy, C. Crandall.** Institute for Exercise and Environmental Medicine, Texas Health Presbyterian Hospital Dallas and University of North Texas Health Science Center.

A213 **856.3** Sarcopenia-Associated Plasma Biochemistry of Community-Based Women Enrolled in a Lifestyle Modification Program. **L.P. Barros, H.T. Kano, R.M. Manda, C. Bernardino, M.S. Nakagaki, R.C. Burini.** Botucatu Medical School, Brazil, Methodist University of Piracicaba (UNIMEP), Brazil and UEL/UEM Physical Exercise Graduate Program, Brazil.

A214 **856.4** Accounting for Non-Steady State Conditions During Long-Term Deuterium Oxide-Based Measurement of Protein Turnover. **R.V. Musci, A.R. Konopka, C.A. Wolff, J.J. Reid, J.L. Laurin, F.F. Peelor III, P.D. Shipman, K.L. Hamilton, B.F. Miller.** Colorado State University.

A215 **856.5** Development of Fiber Type Areas from Childhood to Adulthood in Vastus Lateralis. **M. Esbjörnsson, M. Dahlström, E. Jansson.** Karolinska Institutet, Sweden.

A216 **856.6** Effects of Estrogen on Statin-Induced Myotoxicity in Vitro. **J. Roussel, A. Stambersky, K.L. Ball.** Alma College.

A217 **856.7** Heart Failure with Reduced Ejection Fraction Causes Limb Muscle Atrophy in Males, but Not Female Rats. **A.M. Noriega, R.C. Kelley, E. Goldberg, L.F. Ferreira.** University of Florida.

A218 **856.8** Phosphodiesterase-5 Inhibitors *sildenafil and Ordonafil* Suppress/Reverse L-Name Induced Cardiac Hypertrophy in Isolated Rabbit Heart and in Phenylephrine Induced Hypertrophy in Isolated Neonatal Rat Myocytes. **S.Y. Khatib, A. Zeidan, A. Siam.** Faculty of Medicine—Jordan University of Science & Technology, Jordan.

A219 **856.9** Early Mitochondrial Degeneration in the Development of Disuse-Induced Muscle Atrophy. **N.P. Greene, J.L. Brown, M.E. Rosa-Caldwell, D.E. Lee, W.A. Haynie, R.A. Perry, T.A. Washington, M.P. Wiggs.** University of Arkansas and The University of Texas at Tyler.

A220 **856.10** Skeletal Muscle Disuse Alters Exosome miRNA Predicted to Target Various Signaling Pathways Related to Muscle Atrophy. **D.W. Van Pelt, E.R. Hunt, T.A. Butterfield, B.F. Miller, K.L. Hamilton, E.E. Dupont-Versteegden.** University of Kentucky and Colorado State University.

A221 **856.11** Regulation of Amino Acids in Muscle and Blood from Patients with Pancreatic Cancer-Induced Cachexia. **E.E. Talbert, J. Chakedis, D.C. Guttridge.** The Ohio State University.

A222 **856.12** Autophagy Promotes Cancer Chemotherapy-Induced Oxidative Stress and Skeletal Muscle Dysfunction. **A.J. Smuder, O.S. Kwon, B.A. Hain, F.E. Houston, E.E. Talbert.** University of South Carolina, University of Florida and The Ohio State University.

A223 **856.13** Effects of Agmatine Exposure on Skeletal Muscle of Aging Rats. **J. Pascolla, C.N. Receno, C. Liang, M.C. Welch, J. Barnes, K.C. DeRuisseau.** Syracuse University

A224 **856.14** Prolonged Dietary Curcumin Supplementation Augments Nrf2 Nuclear Translocation and Attenuates Oxidative Stress in Skeletal Muscle of Aging Rats. **C.N. Receno, C. Liang, D.L. Korol, K.C. DeRuisseau.** Syracuse University.

A225 **856.15** Overexpression of SOD2 in the Diaphragm Provides Partial Protection Against Ventilator-Induced Diaphragm Atrophy and Contractile Dysfunction. **A.B. Morton, A.J. Smuder, H.W. Hyatt, J.M. Hinkley, N. Ichinoseki-Sekine, A. Mor, S.K. Powers.** University of Florida, University of South Carolina and Juntendo University, Japan.

A226 **856.16** Glycogen Enhancement Augments Basal and Leucine-Stimulated Protein Synthesis in S Myotubes. **M.M. Lawrence, J.R. Huot, A.V. Skurat, P.J. Roach, K.L. Hamilton, B.F. Miller, S.T. Arthur, S.E. Gordon.** Colorado State University, University of North Carolina at Charlotte, Indiana University and Kennesaw State University.

A227 **856.17** Identification and Characterization of F-Box and Leucine-Rich Repeat Protein 22 (Fbxl22) in Skeletal Muscle. **J. Driscoll, D. Waddell.** University of North Florida.

A228 **856.18** Characterization of the Regulation and Function of Zinc Finger Protein 593 (Zfp593) in Skeletal Muscle. **M. McLeod, D. Waddell.** University of North Florida.

A229 **856.19** Identification and Characterization of Protein Phosphatase Methylesterase 1 (Ppme1) in Skeletal Muscle. **S. Labuzan, D. Waddell.** University of North Florida.

A230 **856.20** Identification and Characterization of Mago Homology B (Magohb) in Skeletal Muscle. **S. Zubair, D. Waddell.** University of North Florida.

A231 **856.21** Identification and Characterization of Fggy Carbohydrate Kinase Domain Containing (FGGY) in Skeletal Muscle. **K. Novo, D. Waddell.** University of North Florida.

A232 **856.22** Identification and Characterization of Calcium Binding and Coiled Coil Domain 1 (CALCOCO1) in Skeletal Muscle. **P. Irvin, K. Patterson, D. Waddell.** University of North Florida and New College of Florida.

A233 **856.23** Identification and Characterization of TSSK6 Activating Co-Chaperone (TSACC) in Skeletal Muscle. **J. Deluna, D. Waddell.** University of North Florida.

A234 **856.24** Characterization of the Regulation and Function of Tetratricopeptide 39c (Ttc39c) in Skeletal Muscle. **C. Hayes, D. Waddell.** University of North Florida.

A235 **856.25** The Impact of Chronic Doxorubicin Administration on Satellite Cell Population and Capillary Density in Multiple Skeletal Muscles. **A.C. D'Lugos, C.S. Fry, T.M. Hale, R.J. Gonzales, S.S. Angadi, C.C. Carroll, J.M. Dickinson.** Arizona State University, The University of Texas Medical Branch, University of Arizona and Purdue University.

A236 **856.26** Liposomal Dexamethasone Attenuates Tourniquet-Induced Ischemia-Reperfusion Injury in Mouse Hindlimb. **H. Tu, D. Zhang, M.C. Wadman, Y-L. Li.** University of Nebraska Medical Center.

A237 **856.27** Muscle Protein Synthesis During the Early Period of Resistance Training in Rat. **T. Kotani, J. Takegaki, M. Noda, R. Takagi, K. Nakazato, N. Ishii.** The University of Tokyo, Japan and Nippon Sport Science University, Japan.

A238 **856.28** Investigating the Role of mTORC1 in the Androgen-Mediated Regulation of Skeletal Muscle Growth. **M.L. Rossetti, B.S. Gordon.** Florida State University.

A239 **856.29** Extracellular ATP Promotes Protein Synthesis in Skeletal Muscle Through Activation of the Akt-mTOR Signaling Pathway. **C. Morales Jiménez, M. Arias Calderón, N. Hernández, E. Jaimovich, S. Buvinic Radic.** Pontificia Universidad Javeriana, Colombia and Universidad de Chile, Chile.

A240 **856.30** Effect of Systemic Iron Loading on Skeletal Muscle Function and Redox Status in Mice. **C. Liang, M.C. Mickey, C.N. Receno, M. Atalay, K.C. DeRuisseau.** Syracuse University and University of Eastern Finland, Finland.

A241 **856.31** Soleus and Gastrocnemius Tenotomy Causes Fiber Type Specific Muscle Atrophy in Mouse Tibialis Anterior. **K.N. Bott, C.J.F. Watson, C.F. Leveille, A.J. MacNeil, S.J. Peters, P.J. LeBlanc, V.A. Fajardo.** Brock University, Canada.

A242 **856.32** Tribbles 3 Regulates Skeletal Muscle Mass in Fasting-Induced Atrophy. **R.H. Choi, A. McConahay, J.A. Carson, H-J. Koh.** University of South Carolina.

A243 **856.33** Preventive Effects of Capillary Regression on Brazilian Honeybee Propolis in Disused Skeletal Muscle of Rats. **H. Fujino, H. Kondo, T. Matsumoto, K. Ono, T. Ikeji, M. Takuwa, T. Hirabayashi, A. Ishihara.** Kobe University, Japan, Nagoya Women's University, Japan and Kyoto University, Japan.

857. MUSCLE PLASTICITY AND GENE REGULATION/EXPRESSION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A244 **857.1** Healthspan-Extending Treatments Enhance Proteostasis Through Reduced Cellular Proliferation. **C.A. Wolff, F.F. Peelor, K. Hamilton, B. Miller.** Colorado State University.

A245 **857.2** The Role of Nrf2 in Exercise Training-Mediated Regulation of Antioxidant Enzymes in Skeletal Muscle. **M. Okutsu, M. Yamada, M. Iwata.** Nagoya City University, Japan and Nihon Fukushi University, Japan.

A246 **857.3** Estrogen-Related Receptor α Overexpression Drives a Metabolic and Gene Expression Program Mimicking Aerobic Exercise in Skeletal Muscle. **J.M. Huss, A. Hamilton, J. Li.** City of Hope.

A247 **857.4** P62/SQSTM1 Is Required for Exercise Training-Mediated Regulation of Antioxidant Enzymes in Skeletal Muscle. **M. Yamada, M. Iwata, M. Okutsu.** Nagoya City University, Japan and Nihon Fukushi University, Japan.

A248 **857.5** Mouse Masseter Muscle Activity Induces IL1β and IL6 Expression Mediated by Extracellular ATP Signaling. **C. Beato, N. Vicencio, M. Casas, S. Buvinic.** Universidad de Chile, Chile.

A249 **857.6** Autophagy and Mitophagy Flux in Skeletal Muscle During Chronic-Contractile Activity. **Y. Kim, M. Triolo, A. Erlich, J. Lai, D.A. Hood.** York University, Canada.

858. PHYSIOLOGICAL ADAPATIONS TO HYPOXIA: FROM MOUNTAIN TOP TO OCEAN BOTTOM (POSTERS)

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A250 **858.1** Pre-Clinical Application of Aerosolized Water-in-Fluorocarbon Emulsion Intrapulmonary Drug Delivery System for Targeting Pulmonary Vascular Diseases. **D. Pak, S. Ferguson, J. Hopkins, J. Harral, K. Redinius, M. Borden, T. Schroeder, D. Irwin.** University of Colorado Denver, University of Colorado Boulder and University of Mainz, Germany.

A251 **858.2** Increased Hypoxic Proliferative Response in PBMCs-Derived Erythroid Progenitor Cells of Andean Highlanders with Chronic Mountain Sickness. **D. Bermudez, C. Anza-Ramirez, M.Á. Orrego-Solano, C. Guerra-Giraldez, F.C. Villafuerte.** Universidad Peruana Cayetano Heredia, Peru.

A252 **858.3** Cerebral Hyperperfusion and Metabolic Regulation in Response to Hypoxia: Do ATP-Sensitive Potassium Channels Play a Role? **M.P.R. Alves, M.O. Campos, J.D. Mattos, D.E. Mansur, H. Rocha, N.H. Secher, A.C. Nóbrega, I.A. Fernandes.** University of Massachusetts Medical School Boston, Fluminense Federal University, Brazil and University of Copenhagen, Denmark.

A253 **858.4** Evolutionarily Conserved Notch-Dependent and Independent Mechanisms Regulating Hypoxia Tolerance. **D. Zhou, J. Xue, Y-H. Hsiao, T. Stobdan, G.G. Haddad.** University of California and San Diego.

A254 **858.5** High Altitude Hypoxia Impacts Omega-3 Fatty Acid Metabolites in Plasma of Fetal and Newborn Sheep. **V. Lopez, M. La Frano, R. Bosviel, J. Newman, R. Thorpe, O. Feihn, L. Zhang, S.M. Wilson.** Occidental College Los Angeles, California Polytechnic State University, University of California, Davis, Loma Linda University School of Allied Health Professions and Loma Linda University School of Medicine.

A255 **858.6** Mechanisms of Neuroprotection Against Oxidative Stress in the Anoxia Tolerant Turtle *Trachemys scripta*. **M. Reiterer, S.L. Milton.** Florida Atlantic University.

A256 **858.7** Effects of 5-Hydroxymethyl-2-Furfural (5-HMF) on Skeletal Muscle Performance in Rats Exposed to an Acute Bout of Hypobaric Hypoxia. **G.E. Ciarlone, N.G. Roney, H.G. Gasier, R.T. Mahon, J.M. Swift.** Naval Medical Research Center and Uniformed Services University of the Health Sciences.

A257 **858.8** Sweet Success: Metabolic Substrate Adaptations to Acute Hypoxia in the Naked Mole Rat *(Heterocephalus glaber).* **M.E. Pamenter, A.M. Kirby, A.J. Shuhendler.** University of Ottawa, Canada.

A258 **858.9** Long Term Hypoxia Reduces Ca^{2+} Oscillations in Basilar Arterial Myocytes of Fetal and Adult Sheep. **C. Reid, M. Romero, A. Dobyns, C.G. Wilson, D.A. Hessinger, L.D. Longo, L. Zhang, S.M. Wilson.** University of Nevada, Reno School of Medicine, Loma Linda University and Loma Linda University School of Medicine.

A259 **858.10** Pregnancy Enhances Calcium Spark Activity Independent of Altitude in *Ovine* Uterine Arterial Myocytes. **M.A. Holguin, V. Williams, M. Romero, J. Puglisi, A.A. Shin, X-Q. Hu, L. Zhang, S.M. Wilson.** California Baptist University, Loma Linda University School of Medicine, Loma Linda University and California Northstate University.

859. THE EFFECTS OF ENVIRONMENTAL CHALLENGES ON PERFORMANCE AND METABOLISM (POSTERS)

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A260 **859.1** Development of Thermoregulatory Capability in Weddell Seal Pups. **L.E. Pearson, E. Weitzner, S. Whoriskey, L. Tomanek, H.E.M. Liwanag.** California Polytechnic State University and The Marine Mammal Center.

A261 **859.2** Behavioral Thermoregulation of Antarctic Teleosts with and Without Hemoglobin in Response to Acute Thermal Challenge. **I.I. Ismailov, J.B. Scharping, I.E. Andreeva, M.J. Friedlander.** Virginia Tech Carilion Research Institute and Virginia Tech Carilion School of Medicine and Research Institute.

A262 **859.3** Hypohydration Does Not Exacerbate Age-Related Impairments in Whole-Body Heat Loss During Exercise in the Heat. **R.D. Meade, S. Dervis, A.W. D'Souza, S.R. Notley, P. Boulay, R.J. Sigal, G.P. Kenny.** University of Ottawa, Canada, University of Sherbrooke, Canada and University of Calgary, Canada.

A263 **859.4** Defining Acceptable Cold-Water Immersion Times for the Treatment of Exertional Hyperthermia When Rectal Temperature Measurements Are Not Available. **M.P. Poirier, S.R. Notley, D. Gagnon, R.R. McGinn, B.J. Friesen, A.D. Flouris, G.P. Kenny.** University of Ottawa, Canada, Université de Montréal, Canada and University of Thessaly, Greece.

A264 **859.5** Differential Thermal Behavioral Response to Heat vs. Cold Stress in Humans. **Z.J. Schlader, J.R. Sackett, B.D. Johnson.** University at Buffalo and State University of New York.

A265 **859.6** Sink or Swim: Early Dive Behavior in Weddell Seal (*Leptonychotes weddellii*) Pups. **E. Weitzner, L.E. Pearson, L. Tomanek, S. Whoriskey, H.E.M. Liwanag.** California Polytechnic State University and The Marine Mammal Center.

A266 **859.7** Seal Endothelial Cells: A Comparative Model to Study Natural Tolerance to Ischemia/Reperfusion. **J.P. Vazquez-Medina, K. Allen, A.G. Hindle.** University of California, Berkeley and Massachusetts General Hospital.

A267 **859.8** Intrinsic Anti-Inflammatory Properties of Serum in Deep-Diving Seals. **A.G. Hindle, A. Bagchi, A. Batten, M. Levin, K.N. Allen, L.A. Huckstadt, D.P. Costa, W.M. Zapol, E.S. Buys.** Massachusetts General Hospital, University of Connecticut, University of California and Santa Cruz.

A268 **859.9** Genetically Engineering a Sheep Model of Hypophosphatasia. **D.K. Williams, C.A. Pinzon, S. Huggins, J.H. Pryor, H.M. Georges, F. Hermann, J. Oldeschulte, M.E. Westhusin, C.R. Long, D. Gaddy, L.J. Suva.** Texas A&M University

A269 **859.10** Hormonal Drive of Cardiomyocyte Proliferative and Regenerative Potential Loss During the Acquisition of Endothermy. **G.N. Huang.** University of California and San Francisco.

A270 **859.11** Environmental Chemicals Can Disrupt Neonatal Cardiomyocyte Physiology. **M. Ramadan, M. Sherman, R. Jaimes, L. Swift, N. Posnack.** Children's National Health System.

A271 **859.12** Glucose Metabolism After Sleep Restriction, Total Sleep Deprivation, and Recovery. **E-M. Elmenhorst, E. Hennecke, D. Lange, J. Fronczek, A. Bauer, D. Elmenhorst, D. Aeschbach.** German Aerospace Center (DLR), Germany and Research Center Jülich, Germany.

860. COMPARATIVE CARDIOVASCULAR AND RESPIRATORY FUNCTION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A272 **860.1** Postnatal Development of Hypoxic and Hypercapnic Ventilatory Responses in Coturnix Quail. **A.E. Pratt, M. Song, R.W. Bavis.** Bates College.

A273 **860.2** Effects of Gravidity on Grasshopper Oxygen Delivery. **S.D. Kirkton, E.K. Altman, D. Zembrzuski.** Union College and Arizona State University.

A274 **860.3** Phenotypic Plasticity in Morphological and Physiological Responses in Gills of Seawater- and Fresh Water-Acclimated Asian Sea Bass, *Lates calcarifer*. **T-H. Lee, W-K. Yang, T-L. Chao, S-S. Lee, J-J. Syu, W-Z. Chen.** National Chung Hsing University, Taiwan and Kaohsiung Municipal Sinsing Senior High School, Taiwan.

A275 **860.4** Consumption of a Refined Carbohydrate Diet Does Not Impair Vasodilation of Cranial Tibial Arteries in the Mourning Dove, *Zenaida macroura*. **W. Clark, A.J. Basile, P. Deviche, K.L. Sweazea.** Arizona State University.

A276 **860.5** Evolution of Naturally High Plasma Glucose Concentrations in Birds. **A.J. Basile, C.L. Jarrett, C.C. Witt, K.L. Sweazea.** Arizona State University, University of Utah and University of New Mexico.

861. COMPARATIVE METABOLIC, ENDOCRINE AND MUSCLE PHYSIOLOGY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A277 **861.1** Mechanisms for Oxygen-Mediation of Body Size. **J.F. Harrison, J.B. Campbell, T. Lundquist, V. Callier, T. Cogley, T. Fox, K.J. Greenlee.** Arizona State University, North Dakota State University and Ronin Institute.

A278 **861.2** Mitochondrial Respiration in Skeletal Muscle Mitochondria from Desert Pupfish Suggests Limitation of Metabolic Substrates as a Mechanism for Paradoxical Anaerobism. **S. Hillyard, M. Jastroch, F. van Breukelen.** University of Nevada, Las Vegas and Helmholtz Zentrum.

A279 **861.3** Quantifying Environmental Multi-Stress Response in Mussels via Respirometry and qPCR. **G. Dilly, C. Senger, K. Algoso, G. Brazier.** California State University and Channel Islands.

A280 **861.4** The Status of Protein Translation in a Metabolically Flexible Mammal, the Common Tenrec, *Tenrec ecaudatus*. **J.N. Wilson, F. van Breukelen.** University of Nevada and Las Vegas.

A281 **861.5** Age-and Muscle-Specific Oxidative Stress Management Strategies in a Long-Lived Diver, the Weddell Seal. **K. Allen, A. Hindle, J.P. Vázquez-Medina, J.M. Lawler, J-A.E. Mellish, M. Horning.** University of California, Berkeley, Massachusetts General Hospital, Texas A&M University, University of Alaska Fairbanks and Alaska SeaLife Center.

A282 **861.6** Hemoglobin in an Ancestral Hibernator, the Common Tenrec, *Tenrec ecaudatus*. **S.E. York, F. van Breukelen.** University of Nevada and Las Vegas.

A283 **861.7** Immune Function in the Basoendothermic Common Tenrec, *Tenrec ecaudatus*. **C.J. Smith, F. van Breukelen.** University of Nevada and Las Vegas.

A284 **861.8** Leucine Supplementation in Mice During Pregnancy Does Not Affect Birthweight or Offspring Growth Prior to Weaning. **M.M. McGuckin, S.A. Bartak, J. Marini, D.G. Peterson, R. Manjarin.** California Polytechnic State University, United States Department of Agriculture, Agricultural Research Service and Children's Nutrition Researc.

A285 **861.9** Glucocorticoid-Receptor Mediated Signaling Regulates Lipolysis in Northern Elephant Seal Pups. **P. Juarez, J.P. Vasquez-Medina, D. Lee, D.E. Croker, R. Ortiz.** University of California, Merced and Sonoma State University

862. EVOLUTIONARY PHYSIOLOGY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A286 **862.1** Pelagic Sea Snakes Drink Fresh Water at Beginning of Wet Season. **H.B. Lillywhite, C.M. Sheehy III, M. Sandfoss, J. Crowe-Riddell.** University of Florida and University of Adelaide, Australia.

A287 **862.2** Precipitation Patterns and Hydration Status of a Unique Insular Snake Population. **M. Sandfoss, H. Lillywhite.** University of Florida.

A288 **862.3** Body Mass-Specific Na, K-ATPase Activity in the Medullary Thick Ascending Limb—Implications for Species-Dependent Urine Concentrating Mechanisms. **M. Aw, T.M. Armstrong, M. Nawata, S.N. Bodine, J.J. Oh, G. Wei, K.K. Evans, M. Shahidullah, T. Rieg, T. Pannabecker.** University of Arizona and University of South Florida.

A289 **862.4** Strategies to Assess Pharyngeal Pumping Variability in the Nematode *C. elegans*. **M.B. Harris, R. Berlemont, B. Ortiz, B.E. Taylor.** California State University and Long Beach.

A290 **862.5** Pharyngeal Pumping in the Nematode *C. elegans*: Resolving Treatment Effects Through Variability Assessment. **B. Ortiz, J. Hincks, E. Vayndorf, B.E. Taylor, M.B. Harris.** California State University, Long Beach and University of Alaska Fairbanks.

A291 **862.6** Dietary Manipulation of Arginine Supply and Demand in Mice. **R. Raguin, M.A. Mohammad, I.C. Didelija, R. Manjarin, D.G. Burrin, J. Marini.** California Polytechnic State University, United States Department of Agriculture, Agricultural Research Service and Children's Nutrition Researc.

A292 **862.7** AMPK Affects Thermal Tolerance in Decapod Crustaceans. **P. Lancor, C. Bucicchia, M. Frederich.** University of New England.

A293 **862.8** Effect of Incubation Temperature on Survival, Growth and Oxygen Consumption of Developing Brine Shrimp (*Artemia franciscana*). **C.L. Melendez, C.A. Mueller.** California State University and San Marcos.

A294 **862.9** Friend or Family? Social Recognition and Physiological Stress in the Self-Fertilizing Mangrove Rivulus Fish (*Kryptolebias marmoratus*). **J.D. Trueman, S. Currie.** Mount Allison, Canada and Mount Allison University, Canada.

A295 **862.10** Walk the Walk: Parallels Between Gait Parameters and Muscle Force Production in Turkeys. **K. Vega, C. Eng, T.J. Roberts.** California State University, San Bernardino and Brown University.

863. SYSTEMS BIOLOGY, COMPUTATIONAL MODELING, AND BIOINFORMATICS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A296 **863.1** Erythrodb: A Multi-Omic Visual Knowledge Base for the Human Red Blood Cell. **J.T. Yurkovich, B.O. Palsson.** University of California and San Diego.

A297 **863.2** Do Body Shape/Proportions Predict Injury? Novel Insights from a 3D Body Scan Imaging. **K. Talty, D.M. Thomas, P. Kuiper, S. Morse, K. Bigelman, S. Heymsfield, M. Scioletti.** United States Military Academy and Pennington Biomedical Research Center.

A298 **863.3** Defining Functional Human Variants in the HMG Box of SOX Genes of 62;60,000 Human Individuals for Potential Cardiovascular and Cancer Genetic Risk. **D. Rasicci, A.C. Underwood, T. Freeland, A. Milsted, H.J. Jacob, J. Prokop.** Walsh University, HudsonAlpha Institute for Biotechnology and Michigan State University.

A299 **863.4** Parallel Genomic Analysis: Hi-C Analysis Pipeline for Open-Source Torque Resource Manager. **T. Stodola, M. Liang, A. Greene.** Medical College of Wisconsin.

A300 **863.5** Integrated Causal Network and Model-Based Analysis of Ca^{2+} Wave Propagation in Liver Lobules. **A. Verma, A. Antony, H. Makadia, B. Ogunnaike, J. Hoek, R. Vadigepalli.** University of Delaware and Thomas Jefferson University.

A301 **863.6** Single Cell Gene Expression Analysis and 3-D Mapping of Cardiac Ganglia. **S. Achanta, J. Gorky, L. Cahill, S. Robbins, J. Schwaber, R. Vadigepalli.** Thomas Jefferson University.

864. CELL SIGNALING: PROTEINS, PATHWAYS, AND MECHANISMS (POSTERS)

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A302 **864.1** White Light Emitting Diode Suppresses Proliferation and Induces Apoptosis in Hippocampal Neuron Cells Through Mitochondrial Cytochrome C Oxydase-Mediated IGF-1 and TNF-α Pathways. **Y. Yang.** Nanjing Agricultural University, People's Republic of China.

A303 **864.2** Contributions of TRPA1, TRPV1 and ROS to Neuronal Activation Following Mitochondrial Modulation with Antimycin A. **K. Stanford, I. Barannikov, T. Taylor-Clark.** University of South Florida.

A304 **864.3** Mitochondrial ROS Activates PKC Alpha Translocation to the Membrane of Vagal Sensory Neurons. **P.K. Bahia, I. Barannikov, T.E. Taylor-Clark.** University of South Florida.

A305 **864.4** Mechanisms of CO_2-Dependent Regulation of NFκB Signaling. **C.E. Keogh, C.C. Scholz, J. Rodriguez, A.C. Selfridge, A. von Kreigsheim, E.P. Cummins.** School of Medicine and Medical Science at University College Dublin, Ireland, Institute of Physiology, University of Zürich, Switzerland and Edinburgh Cancer Research Centre, United Kingdom.

A306 **864.5** Sensing and Transduction of Acid-Base Disturbances by Receptor Protein Tyrosine Phosphatase γ. **F.J. Moss, A.B. Wass, S.J. Watterson, W.F. Boron.** Case Western Reserve University.

A307 **864.6** SIRT2 Is Required for in Vivo Tissue-Specific and Whole Body Insulin Action in Mice. L**. Lantier, A.S. Williams, C.C. Hughey, D. Bracy, D. Gius, D.H. Wasserman.** Vanderbilt University, Duke University and Northwestern University Feinberg School of Medicine.

A308 **864.7** Inhibition of Inositol Hexakisphosphate Kinase 1 (IP6K1) Does Not Increase Akt or mTOR Activity *in Vitro*. **R. Barclay, R. Mackenzie.** University of Roehampton, United Kingdom.

A309 **864.8** Modulating Cytoskeletal Structure and Cellular Signaling to Target Neuron Cell Membrane Repair. **B.J. Paleo, S. Bhattacharya, N. Weisleder.** The Ohio State University.

A310 **864.9** Damage Response in Doxorubicin-Exposed Cardiac Fibroblasts. **T.A. Mancilla, G. Aune.** The University of Texas Health Science Center at San Antonio.

A311 **864.10** Matrix Metalloproteinase Inhibitors Attenuate Doxorubicin-Induced Heart Failure by Preventing Cardiac Titin Proteolysis. **B. Chan, A. Roczkowsky, M. Poirier, N. Moser, R. Ilarraza, H. Granzier, R. Schulz.** University of Alberta, Canada and University of Arizona.

A312 **864.11** TXLNB Is a Novel Regulator of Cardiac Proteostasis. **J.M. McLendon, X. Zhang, C. Stein, G. Abouassaly, N. Witmer, R.L. Boudreau.** University of Iowa Carver College of Medicine.

A313 **864.12** LMCD1 Acts as a Coactivator for E2F1 in CDC6 Expression to Promote Human Aortic Smooth Muscle Cell Replication and Atherogenesis. **N.K. Singh, J. Janjanam, B. Zhang, A.M. Mani, J.G. Traylor; Jr., A.W. Orr, G.N. Rao.** University of Tennessee Health Science Center and Louisiana State University Health Sciences Center.

A314 **864.13** Muscle Drp-1 and Fis-1 Regulation by IL-6 Signaling. **D. Fix, B.N. VanderVeen, J. Hardee, J.A. Carson.** University of South Carolina

A315 **864.14** The Role of c-KIT/SGC Signaling Axis in Vascular Reactivity and Hypertension. **D.R. Hernandez, L. Song, Z.M. Zigmond, Y. Wei, L. Martinez, R.M. Lassance-Soares, R.I. Vazquez-Padron.** University of Miami.

A316 **864.15** ADGRG6/GPR126 as a Novel Therapeutic Target in Pulmonary Arterial Hypertension. **A. Muthusamy, M.W. Gorr, A.M. Chinn, P.A. Insel.** University of California and San Diego.

A317 **864.16** TNFSF14 Inhibits Neutrophil Extracellular Trap Formation in Neutrophil-Like Hl-60 Cells. **M. Petreaca, B. Kloczkowski.** DePauw University.

A318 **864.17** Determining the Effect of MRP4 Knockout on Pigment Granule Position in Mouse RPE. **D.E. Ibarra, T. Mireles, A. Pattillo, C. Przybylski, T. Roberts, T.S. Wood, J. Schuetz, D.M. García.** Texas State University and St. Jude Children's Research Hospital.

A319 **864.18** Msp-Dependent Activation of Cns Ron Receptor Tyrosine Kinase Signaling Attenuates Neuroinflammation Through the Physiological Regulation of IL1B and NLRP3 Inflammasome Pathway. **A. Dey, S.K. Nettleford, J.W. Fraser, A.J. Hare, D.M. Alnemri, R.F. Paulson, K.S. Prabhu, P.A. Hankey-Giblin.** Pennsylvania State University.

A320 **864.19** Investigation of the Roles of Novel Endogenous Ligand of Aryl Hydrocarbon Receptor in Neural Development. **P-Y. Chuang, Y-Y. Chan, P-Y. Wu, P-J. Chen, H. Lee.** National Taiwan University, Taiwan and Academia Sinica, Taiwan.

865. ORAI AND STIM PROTEINS IN CALCIUM SIGNALING

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A321 **865.1** Myosin Light Chain Kinase-210 Induces ER-PM Junctions and STIM1 Puncta Formation to Augment Store-Operated Ca^{2+} Entry. **N. Srivastava, T. Mohammad, R. Amin, J.C. Joshi, J. Klomp, W. Li, V. Kini, N. Knezevic, A.G. Obukhov, A. Karginov, Y. Komarova, D. Mehta.** University of Illinois, Chicago State University and Indiana University School of Medicine.

A322 **865.2** CaMKK β Regulates Store-Operated Calcium Entry (SOCE) Through Controlling the Expression of STIM1 in Endothelial Cells. **S.C. Regmi, D. Soni, D. Wang, C. Tiruppathi.** University of Illinois at Chicago.

866. PROKARYOTIC TRANSPORT, METABOLISM, AND CELL SIGNALING IN NUTRITION, HEALTH, AND DISEASE

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A323 **866.1** Evidence for Activation of Host Cell Protein Kinase C Signaling from Proteomics Analysis of *Coxiella burnetii*-Infected Thp-1 Cells. **C.J. Funk, C. Jackson.** John Brown University.

867. EXTRACELLULAR MATRIX, CELL INTERACTIONS, AND TISSUE ORGANIZATION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A324 **867.1** Cell-Matrix Interactions and Mechanosensitive Pathways in Uterine Leiomyoma (Fibroid) Proliferation. **M. Purdy, J. Ravix, A.J. Haak, M.A. Thompson, Y.S. Prakash, D.J. Tschumperlin, E.A. Stewart.** Mayo Clinic.

A325 **867.2** Improved Cardiac Remodeling After *in Vivo* Knockdown of Type VI Collagen Following Myocardial Infarction. **N.J. Baker, A. Minasyan, R. Adapala, C.M. McShannic, C. Gan, B.L. Hom, C.K. Thodeti, J.G. Meszaros.** Washington and Jefferson College and Northeast Ohio Medical University.

A326 **867.3** AMP-Activated Protein Kinase (AMPD) Modulates Myoendothelial Junctions (MEJ) in Murine Microvessels. **J. Qiu, S. Tahir, K-M. Schubert, H. Schneider, U. Pohl.** Walter-Brendel-Centre and Ludwig-Maximilian University of Munich, Germany.

A327 **867.4** Transient ACE-Inhibitor Treatment Produces Persistent Change in Cardiac Fibroblast Physiology. **O. Perez, A. Garvin, T. Hale.** University of Arizona College of Medicine—Phoenix.

A328 **867.5** Multidimensional Clustering of Regenerative Alveolar Duct Cells After Murine Pneumonectomy. **A. Ysasi, R. Bennett, C. Valenzuela, A. Servais, W. Wagner, A. Tsuda, M. Ackermann, S. Mentzer.** Brigham and Women's Hospital and Harvard Medical School, Johannes Gutenberg University, Germany and Harvard T.H. Chan School of Public Health.

868. EPITHELIAL MECHANO-SENSITIVITY IN HEALTH AND DISEASE (POSTERS)

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A329 **868.1** N-Glycan and Heparan Sulphate Components of the Extracellular Matrix Are Essential for Laminar Shear Stress Response of the Epithelial Sodium Channel (ENaC) Z**. Ashley, D. Barth, J.P. Baldin, M. Fronius.** University of Otago, New Zealand.

A330 **868.2** Role of the Mechanosensitive Ion Channel Piezo1 in Autosomal Dominant Polycystic Kidney Disease (ADPKD). **F. Chebib, A. Beyder, X. Wang, C. Alcaino, B. Ehrlich, V. Torres.** Mayo Clinic and Yale University.

A331 **868.3** Piezo2 Mechanosensitive Ion Channel Role in Primary Enterochromaffin (EC) Cell Mechanosensitivity. **C. Alcaino, K. Knutson, G. Yildiz, D. Linden, J.H. Li, A. Leiter, G. Farrugia, A. Beyder.** Mayo Clinic and University of Massachusetts Medical School.

A332 **868.4** Exposure of Proximal Tubule Cells to Fluid Shear Stress Alters Transcription of Metabolic Pathway Enzymes. **Q. Ren, M.L. Eshbach, N.L. Rittenhouse, K.R. Long, Y. Rbaibi, J. Locker, A.C. Poholek, O.A. Weisz.** Tsing Hua University, People's Republic of China and University of Pittsburgh.

869. CELL MIGRATION, CONTRACTILITY, CYTOSKELETON, AND ADHESION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A333 **869.1** l-Cad Alters Cell Spreading and Adhesion Force in Osteoclasts. **Y. Liou, C-L. Chang, J-Y. Chen, M-C. Shih, C-L. A. Wang.** National Chung Hsing University, Taiwan and Boston Biomedical Research Institute.

A334 **869.2** β2 Integrins Regulate Migratory Properties of M1 and M2 Macrophages During Inflammation. **K. Cui, M. Aziz, C. Ardell, V. Yakubenko.** East Tennessee State University.

A335 **869.3** Electric Stimulation Alters Intercellular Stress Within the Epithelial Monolayer. **Y. Cho, M. Son, U.H. Ko, H. Jeong, J.H. Shin.** Korea Advanced Institute of Science and Technology, Republic of Korea.

A336 **869.4** Persistent Disruption of Lateral Junctional Complexes and Actin Cytoskeleton in Parotid Salivary Glands Following Radiation Treatment. **W.Y. Wong, M. Pier, K. Limesand.** University of Arizona.

870. IMMUNE MODULATION OF BLOOD PRESSURE AND VICE VERSA (POSTERS)

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A337 **870.1** Loss of Salt Sensing Kinase, SGK1, in T Cells Abrogates Memory Cell Formation, Hypertension and End-Organ Damage. **H.A. Itani, A. Pandey, A.E. Norlander, D.G. Harrison.** Vanderbilt University Medical Center.

A338 **870.2** Cd14 as a Novel Negative Modulator of Immune System-Dependent Renal Damage and Salt-Sensitive Hypertension. **D.J. Fehrenbach, J.M. Abais-Battad, J.H. Dasinger, H. Lund, A.M. Geurts, D.L. Mattson.** Medical College of Wisconsin.

A339 **870.3** Role of the Renal Nerves in Renal Damage and Immune Cell Infiltration in Dahl Salt-Sensitive Rats. **A.J. Alsheikh, H. Lund, J.H. Dasinger, J.M. Abais-Battad, D.J. Fehrenbach, D.L. Mattson.** Medical College of Wisconsin.

A340 **870.4** Oral L-Arginine Treatment Significantly Reduces Blood Pressure Without Altering the Renal T Cell Profile in the DOCA Salt Model of Hypertension. **E.E. Gillis, G.R. Crislip, J.C. Sullivan.** Augusta University.

A341 **870.5** Envigo's Female Salt-Sensitive Rapp Rats Are Now Spontaneously Hypertensive and Have Higher Frequencies of $CD4^+$, $CD4^+$ $CD25^+$ and $CD4^+$ $CD25^+$ $FOXP3^+$ T Cells Compared to Normotensive Salt-Resistant Rapp Rats. **A.V. Pai, C.A. West, A. Souza, P.S. Kadam, E.J. Pollner, D.A. West; Jr., H. Ji, X.S. Wu, C. Baylis, K. Sandberg.** Georgetown University and University of Florida.

A342 **870.6** Early Life Stress Induces Vascular Expression of Pro-Oxidant, Proinflammatory Genes in Adulthood in an HDAC9-Dependent Manner. **Y.D. Pettway, D.H. Ho, K. McPherson, M.E. Seifert, J.S. Pollock.** University of Alabama at Birmingham.

A343 **870.7** Leptin Accelerates Autoimmune Disease Progression in an Experimental Model of Systemic Lupus Erythematosus. **E. Taylor, C. Bruno, M. Ryan.** University of Mississippi Medical Center.

A344 **870.8** Effects of Vagus Nerve Stimulation in a Murine Model of Systemic Lupus Erythematosus. **K.W. Mathis, H. Stauss, G.S. Pham, S.S. Kim, D.V. Kulp.** University of North Texas Health Science Center and University of Iowa.

A345 **870.9** Computational Modeling of the Impact of Inflammation on Renal Hemodynamic Function. **E. Dent, J. Clemmer, M. Ryan, W. Pruett.** University of Mississippi Medical Center.

A346 **870.10** Identification of Lactotransferrin as a Novel Biomarker and Potential Mediator of Human Hypertension. **M. Alexander, A. Norlander, C. Galindo, F. Elijovich, C. Laffer, J. Gnecco, M. Madhur.** Vanderbilt University Medical Center.

871. INTESTINAL INFLAMMATION AND PATHOPHYSIOLOGY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A347 **871.1** Enteric Neuroinflammation Driven by Exposure to Pyridostigmine Bromide Is a Possible Contributing Factor to Gulf War Illness. **S. Hernandez-Rivera, V. Grubišić, D. Fried, B.D. Gulbransen.** Michigan State University.

A348 **871.2** Proteomic Analysis of Equine Plasma and Peritoneal Fluid in Strangulating Small Intestinal Disease. **D. Bardell, M.J. Peffers, P. Milner.** University of Liverpool, United Kingdom.

A349 **871.3** Serum Serotonin/tryptophan Ratio Correlates with Inflammation in Crohn's Disease Patients. **C.R. Manzella, J. Bauer, B. Jung, R.K. Gill.** University of Illinois at Chicago.

A350 **871.4** A Novel Mitochondrial Fission Inhibitor Ameliorates DSS and DNBS Induced Murine Colitis. **L.J.L. Goudie, N. Mancini, K.R. Blote, A. Wang, D.M. McKay, J. Shearer.** University of Calgary, Canada.

A351 **871.5** Local Colonic Delivery of Vasoactive Intestinal Peptide (VIP) Nanomedicine Alleviates Colitis in Mice. **D. Jayawardena, A.N. Anbazhagan, H. Onyuksel, P.K. Dudeja.** University of Illinois at Chicago.

A352 **871.6** Nerolidol a Natural Aliphatic Sesquiterpene Mitigates Inflammation in DSS-Induced Colitis. **S.B. Subramanya, V. Raj, S. Chandran, S.A. Marzooqui, S. Ojha.** College of Medicine and Health Sciences and UAE University, United Arab Emirates.

A353 **871.7** Ca^{2+}- Activated Cl^- Secretion in Murine Distal Colon Is Inhibited in Acute Dextran Sulfate Sodium (DSS)-Induced Inflammation via Down-Regulation of Tmem16a. **A. Nickerson, E. Minor, T. Rottgen, V. Rajendran.** West Virginia University.

A354 **871.8** Enteroglial Adenosine A2B Receptor Signaling Contributes to Local Cytokine Production and Delays Functional Recovery Following Acute Inflammation in the Mouse Colon. **V. Grubisic, H.K. Eltzschig, B.D. Gulbransen.** Michigan State University, Dell Medical School and The University of Texas at Austin.

872. GI AND LIVER STEM CELLS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A355 **872.1** Insulin/IGF-1 Enhances Intestinal Epithelial Crypt Proliferation Through PI3K/Akt, and Not ERK Signaling in Obese Humans. **W. Zhou, B.M. Rowitz, M.J. Dailey.** University of Illinois at Urbana-Champaign, Carle Illinois College of Medicine and Carle Foundation Hospital.

A356 **872.2** Limiting the Toxicity of Chemotherapy by Enhancing Regeneration of Intestinal Stem Cells. **M-S. Chen, Y-H. Lo, J. Butkus, M. Engevik, N. Shroyer.** Baylor College of Medicine.

873. GI AND LIVER PHYSIOLOGY AND DISEASE

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A357 **873.1** Human Intestinal Enteroid Monolayers as a Physiologically Relevant Model to Study *Clostridium difficile* Toxin Activity. **M.A. Engevik, H.K. Danhof, A. Chang-Graham, R.A. Britton, J. Hyser, J. Versalovic.** Baylor College of Medicine.

A358 **873.2** PDK4-Deficiency Switches the Pro-Survival NF-κB/TNF Signaling to Pro-Apoptosis in Hepatocytes. **J. Wu, Y. Zhao, Y-K. Park, J-Y. Lee, J. Zhao, L. Wang.** University of Connecticut and Shandong Provincial Hospital affiliated to Shandong University, People's Republic of China.

A359 **873.3** Colonic Indole and Hydrogen Sulfide, Gut Bacterial Metabolites, Affect Portal Blood Pressure in Healthy and Cirrhotic Rats. **M. Ufnal, T. Huc, H. Jurkowska, M. Wróbel, K. Jaworska, M. Onyszkiewicz.** Medical University of Warsaw, Poland and Jagiellonian University Medical College, Poland.

A360 **873.4** *Curcuma longa L.* Supplementation Ameliorates Hepatic Steatosis and Insulin Resistance in Rats Submitted to Fructose Consumption. **F.K. Hasimoto, F.V. Francisqueti, J.L. Garcia, P.H.R. Alves, A.J.T. Ferron, C.R. Corrêa.** São Paulo State University Medical School, Brazil.

A361 **873.5** A Novel Estrogen Receptor, G Protein-Coupled Receptor 30 (GPR30) Plays a Critical Role, Through a Non-Transcriptional Regulatory Mode, in Promoting the Formation of Estrogen (E2)-Induced Cholesterol (CH) Gallstones in Female Mice. **D.Q. Wang, O. de Bari, M. Liu, H.H. Wang.** Albert Einstein College of Medicine, Saint Louis University School of Medicine and University of Cincinnati College of Medicine.

A362 **873.6** Teduglutide, the Stable GLP2 Analog Inhibits Lipid-Induced LPS Transport into the Portal Vein and Intestinal Paracellular Permeability After Systemic Inflammation. **T. Takajo, Y. Akiba, J.D. Kaunitz.** University of California and Los Angeles.

A363 **873.7** Lack of a Liver-Specific Apolipoprotein (Apo) A-V in Bile Promotes Cholesterol Gallstone Formation by Disrupting Biliary Cholesterol Homeostasis in Mice. **D.Q. Wang, X. Li, R.O. Ryan, P. Tso, H.H. Wang.** Albert Einstein College of Medicine, University of Nevada, Reno and University of Cincinnati College of Medicine.

A364 **873.8** Targeting Iron Metabolism for Colorectal Cancer Treatment. **X. Xue, Y. Shah.** University of Michigan.

A365 **873.9** Nucleophosmin Is Essential for Stimulation of Rac1 Nuclear Accumulation by RNA-Binding Protein HuR in the Intestinal Epithelium. **L. Liu, H.K. Chung, S. Kalakonda, T. Yu, L. Xiao, J.N. Rao, J-Y. Wang.** University of Maryland School of Medicine and Baltimore VA Medical Center.

A366 **873.10** Intestinal Epithelial AMPK Does Not Protect Against High Dose DSS-Induced Colitis in Mice. **S.J. King, K. Girgis, R. Alvarez, R.G. Jones, D.F. McCole.** University of California, Riverside and McGill University, Canada.

A367 **873.11** Evaluation of Preparation Techniques for Optimal Hepcidin Detection in Human Hepatocyte Culture. **Z.P. Morehouse, B. Easparro, C. Proctor, R.J. Nash, J. Atwood III.** Omni International and Jeevan Biosciences.

A368 **873.12** The Role of Sphingosine-1-Phosphate Activity in Liver Preservation Injury. **R.C. Fyffe-Freil, A. Limkemann, S.L. Lindell, M.J. Mangino.** Virginia Commonwealth University.

A369 **873.13** Hepatic Sympathetic Denervation Reduces Hepatic Steatosis and Blunts Liver Lipid Acquisition Pathways in Diet-Induced Obese Mice. **C. Hurr, H. Simonyan, C.N. Young.** George Washington University.

A370 **873.14** Loss of Sprouty 2 Enhances IL-33 Expression and Protects Against Experimental Colitis. **M.A. Schumacher, J.J. Hsieh, C.Y. Liu, D. Almohazey, D. Warburton, M.K. Washington, M.R. Frey.** Children's Hospital Los Angeles, Imam Abdulrahman Bin Faisal University, Saudi Arabia and Vanderbilt University School of Medicine.

A371 **873.15** Colonic Bile Acids Regulate Epithelial Wound Healing. **N.K. Lajczak, M.S. Mroz, B. Goggins, S. Keely, S.J. Keely.** Royal College of Surgeons in Ireland, Ireland, School of Biomedical Sciences and Pharmacy and University of Newcastle, Australia.

A372 **873.16** Human Macrophage Derived Myeloperoxidase Exacerbates Nonalcoholic Steatohepatitis Disease (Nash) in Diet-Induced Obesity. **L.A. Katunga, J.D. Franke, K.A. Schulte, D.A. Ford.** Saint Louis University.

A373 **873.17** Early Weaning in Pigs Induces Long-Term Alterations in Intestinal Nutrient Transporter Function and Expression. **Y. Li, M. Rajput, K. Matos Fernandez, A.J. Moeser.** Michigan State University.

A374 **873.18** Integrin-Linked Kinase Is Necessary for Normal Hepatic Glycogen Storage and Energy Metabolism. **E. Trefts, C. Hughey, D.P. Bracy, F.D. James, A. Pozzi, R. Zent, D.H. Wasserman.** Vanderbilt University and Vanderbilt University Medical Center.

A375 **873.19** CD44v9 and Cystine-Glutamate Transporter xCT Potentiate the Defense Against ROS to Allow for Effective Healing in Response to Gastric Injury. **E.L. Teal, J.L. Chakrabarti, N. Steele, N. Sundaram, J. Hawkins, J.L. Wang, M.A. Helmrath, T.L. Diwan, Y.L. Zavros.** University of Cincinnati, University of Michigan and Cincinnati Children's Hospital Medical Center.

A376 **873.20** Tofacitinib Inhibits Intestinal Epithelial JAK-STAT Signaling and Prevents Barrier Dysfunction Induced by Interferon-Gamma (IFN-γ). **A. Sayoc, R. Preciado, M. Krishnan, D.F. McCole.** University of California and Riverside.

A377 **873.21** *Helicobacter pylori* Alters the Expression of Circadian Clock Components Per2 and Bmal1 During Infection. **E.L. Teal, J. Li, J.L. Chakrabarti, N. Steele, D. Rosselot, N. Sundaram, J. Hawkins, C. Hong, M.A. Helmrath, T.L. Diwan, Y.L. Zavros.** University of Cincinnati, University of Michigan and Cincinnati Children's Hospital Medical Center.

A378 **873.22** Protective Effects of Human Milk Oligosaccharides on Intestinal Epithelial Function Assessed in Enteroid-Derived Monolayers. **A. Drobny, S.R. Ibeawuchi, S. Das, L. Bode, K.E. Barrett.** University of California and San Diego.

A379 **873.23** xCT and CD44v9 Co-Expression Mediates Pancreatic Ductal Adenocarcinoma Survival in the Presence of ROS Inducing Chemotherapeutics. **J. Chang, L. Holokai, J. Chakrabarti, M.P. Lanfranca, T. Frankel, Y. Zavros.** University of Cincinnati and University of Michigan.

A380 **873.24** *Helicobacter pylori* Infection of the Gastric Epithelium Promotes Programmed Death Ligand 1 Expression and the Formation of Premalignant Lesions. **L. Holokai, J. Chakrabarti, J. Chang, J. Hawkins, N. Sundaram, M. Mahe, M. Helmrath, Y. Zavros.** University of Cincinnati and Cincinnati Children's Hospital.

874. MICROBES AND NUTRITION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A381 **874.1** Dietary Saturated and Unsaturated Fat and Fructose Induce Distinct Patterns of Hepatic Steatosis in Male Mice. **M. Song, H. Shi, J. Jin, M. Cave, C. McClain.** University of Louisville.

A382 **874.2** An Iron Supplement Containing *l. plantarum* Increases Ferric Iron and Up-Regulates the Ferric Reductase Dcytb in Human Caco-2/Ht29 Mtx Co-Cultures. **N. Scheers, G. Önning, M. Björklund, A-S. Sandberg.** Chalmers University of Technology, Sweden and Probi AB, Sweden.

A383 **874.3** Evaluation of Antimicrobial Properties of African Basil (*Ocimum gratissimum*) and Tassel Flower (*Emilia coccinea*) Leaf Extracts. **M.M. Besong, L.K. Chintapenta, G. Ozbay, A. Aikins, S.A. Besong, A.N. Aryee.** Fairleigh Dickinson University and Delaware State University.

A384 **874.4** Unlocking Gut Health with the Prebiotic Galactooligosaccharide (GOS) and Probiotic *l. reuteri* to Keep Pathogenic *S. typhimurium* at Bay. **M.D. Forshee, D.R. Sharda.** Olivet Nazarene University.

A385 **874.5** Determining the Effect of a Novel Disease-Inducing Rodent Diet on Outcomes of a Murine Model of Polymicrobial Sepsis. **J. Joshua, D. Pogarcic, J. Convissar, A.W. Johnson, J.C. Gigliotti.** Liberty University.

875. PREBIOTICS, PROBIOTICS AND GUT FUNCTION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A386 **875.1** The Effect of Gut Bacterial β-Glucuronidase on Serum Bilirubin Levels. **J. Stout, M. Hankins, D. Stec.** University of Mississippi Medical Center.

A387 **875.2** Potential Prebiotic Effects of Rice Wine on *Lactobacillus* and *Streptococcus*. **X. Xu, B. Yuan, X. Xia, S. Zhou, Y. Han, H. Xiao, M. Dong.** Nanjing Agricultural University, People's Republic of China, Jiangsu Academy of Agricultural Sciences, People's Republic of China and University of Massachusetts.

A388 **875.3** Effects of Therapeutic Administration of Probiotic Vsl#3 on Dextran Sodium Sulfate-Induced Colitis. **R. Prest, M. Sapp, J. Glise, J. Moore, K.L.W. Walton.** Missouri Western State University.

A389 **875.4** Probiotic Lactobacilli Improves Intestinal Motility in Mice. **B. Chandrasekharan, B. Saeedi, M.A. Alam, A.S. Neish.** Emory University.

876. METAL ION TRANSPORT

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A390 **876.1** Role of *n*-Glycosylation in the Activity of Divalent Metal-Ion Transporter-1 **J.L. Dunham, A. Shawki, T.A. Ruwe, K.R. Vieth, F. Canonne-Hergaux, B. Mackenzie.** University of Cincinnati College of Medicine, Institut de Recherche en Santé Digestive and Institut National de la Santé et de la Reche, France.

A391 **876.2** Hepcidin Interaction with Ferroportin in the *Xenopus* Oocyte Expression System. **T.A. Ruwe, K.R. Vieth, S. Aschemeyer, B. Qiao, T. Ganz, E. Nemeth, B. Mackenzie.** University of Cincinnati College of Medicine, David Geffen School of Medicine at University of California and Los Angeles.

A392 **876.3** Effect of Maternal Iron Overload on Milk Iron Transport in Dams and Brain Iron Status in Offspring. **Q. Ye, J. Kim.** Northeastern University.

877. COGNITION AND BEHAVIOR

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A393 **877.1** Astaxanthin and Olive Oil Pretreatment Improves Recovery of Motor and Cognitive Skills in a Closed Head Injury Tbi Model in Male Sabra Mice. **C. Fleischmann, E. Shohami, Y. Heled, M. Horowitz.** Hebrew University, Israel, Hebrew University School of Pharmacy, Israel and Sheba Medical Center, Israel.

A394 **877.2** Trading Accuracy for Speed in Selective Attention Tasks During Sleep Deprivation. **C. Mühl, D. Aeschbach.** German Aerospace Center (DLR), Germany.

A395 **877.3** Analgesic Effects of Intravenous Morphine, Fentanyl, Sufentanil, and Ketamine in a Novel Rat Model of Extremity Trauma. L**. Xiang, K. Ryan, H. Klemcke, C. Hinojosa-Laborde.** U.S. Army Institute of Surgical Research.

A396 **877.4** Sex Based Variability in Spatial Memory and Synaptic Transmission Occur Following Chronic Intermittent Hypoxia (CIH). **J.E. Barnard, C. Nwakudu, M. Khuu, A. Garcia.** The University of Chicago.

A397 **877.5** Inhibition of Endocannabinoid Degradation Improves Behavioral Effects of Traumatic Brain Injury That Are Associated with Amygdalar Hyperexcitability in Rats. **E.A. Fucich, J.P. Mayeux, M.A. McGinn, P.J. Stoulig, L.M. Romero, S. Edwards, J.W. Middleton, P.E. Molina.** Louisiana State University Health Sciences Center—New Orleans.

A398 **877.6** Quantification of Striatal Dopamine Receptors in a Monogamous Bird. **L.E. Eisenman, M. Coleman.** Scripps College and Claremont Colleges.

A399 **877.7** Conditioned Place Preference of Mice Selectively Bred for High Voluntary Wheel Running. **M.P. Schmill, M.D. Cadney, L. Hiramatsu, R. Albuquerque, D.G. Buenaventura, M.P. Louis, A.A. Castro, Z. Thompson, J.C. Kay, J.L. Ramirez, T. Garland; Jr.** University of California and Riverside.

A400 **877.8** Testosterone in the Bedroom—Not All Good. **B. Snyder, P. Duong, R.L. Cunningham.** University of North Texas Health Science Center.

A401 **877.9** High-Fat Diet Effects on Behavior, Neuronal Activity, Inflammatory Response and Cutaneous Temperature in Male Wistar Rats. **S.I.S.R.d. Noronha, G.S.V. Campos, A.R.R. Abreu, P.M. Lima, D.A. Chianca; Jr., C.A. Lowry, R.C.A.d. Menezes.** Federal University of Ouro Preto and University of Colorado Boulder, Federal University of Ouro Preto and Georgetown University, Indiana University School of Medicine, University of Rio Verde Medical School, Brazil, Federal University of Ouro Preto, Brazil and University of Colorado Boulder.

A402 **877.10** Antigen-Induced Arthritis in Mice Induces Depression-Like Behavior and Microglial Activation in Hippocampus After the Resolution of Peripheral Inflammation. **F. Lopes, F. Vicentini, N.L. Cluny, A.J. Mathews, B.H. Lee, W. Almishri, L. Griffin, N. Munsie, D.M. McKay, M.G. Swain, K.A. Sharkey.** University of Calgary, Canada.

A403 **877.11** Self-Serving Contagion and Mimicry in Buffet Lines: Whom You Follow Influences What and How Much You Take and Eat. **B. Wansink.** Cornell University.

A404 **877.12** Comparison of Objective and Subjective Measures of Cognitive Function in Women with and Without a History of Breast Cancer. **E.S. Evans, J. Little, K.T. McNeill, C. Poole, T. Ramos, E.E. Hall, A.A. Overman, S.P. Bailey.** Elon University.

A405 **877.13** The Impact of Cognitive Fatigue on Aerobic Output in a 6-Minute Walk Test Among Older Adults. **A. Goodwin, A. Avolio, A. Boolani.** Clarkson University.

A406 **877.14** Impact of Mood After Cognitive Fatigue on Gait in Older Adults. **A. Avolio, A. Goodwin, G. Fulk, R. Martin, A. Boolani.** Clarkson University.

A407 **877.15** Relationship Between Higher and Lower Level Serial Subtraction Task Performance and Gait During a 6-Minute Walk Test. **E. Rogers, A. Avolio, A. Goodwin, R. Vaccaro, G. Fulk, R. Martin, A. Boolani.** Clarkson University.

A408 **877.16** Ovariectomized Rats Exhibit Anxiety-Like Behavior and Increased Neuronal Activation in the Periventricular Nucleus. **G.S.V. Campos, S. Noronha, A.V. De Souza, P. Lima, D. Chianca; Jr., R. De Menezes.** Federal University of Ouro Preto, Brazil and Georgetown University.

A409 **877.17** Neuroanatomical Reprogramming Produced by Perinatal Exposure to Indoor Flame Retardants (PBDEs) May Underlie Abnormal Affective/Social Behavior. **E.V. Kozlova, L. Anchondo, J.M. Krum, D. Rohac, S. Uddin, N. Huffman, K. Huffman, M.C. Curras-Collazo.** University of California and Riverside.

878. NEUROEXCITABILITY, NEUROTRANSMISSION AND NEUROPLASTICITY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A410 **878.1** Neurobiological Correlates of Pain Avoidance Behavior in Opioid vs. Alcohol Dependence. **A.R. Pahng, R.I. Paulsen, M.A. McGinn, M.E. Schindler, K.N. Edwards, S. Edwards.** Louisiana State University Health Sciences Center—New Orleans and Tulane University.

A411 **878.2** An Examination of Virtual Reality Interventions as a Resource for the Treatment of Phantom Limb Pain. **A. Johnson, T. Todd, H. Block, A. Preston, E. Raynes.** Tennessee State University.

A412 **878.3** Spinal Conversion of Testosterone to Estradiol for the Expression of Phrenic Long-Term Facilitation in Adult Male Rats. **B.J. Dougherty, E. Tyurina, D. McIntosh.** University of Minnesota.

A413 **878.4** Excitatory Amino Acid Transporters (EAATs) in NTS Limit Metabotropic Glutamate Receptor (mGluRs) Modulation of Synaptic and Neuronal Activity in Chronic Intermittent Hypoxia. **D. Martinez, E. Hasser, D.D. Kline.** Department of Biomedical Sciences and Dalton Cardiovascular Research Center and University of Missouri.

A414 **878.5** Working Memory Testing Reveals Neuroplasticity Acutely and Longitudinally After Mild Traumatic Brain Injury (MTBI). **X. Arakaki, R. Lee, A.N. Fonteh, R.T. Goldweber, M.G. Harrington.** Huntington Medical Research Institutes and Huntington Hospital.

A415 **878.6** Quantitative EEG During Memory Testing Indicates Pre-Symptomatic Alzheimer's Disease and Correlation with MRI. **X. Arakaki, K.S. King, R. Lee, K. Wei, T. Tran, A.N. Fonteh, M.G. Harrington.** Huntington Medical Research Institutes.

A416 **878.7** Glucocorticoid Receptor-Dependent Gene Expression in the Central Amygdala of Alcohol-Dependent Animals. **M.A. McGinn, K. Edwards, S. Edwards.** Louisiana State University Health Sciences Center—New Orleans.

A417 **878.8** Diet-Induced Obesity Increases H-Reflex Excitability in Adult Mice of Both Sexes. **G. Nguyen, S. Putnam, M. Haile, K.A. Wilkinson.** San Jose State University.

A418 **878.9** Dark Chocolate (70% Cacao) Modulates Gamma Wave Frequencies in Vigorously Active Individuals. **S. Silver, R. AlTikriti, N. Jin, G. Hodgkin, G. Bains, S. Dhuri, K. Patel, J. Bradburn, J. Miller, K. Bruhjell, L. Berk.** Loma Linda University and Advanced Brain Monitoring

A419 **878.10** Dark Chocolate (70% Organic Cacao) Increases Acute and Chronic EEG Power Spectral Density (μv^2) Response of Gamma Frequency (25-40Hz) for Brain Health: Enhancement of Neuroplasticity, Neural Synchrony, Cognitive Processing, Learning, Memory, Recall, and Mindfulness Meditation. **L. Berk, J. Miller, K. Bruhjell, S. Dhuri, K. Patel, E. Lohman, G. Bains, R. Berk.** Loma Linda University School of Allied Health Professions, Advanced Brain Monitoring, Loma Linda University and Parliament Chocolate.

A420 **878.11** Comparison of Effects of Serine Racemase Knockout on Nociceptive Behavior Among Different Models of Neuropathic and Inflammatory Pain. **E. Kato, T. Saotome, T. Fukushima, T. Takasusuki, S. Yamaguchi, Y. Hori.** Dokkyo Medical University, Japan.

A421 **878.12** Noradrenergic Enhancement of Synaptic Strength in Paraventricular Nucleus Neurons That Innervate the Nucleus Tractus Solitarius. **A.D. Brackley, G.M. Toney.** The University of Texas Health Science Center at San Antonio.

879. MITOCHONDRIAL FUNCTION IN ENDOCRINOLOGY AND METABOLISM

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A422 **879.1** Profiling Mitochondrial Quality Control in Human Myotubes Derived from Severely Obese Non-Diabetic and Type 2 Diabetic Patients. **A. Gundersen, S. Park, G. Dubis, J. Houmard, K. Zou.** University of Massachusetts Boston and East Carolina University.

A423 **879.2** Role of Estradiol Receptor Beta (ERβ) on Brain Mitochondrial Functions and Cardio-Respiratory Control in Aged Female Mice. **S. Laouafa, D. Roussel, F. Marcouiller, J. Soliz, A. Bairam, V. Joseph.** Université Laval, Canada and Université Claude Bernard Lyon 1, France.

A424 **879.3** Lack of Uncoupling Protein 3 Protects from High-Fat Diet-Induced Insulin Resistance and Glucose Intolerance in Rats. **T.M. Lomax, J.M. Wiseman, K.S. Edwards, S. Ashraf, R. Harmancey.** University of Mississippi Medical Center.

A425 **879.4** Effects of Roux-En-Y Gastric Bypass Surgery on Mitochondrial Quality Control Proteins in Human Myotubes Derived from Severely Obese Humans. **B.N. Kugler, P.N. Gona, S.N. Saunders, S. Park, G. Dubis, J.A. Houmard, K. Zou.** University of Massachusetts Boston and East Carolina University

A426 **879.5** Cortactin's Influence on Mitochondrial Bioenergetics in the Diabetic Heart: A Novel Viewpoint. **A.J. Durr, D.L. Shepherd, Q.A. Hathaway, J.M. Hollander.** West Virginia University.

A427 **879.6** Transcriptome Response of Lipid Droplet and Mitochondrial Dynamics in Zebrafish (*Danio rerio*) During Lipid Absorption. **E.A. Francis, J. Johnson, J.W. Walters.** Bluefield State College.

A428 **879.7** SIRT3 Restores Lipid Homeostasis in Bovine Hepatocytes Exposed to NEFA. **L. Liu, D. Xing, J. Su, T. Peng, J. Wang, L. Wen, T. Cheng.** Hunan Agricultural University, People's Republic of China and Northwest A&F University, People's Republic of China.

880. NEUROENDOCRINOLOGY, HYPOTHALAMUS AND PITUITARY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A429 **880.1** Astrocyte Specific Insulin Receptor Deletion Contributes to Reproductive and Metabolic Dysregulation in Mice. **I.H. Manaserh, J.W. Hill, S. Ravi.** University of Toledo College of Medicine and Life Sciences.

A430 **880.2** Using a Physiological Model to Understand Water and Electrolyte Disturbances Following Transsphenoidal Pituitary Surgery. **E.T. Blair, J.S. Clemmer, H.L. Harkey, R.L. Hester, W.A. Pruett.** University of Mississippi Medical Center.

A431 **880.3** A Plot Study on Effects of Hormonal Contraceptives on Beta-Arrestin1 Levels in Peripheral Blood Mononuclear Leukocytes. **K. Smith, T. Rana, A.E. Archibong, T. Nayyar.** Meharry Medical College.

A432 **880.4** Sex-Related Effects of Nesfatin-1 in the Pituitary. **A.L. Schnell, A. Pate, W.K. Samson, G.L.C. Yosten.** St. Louis University School of Medicine and St. Louis College of Pharmacy.

881. STRESS AND TRAUMA

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A433 **881.1** Mapping Hair Cortisol Concentrations Across Body Sites to Study Health Disparities. **H.F. Marquez, C. Samayoa, L. Marquez-Magaña.** University of California, Davis and San Francisco State University

A434 **881.2** Intravenous Fluids Used for Resuscitation Alters the Adrenal Response to Traumatic Burn Injury Depending on the Volume Given. **B.I. Gomez, D.M. Burmeister, T. Chao, T.C. Heard, M.A. Dubick.** U.S. Army Institute of Surgical Research.

882. REPRODUCTION, SEX HORMONES, AND GESTATIONAL BIOLOGY

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A435 **882.1** Growing Oocytes Need Zinc: Zinc Deficiency in the Preantral Ovarian Follicle. **J.M. Hester, F. Diaz.** Pennsylvania State University.

A436 **882.2** Prostaglandin E_2 (PGE_2) Function in Pregnancy—New Perspectives for the Putatively Pro-Quiescent Downstream Target RGS2. **D. Urrego, S. Wood, R. Newton, D. Slater.** University of Calgary, Canada.

A437 **882.3** Partial Progesterone Deprivation Alters the Transcription of Estrogen Receptors and Their Downstream Genes in Rat Placentas. **M. Albader, A. El-Farra, K. Narayana.** Faculty of Medicine and Kuwait University, Kuwait.

A438 **882.4** Neuropeptide Y and Dipeptidyl Peptidase IV in Pre- And Post-Menopausal Women. **E. Mann, H.A. Kluess, L.E. Neidert, A.M. La Mantia, M. Sandage, L. Plexico.** Auburn University.

A439 **882.5** Central Norepinephrine-Kisspeptin Pathway as Part of the Vaso-Motor Effects of Estrogen in an Animal Model of Menopausal Hot Flashes. **C.D.S. Fonseca, G.K.N. Goncalves, L.R. Drummond, L.T.M. Hipolito, J.F. Silva, R.E. Szawka, A.M. Reis.** Universidade Federal de Minas Gerais, Brazil.

A440 **882.6** Whole-Body Carbon Monoxide Production in Normal Adult Human Volunteers. **N. Goktepe, F.K. Johnson, R.A. Johnson.** College of Osteopathic Medicine and William Carey University.

A441 **882.7** Low-Level Laser Therapy Decreased the Number of Ovarian Follicular Cysts in Polycystic Ovaries-Induced Rats. **E.D. Alves, A.L.d.O. Bonfá, G.R. Pigatto, J.A. Achcar, N.A. Parizotto, L.H. Montrezor.** University of Araraquara—UNIARA, Brazil.

A442 **882.8** Increased Plasma IL-1 Concentrations in Polycystic Ovary-Induced Rats. **R.B.P. Sanches, E.D. Alves, L.G.D. Benevenuto, L.H. Montrezor.** University of Araraquara—UNIARA, Brazil.

A443 **882.9** Calorie Restriction in the Preeclamptic-Like Bph/5 Mouse Reduces Adipose Tissue Gene Expression of Preeclampsia-Related Inflammatory Genes. **D. Reijnders, K. Olsson, L. Redman, J. Sones.** Louisiana State University and Pennington Biomedical Research Center.

A444 **882.10** Brain mRNA Expression Changes Following Orchidectomy Are Not Associated with Physical Activity Levels in Male Mice. **O.R. Darley, K.A. West, C.E. Lombard, D.O. Lawrence, B.K. Butts, R.S. Bowen.** Truett McConnell University.

A445 **882.11** Non-Invasive, Repeated Measurement of Estrogen Levels Within Subjects in Prairie Voles. **A. Francis, J.T. Curtis.** Oklahoma State University Center for Health Sciences.

A446 **882.12** Treatment of Infectious Endometritis with a Novel Protein, VPI-O22, in Cows. **J. Talukder, A. Srivastava, A. Ray, R. Lall.** Vets Plus and Inc.

A447 **882.13** Inflammatory Reproductive White Adipose Tissue Characterizes the Obese Preeclamptic-Like BPH/5 Mouse Prior to Pregnancy. **K. Olson, D. Reijnders-Most, N. Douglas, L.M. Redman, J.L. Sones.** Louisiana State University School of Veterinary Medicine, Columbia University Medical Center and Pennington Biomedical Research Center.

883. DEVELOPMENTAL PROGRAMMING AND CARDIO-RENAL FUNCTION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A448 **883.1** Sphingosine-1-Phosphate Type 1 Receptor and eNOS Signaling Pathway Play a Role in High Blood Pressure of Intrauterine Growth Restricted Mouse. **B.R. Gagen, T. Swayze III, S. Intapad.** Tulane School of Medicine.

A449 **883.2** Effects of Parental Dietary Protein Source on Hypertension, Renal Injury, and Renal Inflammation. **J.M. Abais-Battad, H. Lund, J.H. Dasinger, D.J. Fehrenbach, D.L. Mattson.** Medical College of Wisconsin.

A450 **883.3** Sex Differences in Distal Tubular Injury and Renal Inflammation in Intrauterine Growth-Restricted Offspring After Uni-Nephrectomy in Late Adulthood. **A.D. Newsome, O.N. Adah, G.K. Davis, B.T. Alexander.** University of Mississippi Medical Center.

A451 **883.4** *Cardiovascular Susceptibility in Offspring After Maternal Engineered Nanomaterial Exposure.* **P. Stapleton.** Rutgers University.

A452 **883.5** Early Gestational Exposure to Ozone Increases Caloric Consumption in Male and Female Peri-Adolescent Offspring When Challenged with a High Fat Diet. **C.N. Miller, E. Stewart, K.L. McDaniel, P.M. Phillips, M.C. Schladweiler, J.H. Richards, M. Valdez, C.J. Gordon, U.P. Kodavanti, J.A. Dye.** U.S. Environmental Protection Agency and Oak Ridge Institute for Science and Education.

A453 **883.6** Preterm Adolescents Exhibit Higher Blood Pressure and Sodium Retention with Higher Uric Acid and Differential Circulating Renin-Angiotensin System Expression. **A.M. South, P.A. Nixon, M.C. Chappell, D.I. Diz, E.T. Jensen, H.A. Shaltout, L.K. Washburn.** Wake Forest School of Medicine and Wake Forest University.

A454 **883.7** Young Adult Mice Exposed to Postnatal Neglect Display Downregulation of Transcription Factors in Visceral White Adipose Tissue. **J. Leachman, J.B. Herald, K.C. Chen, A.S. Loria.** University of Kentucky.

A455 **883.8** Early Life Stress Reduces in Vivo Lipolysis Efficiency in Female Mice Fed a High Fat Diet. **J.B. Herald, J. Leachman, A.S. Loria.** University of Kentucky.

A456 **883.9** Early Life Stress (ELS) Protects Against L-NAME Hypertension-Induced Renal Tubular Damage. **I. Obi, D. Pollock, J. George, J. Pollock.** University of Alabama at Birmingham.

A457 **883.10** Renal Sympathetic Nerve Contribute to High Blood Pressure in Male Pcos Offspring. **R.O. Maranon.** University of Maryland Medical Center.

884. BATTLE OF THE REFLEXES: CHEMO-VERSUS BAROREFLEXES DURING PHYSIOLOGICAL STRESSORS, AGING AND CARDIOVASCULAR DISEASE (POSTERS)

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A458 **884.1** Neural Responses to Mechanical Stimulation in Thin Muscle Afferents and Dorsal Root Ganglia Are Sensitized by Insulin. N**. Hotta, K. Katanosaka, K. Mizumura, J.H. Mitchell, S.A. Smith, M. Mizuno.** Chubu University, Japan and The University of Texas Southwestern Medical Center.

A459 **884.2** How Do the Carotid Chemoreceptors Modulate Ventilatory Control and Cardiovascular Regulation at Rest and During Exercise in COPD? **D. Phillips, S. Collins, C. Steinback, T. Bryan, E. Wong, M.S. McMurtry, M. Bhutani, M. Stickland.** University of Alberta, Canada.

A460 **884.3** High Intensity Muscle Metaboreflex Activation Blunts Cardiopulmonary Baroreflex Control of Sympathetic Vasomotor Outflow. **K. Katayama, J. Kaur, B.E. Young, T.C. Barbosa, S. Ogoh, P.J. Fadel.** Nagoya University, Japan, The University of Texas at Arlington and Toyo University, Japan.

A461 **884.4** Effect of Acute Intermittent Hypoxia on Baroreflex Sensitivity to Decreasing and Increasing Blood Pressures. **Z.M. Scruggs, S.E. Baker, M.J. Joyner, J.K. Limberg.** Mayo Clinic and University of Missouri.

A462 **884.5** Blunted Cardiovascular Responses to Exercise in Parkinson Disease Patients: Role of the Muscle Metaboreflex. **J.L. Sabino-Carvalho, A.L. Teixeira, M. Samora, L.C. Vianna.** University of Brasilia, Brazil.

A463 **884.6** The Efficacy of Electrical Baroreflex Activation Therapy Is Independent of Peripheral Chemoreceptor Modulation. **K. Heusser, A. Thöne, A. Lipp, J. Menne, J. Beige, H. Reuter, F. Hoffmann, M. Halbach, S. Eckert, M. Wallbach, M. Koziolek, H. Haarmann, M. Joyner, J.F.R. Paton, A. Diedrich, H. Haller, J. Jordan, J. Tank.** German Aerospace Center (DLR), Germany, Clinical Research Center, Hannover Medical School, Germany, Charité-Universitätsmedizin Berlin, Germany, Hannover Medical School, Germany, Hospital St. Georg Leipzig, Germany, Heart Center of the University of Cologne, Germany, University Hospital, Ruhr University Bochum, Germany, Department of Nephrology & Rheumatology, University Medical Center Göttingen, Germany, University Medical Center Göttingen, Germany, Mayo Clinic , University of Bristol, United Kingdom and Vanderbilt University

A464 **884.7** Tonic Peripheral Chemoreflex Activation Contributes to Cardiac Autonomic Modulation at Rest and Impairs Cardiac Baroreflex Sensitivity During Orthostatic Challenge in Patients with Pulmonary Arterial Hypertension. **M. Paula-Ribeiro, I.C. Ribeiro, L. Aranda, T.M. Silva, C.M. Costa, R.P. Ramos, J.O. Arakaki, S.L. Cravo, L.E. Nery, M.K. Stickland, B.M. Silva.** Federal University of Sao Paulo, Brazil and University of Alberta, Canada.

A465 **884.8** Baroreflex Influence on Left Ventricle Energetics and Changes After Myocardial Infarct. **L. Bras-Rosario, J. Apura, I. Rocha, J. Tiago, F. Pinto, A. Sequeira.** Faculdade de Medicina Universidade de Lisboa, Portugal and Instituto Superior Tecnico, Portugal.

A466 **884.9** Arterial Chemoreflex Protective Effect on Left Ventricle Energetics and Changes After Myocardial Infarct. **L. Bras-Rosario, J. Apura, I. Rocha, J. Tiago, F. Pinto, A. Sequeira.** Faculdade de Medicina Universidade de Lisboa, Portugal and Instituto Superior Tecnico, Portugal.

A467 **884.10** Impaired Arterial Baroreflex Sensitivity in Prehypertension. **I.T. Fonkoue, M. Kankam, J. Park.** Emory University.

885. HOT TOPICS IN AUTONOMIC REGULATION (POSTERS)

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A468 **885.1** Oral $Nahco_3$ Activates the Splenic Anti-Inflammatory Pathway; Evidence Vagal Efferent Signals Are Transmitted to the Spleen via a Neuronal Like Function of Mesothelial Cells. **P.M. O'Connor, B. Marshall, B. Baban, H. Ocasio, K. Wilson, J. Sun, S. Ray.** Augusta University and Medical College of Georgia.

A469 **885.2** The Inflammatory Reflex Controls Inflammation in Response to Viral Challenges. **D. Martelli, D.G.S. Farmer, E.N. Komegae, M.J. McKinley, R.M. McAllen.** Università di Bologna, Italy, Florey Institute of Neuroscience and Mental Health, Australia and University of São Paulo, Brazil.

A470 **885.3** Effect of Chronic Vagal Nerve Stimulation on Glucose Tolerance in Conscious Rats. **H.M. Stauss, H. Stangl.** University of Iowa and University Hospital of Regensburg, Germany.

A471 **885.4** Thoracic TRPV1 Receptor Spinal Afferent Ablation Prevents the Development and Progression of Hypertension in Shr but Not in Ang II-Infused Rats. **J.A. Shanks, S. Del Bem Velloso de Morais, H. Wang, I.H. Zucker.** University of Nebraska Medical Center.

A472 **885.5** Sim1-PVN Neurons in ADAM17 Mediated Neurogenic Hypertension. **S. Mukerjee, T. Basting, A. Zsombok, E. Lazartigues.** Louisiana State University Health Sciences Center and Tulane University.

A473 **885.6** Neuronal (Pro)renin Receptor Regulates Angiotensin II Type 1 Receptors-Mediated Calcium Activity in the Paraventricular Nucleus of the Hypothalamus in Hypertension. **F. Trebak, D.D. Jensen, Y. Feng.** University of Nevada School of Medicine.

A474 **885.7** From Brain to Pancreas: Beneficial Effects of the Neuronal (Pro)renin Receptor Deletion in High-Fat Diet Induced Type II Diabetes. **C.J. Worker, C. Feng, Y. Feng.** University of Nevada and Reno School of Medicine.

A475 **885.8** Rostrocaudal-Dependent Decreases in Brain-Derived Neurotrophic Factor in the Rostral Ventrolateral Medulla of Sedentary Versus Physically Active Rats. **P.J. Mueller, T.A. Azar, B.E. Fyk-Kolodziej.** Wayne State University School of Medicine.

A476 **885.9** Incubation of NTS Neurons in High Glucose Decreases the Sensitivity to a Low Glucose Challenge: Role of K_{ATP} Channels. **C.D.B. Murat, R.M. Leão.** University of São Paulo, Brazil.

A477 **885.10** Intermittent Hypoxia (IH) Modulates the Effects of Corticotropin-Releasing Hormone (CRH) on Nts Neuronal Synaptic Transmission. **S. Jia, S. Mifflin.** University of North Texas Health Science Center.

A478 **885.11** Corticotropin-Releasing Hormone Receptor 2 in the Nucleus of the Solitary Tract Contributes to the Intermittent Hypoxia Induced Hypertension. **L. Wang, D. Nguyen, S. Cross, S. Mifflin.** University of North Texas Health Science Center.

A479 **885.12** Sympathetic Nerve Response to Optogenetic Inhibition of PVN-RVLM Neurons in Anesthetized Rats with Heart Failure. **E. Hanai, N. Kumada, T. Watanabe, S. Koba.** Tottori University Faculty of Medicine, Japan.

A480 **885.13** Brainstem Pre-Sympathetic Neuron Controls Oscillatory Breathing in Heart Failure. **R. Del Rio, D.C. Andrade, C. Toledo, H.S. Diaz, C. Lucero, A. Arce-Alvarez.** P. Universidad Católica de Chile, Chile.

A481 **885.14** A Forebrain-Hypothalamic Circuit Mediates Hepatic Steatosis. **K.A. Blackmore, C.J. Houchen, H. Simonyan, C.N. Young.** The George Washington University School of Medicine and Health Sciences.

A482 **885.15** Resting Regional Brain Activity and Functional Connectivity Varies with Resting Blood Pressure but Not Muscle Sympathetic Nerve Activity in Normotensive Humans. **V.G. Macefield, S. Kobuch, L.A. Henderson.** Baker Heart and Diabetes Institute, Australia, Western Sydney University, Australia and University of Sydney, Australia.

A483 **885.16** mTORC1 in Leptin Receptor-Containing Neurons Mediates an Obesity-Induced Increase in Sympathetic Tone and Blood Pressure. **B. Bell, D. Morgan, K. Rahmouni.** University of Iowa.

A484 **885.17** Uncoupling of Feedforward Control on Blood Pressure by Heart Rate in Patients with Recent Myocardial Infarction. **S. Badhwar, D. Chandran, A. Jaryal, R. Narang, C. Patel, K.K. Deepak.** All India Institute of Medical Sciences, India.

A485 **885.18** P2X3 Receptors as a New Target for Heart Failure Treatment. **R.M. Lataro, F.N. Gava, A.C.M. Omoto, C.A.A. Silva, D.J.A. Moraes, A.P. Ford, J.A.F.R. Paton, H.C. Salgado.** Department of Physiology, Ribeirão Preto Medical School, University of São Paulo, Brazil, Physiology and Biophysics, University of Mississippi Medical Center, Palo Alto, Physiology and University of Auckland, New Zealand.

A486 **885.19** Salt Diet Influences Endothelin-1 Signaling in Renal Sensory Nerves. **B.K. Becker, J.S. Speed, D.M. Pollock.** University of Alabama at Birmingham.

A487 **885.20** Renal Denervation Attenuates Nicotine-Induced Increase in Thiazide-Sensitive Na+/Cl- Cotransporter in the Young Pre-Hypertensive Spontaneously Hypertensive Rat. **N. Raikwar, A. Ryan, P.M. Snyder, F. Abboud, S. Harwani.** University of Iowa.

A488 **885.21** Hypertensive Young Adult Female Obese Zucker Rats (OZR) Do Not Have the Blunted Baroreflexes and Poor Glycemic Control Observed in Age-Matched Hypertensive Male OZR. **P. Chaudhary, A.M. Schreihofer.** University of North Texas Health Science Center.

A489 **885.22** Estrogen Receptor Beta and G-Protein Coupled Estrogen Receptor Are Located and Activated on Microglia by Estrogen. **K. Dvorak, M. Boyer, M.J. Barnes, S.C. Clayton.** Des Moines University.

886. CHEMOREFLEX FUNCTION AND AUTONOMIC REGULATION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A490 **886.1** Plasma Erythropoietin Concentration Determine the Carotid Body Chemosensitivity to Hypoxia and Hypercapnia in Rats. **S. Laouafa, R. Tam, A. Bairam, V. Joseph, J. Soliz.** Université Laval, Canada.

A491 **886.2** Specific Inhibition of the PVN to Nts Pathway Attenuates Cardiorespiratory Responses to Hypoxia. **B.C. Ruyle, C.M. Heesch, S.A. Friskey, D. Kline, E.M. Hasser.** University of Missouri and Dalton Cardiovasc Research Center.

A492 **886.3** Alpha Adrenergic Inputs to PVN Do Not Play a Role in the Sympathetic, Phrenic or Cardiovascular Responses to Intravenous Sodium Cyanide. **I. Beig, A. Schreihofer, S. Mifflin.** University of North Texas Health Science Center.

887. AUTONOMIC AND RESPIRATORY INTERACTIONS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A493 **887.1** Effect of Cervical Sympathetic Chain Stimulation on Upper Airway Pressure Is Dependent on Direct Post-Ganglionic Innervation from the Superior Cervical Ganglion. **S.F. Hassan, W.J. Zenebe, S.J. Lewis, Y-H.H. Hsieh.** Galvani Bioelectronics, United Kingdom and Case Western Reserve University.

A494 **887.2** Spinal Contusion Injury Induces Long-Lasting Changes in Homecage Activity and Respiration Which Correlate with Spontaneous and Evoked Indices of Neuropathic Pain. **H. Kloefkorn, S. Idlett, M. Halder, S. Hochman.** Emory University.

A495 **887.3** Hypoxia Induced Tightly Coupled Augmented Bursts in Phrenic and Splanchnic Sympathetic Nerve Activity Are Eliminated by Vagotomy and Uncoupled by Blockade of the Paraventricular Nucleus of the Hypothalamus. **C.M. Heeschc, E.M. Hasser, G. Phaup.** University of Missouri.

888. AUTONOMIC REGULATION OF NEUROENDOCRINE FUNCTION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A496 **888.1** Effects of Chronic Intraperitoneal Curcumin Administration on Tissue-Specific Inflammation in a Murine Model of Systemic Lupus Erythematosus. **S. Vedantam, G.S. Pham, K.W. Mathis.** University of North Texas Health Science Center.

889. AUTONOMIC REGULATION OF BODY FLUID VOLUME

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A497 **889.1** Extracellular and Intracellular Dehydration Affect Urinary Bladder Reactivity to Vasopressin and Neurotransmitters of the Autonomic Nervous System in Anesthetized Female Wistar Rats. **E.M. Cafarchio, B. Vale, D.S. da Silva, L.A. da Silva, C. Faccini, F.A. Fonseca, L.B.M. Maifrino, M.A. Sato.** Faculdade de Medicina do ABC, Brazil, Instituto Dante Pazzanese de Cardiologia, Brazil and Universidade São Judas Tadeu, Brazil.

A498 **889.2** Angiotensin 1-7 Action in the Lateral Preoptic Area Is Involved in Urinary Bladder Regulation in Female Wistar Rats. **G.B. Lamy, B. do Vale, R.L. de Almeida, B.d.B. Antonio, D.P. Venancio, M.A. Sato.** Faculdade de Medicina do ABC, Brazil.

890. AUTONOMIC ADJUSTMENTS TO BEHAVIORAL STRESS

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A499 **890.1** Cardiodynamic Associations with Mental Health and Resilience in Undergraduate Students. **R. Knetsch, S.A. Klassen, J.K. Shoemaker.** Western University, Canada.

A500 **890.2** Effect of Prolonged Sleep Restriction on the Cardiovascular Response to Mental Arithmetic. **Z. Trottier, N. Covassin, Z.M. Scruggs, S.E. Baker, M.J. Joyner, V.K. Somers, J.K. Limberg.** Mayo Clinic and University of Missouri.

A501 **890.3** The Relationship Between Heart Rate Variability (HRV) and Anxiety Through Music Intervention. **A.J. Tolley, R.S. Vick.** Elon University.

A502 **890.4** High Salt Intake Enhances Stress Coping Behaviors: Role for Vasopressin Signaling from PVN to Amygdala. **N.C. Mitchell, T.L. Gilman, L.C. Daws, G.M. Toney.** The University of Texas Health Science Center at San Antonio.

891. AUTONOMIC ADJUSTMENTS TO EXERCISE

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A503 **891.1** Posture Modifies Neuro-Cardiac Heart Rate Responses at the Onset of Moderate Intensity Isometric Handgrip Exercise. **E. Woehrle, K.G. Jacobs, J.K. Shoemaker.** Western University, Canada.

A504 **891.2** Sympathoexcitatory Role for Neurons Projecting from the Mesencephalic Locomotor Region to the Rostral Ventrolateral Medulla in Rats. **S. Koba, N. Kumada, E. Hanai, N. Kataoka, K. Nakamura, T. Watanabe.** Tottori University Faculty of Medicine, Japan and Nagoya University Graduate School of Medicine, Japan.

A505 **891.3** The Impact of Aerobic Exercise Training on Autonomic Function in Adolescent Sport-Related Concussion. **A. Harriss, E. Woehrle, A. Barker, M.E. Moir, L. Fischer, D. Fraser, J.K. Shoemaker.** Western University, Canada.

A506 **891.4** An Increase in Prefrontal Oxygenation at the Start of Voluntary Cycling Exercise Was Observed Independently of Exercise Effort and Muscle Mass. **R. Asahara, K. Endo, N. Liang, K. Matsukawa.** Hiroshima University, Japan.

A507 **891.5** Effects of Contralateral Forearm Somatosensory Stimulation on Heart Rate Responses to Isometric Hand Grip Exercise. **S.O. Smith, E. Woehrle, S.A. Klassen, K.G. Jacobs, R. Knetsch, J.K. Shoemaker.** Western University, Canada.

A508 **891.6** Sex Differences in Heart Rate Response to Isometric Handgrip Exercise with Concurrent Contralateral Forearm Somatosensory Stimulation. **K. Jacobs, E. Woerhle, S. Klassen, S. Smith, A. Barker, R. Knestch, J.K. Shoemaker.** Western University, Canada.

A509 **891.7** GABAergic Contribution to the Muscle Mechanoreflex-Mediated Heart Rate Responses at the Onset of Exercise in Humans. **A.L. Teixeira, P.S. Ramos, M. Samora, J.L. Sabino-Carvalho, D.R. Ricardo, E. Colombari, L.C. Vianna.** University of Brasília, Brazil, Maternity Hospital Therezinha de Jesus, Faculty of Health and Medical Sciences (SUPREMA), Brazil and São Paulo State University, Brazil.

A510 **891.8** Blunted Blood Pressure to Hand Grip Exercise in Individuals with Intellectual Disabilities: Preliminary Results. **T. Hilgenkamp, E.C. Schroeder, D.W. White, T. Baynard, B. Fernhall.** University of Illinois at Chicago and University of Houston—Victoria.

A511 **891.9** The Influence of Total Load on Cardiac Autonomic Recovery Following Resistance Exercise in Young and Older Adults. **A.V. Sardeli, A.F.F. Gáspari, M.L.V. Ferreira, L.d.C. Santos, A.J. Rosenberg, B.J. Fernhall, C.R. Cavaglieri, M.P.T. Chacon-Mikahil.** University of Campinas, Brazil and University of Illinois at Chicago.

A512 **891.10** Identification of Rapid Autonomic Adjustments Following Exercise at Onset of Isolated Post-Exercise Muscle Metaboreflex Activation Using Continuous Wavelet Transform of Heart Rate Variability in Healthy Young Adults. **R.C. Drew, M.E. Sánchez-Hechavarría, R. Carrazana-Escalona, C.A. Blaha, L.I. Sinoway.** University of Massachusetts Boston, Medical University of Santiago de Cuba, Cuba and Pennsylvania State University.

892. LUNG PHYSIOLOGY: PULMONARY ARTERIAL HYPERTENSION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A513 **892.1** Acid-Sensing Ion Channels (ASICs) 2 and 3 Buffer Pulmonary Vasoreactivity and ASIC2 Protects Against the Development of Chronic Hypoxia-Induced Pulmonary Hypertension. **N.D. Detweiler, K.G. Vigil, S. Yan, L.M. Herbert, M.C. Bennett, T.C. Resta, B.R. Walker, N.L. Jernigan.** University of New Mexico Health Sciences Center.

A514 **892.3** Increased Glycolysis Contributes to Pulmonary Vascular Remodeling via ERK-Dependent Calpain Activation in Pulmonary Arterial Hypertension. **L. Kovacs, Y. Cao, W. Han, L. Meadows, A. Kovacs-Kasa, A. Verin, S. Barman, Y. Huo, Y. Su.** Augusta University.

A515 **892.4** Role of G Protein-Coupled Estrogen Receptors in Pulmonary Hypertension. **L.C. Wolfel, N.D. Detweiler, L. Weise Cross, H.J. Hathaway, N.L. Jernigan, E.R. Prossnitz, T.C. Resta, J.B. Snow.** University of New Mexico School of Medicine and New Mexico Highlands University.

A516 **892.5** Acute Hypoxia Alters Ryanodine Receptor Activity in Pulmonary Arterial Myocytes of High Altitude Acclimatized Fetal and Adult Sheep. **J. Thomas, T. Yoo, M. Romero, J. Puglisi, L. Zhang, S.M. Wilson.** Adventist University of Health Sciences, Loma Linda University School of Medicine, Loma Linda University and California Northstate University.

A517 **892.6** Hypoxia-Induced Ubiquitination Regulates 14-3-3η-Gremlin-1 Interactions in a Hypoxia Model of Pulmonary Hypertension. **B.E. Wade, J. Zhao, J. Ma, C.M. Hart, R.L. Sutliff.** Emory University and Atlanta VA Medical Center.

A518 **892.7** The Long Non-Coding RNA Xist Is Decreased in Lungs and Plasma Exosomes of Sickle Cell Mice and in Hemin-Treated Human Pulmonary Artery Endothelial Cells. **B-Y. Kang, S.S. Chang, B. Bedi, R.L. Sutliff, D.R. Archer, C.M. Hart, R.T. Sadikot, B-Y. Kang.** Atlanta VA and Emory University Medical Centers and Aflac Cancer & Blood Disorders Center of Emory University and Children's Healthcare of Atlanta.

A519 **892.8** Cyclic Nucleotides Reduce Ryanodine Receptor Mediated Ca^{2+} Spark Activation Independent of Long Term Hypoxia in *Ovine* Fetal Pulmonary Arterial Myocytes. **M. Guerrero, S. Hough, M. Romero, J. Puglisi, L. Zhang, S.M. Wilson.** Loma Linda University School of Medicine and California Northstate University.

A520 **892.9** Ryanodine Receptor 1 mRNA Expression Is Increased by Post-Natal Maturation and Long Term Hypoxia in Sheep Pulmonary Arteries. **S. Murray, C. Dasgupta, L. Zhang, S.M. Wilson.** Loma Linda University School of Medicine.

A521 **892.10** BALB/cJBom Treated with Angiotensin II and High Salt Diet Develop Pulmonary Hypertension and Right Sided Heart Failure While C57BL/6J Mice Do Not. **M. Becirovic-Agic, S. Jönsson, M.K. Tveitarås, T. Skogstrand, T.V. Karlsen, Å. Lidén, S. Leh, R.K. Reed, M. Hultström.** Uppsala University, Sweden, University of Bergen, Norway and Haukeland University Hospital, Norway.

A522 **892.11** Rho Kinase and Na^+/H^+ Exchanger Mediate Endothelin-1 Induced Pulmonary Arterial Smooth Muscle Cell Proliferation and Migration. **J.C. Huetsch, X. Yun, H. Jiang, L. Shimoda.** John Hopkins University School of Medicine.

A523 **892.12** DDAH-1 Regulates NO-Mediated Apoptosis and Cell Proliferation in Human Pulmonary Microvascular Endothelial Cells. **J.K. Trittmann, H. Almazroue, L.D. Nelin.** Nationwide Children's Hospital.

A524 **892.13** Dual Specificity Phosphatase (DUSP) Genetic Variants Are Associated with Pulmonary Hypertension in Patients with Bronchopulmonary Dysplasia. **L. Chen, E.J. Zmuda, J. Frick, M.A. Klebanoff, M.M. Talavera, Y. Liu, L.D. Nelin, J.K. Trittmann.** The Ohio State University and Nationwide Children's Hospital.

A525 **892.14** Aquaporin 1 Regulates Pulmonary Arterial Smooth Muscle Cell Apoptosis. **X. Yun, H. Jiang, J. Huetsch, M. Damarla, L. Shimoda.** Johns Hopkins University.

A526 **892.15** Chronic Intermittent Hypobaric Hypoxia Ameliorates Pulmonary Hypertension Induced by Monocrotaline in Rats. **Y. Zhang, L. Gao, J. Zhou, D-P. Li.** Hebei Medical University , People's Republic of China and The University of Texas MD Anderson Cancer Center.

A527 **892.16** Loss of Hypoxia Inducible Factor-1α Increases Right Ventricular Hypertrophy in Chronic Hypoxia-Induced Pulmonary Hypertension. **K.A. Smith, G.B. Waypa, V.J. Dudley, P.T. Schumacker.** Northwestern University.

A528 **892.17** Sildenafil Abolishes Pulmonary Hypertension Induced by Left Heart Pressure Overload in Rats. **M. Chovanec, H. Al-Hiti, B. Kaftanova, J. Durisova, V. Hampl, J. Herget.** Second Faculty of Medicine, Charles University, Czech Republic and Institute for Clinical and Experimental Medicine, Czech Republic.

A529 **892.18** Beta Adrenergic Induced Pulmonary Arterial Vasodilation Following Long Term Hypoxia in Fetal and Adult Sheep. **A. Vazquez, M. Amen, B. Painter, R. Jalota, Q. Blood, L. Zhang, S.M. Wilson.** Loma Linda University School of Medicine.

893. CONTROL OF BREATHING: CONNECTIVITY, NEUROMODULATION AND NEUROTRANSMISSION

Poster

Tues. 9:00 am—San Diego Convention Center, Exhibit Halls A-D

Presentation time: 10:00 am–12:00 pm

A530 **893.1** Neurons in a Subregion of the Medial Parabrachial Nucleus (mPBN) Attenuate the Gain of the Hering-Breuer (H-B) Reflex. **E.J. Zuperku, A.G. Stucke, J. Tomlinson, J.G. Krolikowski, F.A. Hopp, E.A. Stuth.** Zablocki VA Medical Center, Medical College of Wisconsin and Childrens Hospital of Wisconsin.

A531 **893.2** Increasing or Decreasing the Excitability of V2a Neurons Activates Accessory Respiratory Muscles. **V.N. Jensen, K. Seedle, S.M. Turner, S.A. Crone.** University of Cincinnati and Cincinnati Children's Hospital Medical Center.

A532 **893.3** Airway Mechanoreceptors That Control Breathing. **R. Chang, D. Strochlic, K. Nonomura, A. Patapoutian, S. Liberles.** Yale University School of Medicine, Harvard Medical School and Scripps Research Institute.

A533 **893.4** Disinhibition of Bötzinger Complex Abolishes Active Expiration Induced by Sustained Hypoxia in Rats. **D.B. Zoccal, M.K. Amarante, K.C. Flor.** School of Dentistry of Araraquara and São Paulo State University, Brazil.

A534 **893.5** Preliminary Phenotypic Cluster Analysis of Cardiorespiratory Modulated Neuronal Discharge Patterns with Dynamic Visualizations. **K.F. Morris, R. O'Connor, L.S. Segers, S.C. Nuding, K-K. Horton, P.A. Alencar, D.C. Bolser, T.E. Dick, D.M. Baekey, B.G. Lindsey, H.D. Shuman.** University of South Florida, University of Florida and Case Western Reserve University.

A535 **893.6** Fluorescent Based Tracing of Sensory Nerve Subtypes in Vagal Ganglia and Lung. **S-H. Kim, T. Taylor-Clark.** University of South Florida.

A536 **893.7** Fluorescent Based Tracing of Sensory Nerve Subtypes in Brainstem. **S-H. Kim, T. Taylor-Clark.** University of South Florida.

A537 **893.8** The Effect of Damgo Injections on the Respiratory Pattern Varies Between Subareas of the Ventral Respiratory Column in Adult Rabbits. **A.G. Stucke, J.R. Miller, J.J. Callison, E.A.E. Stuth, F.A. Hopp, E.J. Zuperku.** Medical College of Wisconsin, Carthage College and Zablocki VA Medical Center.

A538 **893.9** Airway Rapidly Adapting Receptors. **J. Yu, J. Guardiola, M. Saad.** University of Louisville.

894. CONTROL OF BREATHING: CHEMORECEPTION

Poster

TUES. 9:00 AM—SAN DIEGO CONVENTION CENTER, EXHIBIT HALLS A-D

Presentation time: 10:00 AM–12:00 PM

A539 **894.1** Exposure to Leukotriene E_4 Induces Hypersensitivity of Vagal Pulmonary Sensory Neurons in Rats. **Q. Gu, N. Emamifar, C. Gilbert, H. McLaurin.** Mercer University School of Medicine and The Medical Center Navicent Health.

A540 **894.2** Increased Astrocytic Marker Expression in the Brainstem in Rats with a Mutation in the Inwardly Rectifying Potassium Channel 5.1 (Kir5.1). **S. Alvarez-Argote, M.R. Hodges.** Medical College of Wisconsin.

A541 **894.3** Impact of Equilibrative Nucleoside (Adenosine) Transporters on the Prebötzinger Complex Inspiratory Network and the Hypoxic Ventilatory Response in Newborn Mice. **R.J. Reklow, M.A. Hansen, S.M. Frangos, T.S. Alvares, G.D. Funk.** University of Alberta, Canada.

A542 **894.4** Involvement of Medullary Raphe on Active Expiration. **J.D.N. Silva, T.d.S. Moreira, A.C. Takakura.** Universidade de São Paulo, Brazil.

A543 **894.5** Hypercapnic Ventilatory Response (HCVVR) Is Increased in a Rat Model of Alzheimer's Disease. **M.C. Vicente, K.C. Bicego, D.C. Carrettiero, M.C. Almeida, L.H. Gargaglioni.** Sao Paulo State University, Brazil and Universidade Federal do ABC, Brazil.

A544 **894.6** Does Behavioral Inhibition Affect the Breathing Response to Elevated CO_2? Implications for a Respiratory Stress Response. **K. McAuliffe, K. Buchholz, K. Robinson, A. Sharapan, M. Harris, J. Stephens, K. Mueller, S. Hughes, J. Romanovic, C. Grant, W. Zocher, T. Jaramillo, J. Miller, D. Miller, D. Cook-Snyder, P. Martino, R.J. Servatius.** Carthage College and Rutgers New Jersey Medical School.

A545 **894.7** Selective Depletion of Astrocytes Derived from a Phox2b-Progenitor Domain Reduces Hypoxia Ventilatory Response in Conscious Mice. **T.M. Silva, C. Czeisler, A.C. Takakura, J.J. Otero, T.S. Moreira.** University of São Paulo, Brazil and The Ohio State University.

A546 **894.8** Lethal Avian Influenza A (H5N1) Virus Infects Pontomedullary Nuclei Containing Chemo-Sensitive Neurons to Induce Depressed Hypercapnic Ventilatory Response (dHCVR) in Mice. **J. Zhuang, C. Ye, F. Xu.** Lovelace Respiratory Research Institute.

A547 **894.9** Central and Peripheral Respiratory Disturbances in a Mice Model of Parkinson's Disease. **L.M. Oliveira, M.A. Oliveira, H.T. Moriya, T.S. Moreira, A.C. Takakura.** University of São Paulo, Brazil.

A548 **894.10** Ablation of Neuromedin B (NMB)-Expressing Neurons Located Within Retrotrapezoid Nucleus (RTN) Reduces the Central Respiratory Chemoreflex (CRC) Selectively in Conscious Rats. **G. Souza, R. Kanbar, D. Stornetta, R. Stornetta, P. Guyenet.** University of Virginia and Lebanese American University.

A549 **894.11** Ventilatory CO_2/H^+ Chemoreflex During Chronic Hypercapnia in Healthy Goats. **N. Burgraff, K. Buchholz, S. Neumueller, M. Hodges, L. Pan, T. Langer, H. Forster.** Medical College of Wisconsin, Carthage College and Marquette University.

A550 **894.12** Ventilatory, Arterial Blood Gas, pH, and Electrolyte Adaptations to Chronic Hypercapnia in Healthy Goats. **K. Buchholz, N. Burgraff, S. Neumueller, M. Hodges, L. Pan, T. Langer, H. Forster.** Carthage College, Medical College of Wisconsin and Marquette University.

A551 **894.13** Effects on Breathing and the CO_2 Chemoreflex of 5-HT and NK-1 Receptor Antagonists in the Retrotrapezoid Nucleus (RTN). **M.L. Dillard, G. Mouradian, M.R. Hodges.** Medical College of Wisconsin.

A552 **894.14** Acute and Chronic Respiratory Effects from Repeated Audiogenic Seizures in $SS^{Kcnj16-/-}$ Rats. **A.D. Manis, G.C. Mouradian; Jr., S. Alvarez-Argote, A. Staruschenko, O. Palygin, M.R. Hodges.** Medical College of Wisconsin.

A553 **894.15** Dropping the Base: Characterizing the Hypercarbia Recovery Strategies Following Extreme Hypercapnia in the Highly Co_2 Tolerant Hagfish (*Eptatretus stoutii*). **A.M. Clifford, A.M. Weinrauch, G.G. Goss.** University of Alberta, Canada

WEDNESDAY, APRIL 25

Physiology

895. MATHEMATICAL MODELS OF ORGAN SYSTEMS, TISSUES OR CELLS

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W1 **895.1** Pharmacological Protease Inhibitor Preserves Proteolytic Activity in Breast Cancer Cells: Computational Models to Probe Unexpected Cellular Responses. **W.A. Shockey, C. Kieslich, C. Wilder, K. Brandon, M. Platt.** Georgia Institute of Technology and Emory University, University of California, Los Angeles and Oakwood University and the University of Alabama in Huntsville.

W2 **895.2** Microscopic Surface Geometries and Blood Clotting: A Computational Analysis. **Z.W. Riggenbach.** United States Military Academy at West Point.

W3 **895.3** A Constitutive Model of Ovine Left and Right Ventricles Biaxial Mechanical Properties. **W. Liu, K.M. Labus, M. Nguyen-Truong, K. McGilvray, C.M. Puttlitz, Z. Wang.** Colorado State University.

W4 **895.4** Fractones and Basement Membranes for the Mathematical Modeling of Tissue Growth and Regeneration. **A. Fronville, P. Ballet, A. Beros, M. Chyba, F. Mercier.** LaTIM, Institut National de la Santé et de la Recherche Médicale (INSERM), UMR 1101, I, France, University of Hawaii at Manoa and University of Hawaii

W5 **895.5** Method for the Improvement of Enrichment Estimation in Stable Isotope Metabolic Studies. **I. Malagaris, C. Porter, D.N. Herndon, Y-M. Yu.** The University of Texas Medical Branch and Massachusetts General Hospital.

896. MECHANOBIOLOGY

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W6 **896.1** One Cause of Sensorineural Hearing Loss for Meniere's Disease, Otosyphilis, and Enlarged Vestibular Aqueduct Syndrome from Mr Findings. **H. Tanioka.** Tanioka Clinic, Japan.

W7 **896.2** Combining Stiffness and Stretch to Study Cardiac Fibroblast Pro-Fibrotic Activity. **G.K. Gilles, A.D. McCulloch, K.M. Herum.** University of California and San Diego.

W8 **896.3** Wall Shear Stress and Sphingosine-1-Phosphate Synergistically Activate Ca^{2+} Signaling via Piezo1 to Mediate Angiogenesis. **H. Kang, M. Mittal, M. Zhong, Y. Komarova, D. Mehta, A.B. Malik.** University of Illinois at Chicago.

897. REGENERATIVE MEDICINE

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W9 **897.1** Hypergravity Selectively Augments Neuronal *in Vitro* Differentiation. **S. Brungs, C. Liemersdorf, Y. Lichterfeld, T. Frett, R. Anken, J. Jordan, R. Hemmersbach.** German Aerospace Center (DLR), Germany.

W10 **897.2** Characterizing Exogenous Cell Engraftment for Cystic Fibrosis Cell Therapy. **R.E. Lee, S.M. Miller, T.M. Mascenik, R. Tarran, S.H. Randell.** University of North Carolina.

W11 **897.3** The Effects of Physical Activity on Force Recovery from Volumetric Muscle Loss with Autograph Incorporation. **R. Perry, W. Haynie, K. Bejarano, J. Kim, N. Greene, J. Wolchok, T. Washington.** University of Arkansas.

898. TISSUE ENGINEERING

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W12 **898.1** Histological Image Analysis of Scaffold-Based Cell Products to Estimate Percent Viability. **L.K. Landeen, L.E. Ashley, K. McMorrow, J. Van Allen, S.L. Riley, P.W. Bedard, R.E. Schreiner.** Vital Therapies and Inc.

899. MECHANOTRANSDUCTION IN CARDIOVASCULAR FUNCTION (POSTERS)

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W13 **899.1** Two N-Glycosylated Asparagines Within Endothelial αENaC Are Crucial for Shear Force Sensing and Blood Pressure Regulation *in Vivo*. **F. Knoepp, Z. Ashley, N. Weissmann, M. Fronius.** Justus-Liebig-University of Giessen, Germany and University of Otago, New Zealand.

W14 **899.2** Glypican-1 Mediates Endothelial Hyper-Permeability in a Model of Acute Heart Failure. **A. Chignalia, A. Isbatan, M. Patel, B. Borlaug, R. Dull.** University of Illinois at Chicago and Mayo Clinic.

W15 **899.3** TRPV4 Channel Deletion or Pharmacological Inhibition Protects Heart Against Adverse Remodeling Post-Myocardial Infarction. **R.K. Adapala, A. Kanugula, A. Minasyan, H. Cappelli, S. Paruchuri, J.G. Meszaros, C.K. Thodeti.** Northeast Ohio Medical University and University of Akron.

W16 **899.4** Type 2 Diabetic Coronary Vascular Smooth Muscle Cells Exhibit Decreased Stiffness and Decreased Adhesion. **P. McCallinhart, Z. Sun, G.A. Meininger, A.J. Trask.** Nationwide Children's Hospital and University of Missouri.

W17 **899.5** Laminin-β6 Integrin Interaction Is Crucial for Coronary Collateral Growth. **G. Joseph, C. D'Addario, K. McEvoy, R. Jadhav, B. Hutcheson, P. Rocic.** New York Medical College.

W18 **899.6** Effects of Exercise-Induced Shear Stress on Endothelial Gene Expression. **F. Morales-Acuna, D. Coovert, A.N. Gurovich.** The University of Texas at El Paso and Indiana State University.

W19 **899.7** Disturbed Flow Disrupts eNOS and Caveolin-1 Expression and Colocalization via Glycocalyx Degradation. **I. Harding, S. Mensah, E. Ebong.** Northeastern University.

W20 **899.8** Rapamycin Treatment Promotes Myofibril Relaxation Kinetics and Reduces Myocardial Stiffness to Improve Diastolic Function in Old Murine Hearts. **Y.A. Chiao, F. Moussavi-Harami, Y. Cheng, J. Powers, M. Razumova, M. Regnier, P.S. Rabinovitch.** University of Washington.

W21 **899.9** Diastolic Overstretch Causes Inner Mitochondrial Collapsing and Impaired Force Generation in Isolated Rat Papillary Muscle. **S. Minamisawa, N. Nishioka, F. Usui, Y. Kusakari.** The Jikei University School of Medicine, Japan.

W22 **899.10** Cystic Fibrosis Transmembrane Conductance Regulator Regulates Pannexin 1 Channel Opening for Acidosis-Induced ATP Release from Cardiomyocytes. **Y. Wang, H.J. Ballard.** The University of Hong Kong, Hong Kong.

W23 **899.11** Veins Are Essential for Arteries: Immune Cells Implication. **T. Champin, C. Grenier, M. Munier, D. Henrion, L. Loufrani.** UMR National Center for Scientific Research 6015, INSERM 1083, MitoVasc Institute and CarMe Team, France.

900. POST-TRANSLATIONAL MODIFICATIONS IN CARDIOVASCULAR DISEASE (POSTERS)

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W24 **900.1** Endothelial Cullin3 Mutation Causes Vascular Dysfunction, Arterial Stiffening, and Hypertension. **J. Wu, S. Fang, C. Hu, A.J. Otanwa, L.N. Agbor, K-T. Lu, X. Liu, M. Mukohda, A. Nair, C.D. Sigmund.** University of Iowa.

W25 **900.2** Metabolic Interventions to Treat Mitochondrial Cardiomyopathy: Roles of Nad^+ and Protein Acetylation in Leigh Syndrome. **C.F. Lee, R. Tian.** University of Washington.

W26 **900.3** Increased Protein Cysteine Sulfonation with Heme Destruction of Mitochondrial Complex III Mediates Cardiac Reperfusion Injury. **Y-R. Chen, P.T. Kang, C-L. Chen.** Northeast Ohio Medical University.

W27 **900.4** Central Angiotensin II Regulates Protein Inhibitor of Neuronal Nitric Oxide Synthase Through Post-Translational Mechanisms in the Paraventricular Nucleus Resulting in Increased Sympathetic Outflow. **N. Sharma, A.S. Haibara, K. Katsurada, X. Liu, K.P. Patel.** University of Nebraska Medical Center and Universidade Federal de Minas Gerais, Brazil.

W28 **900.5** Neddylation Is Essential for Cardiac Development via Regulation of Notch Signaling. **R.E. Littlejohn, J. Zou, W. Ma, J. Li, N. Weintraub, J. Zhou, H. Su.** Augusta University and Augusta University, Republic of Korea.

W29 **900.6** Increased Global Lysine Acetylation in Diabetic Vasculature Is Associated with Downregulation of SIRT1 in Vascular Smooth Muscle Cells. **C.M. Johnson, C. Burke, M.A. Carrillo-Sepulveda.** New York Institute of Technology College of Osteopathic Medicine.

W30 **900.7** Short-Term Western Diet Induces Cardiometabolic Syndrome in Female Rats Is Associated with Increased Cardiovascular Protein Lysine Acetylation. **M.A. Carrillo Sepulveda, C. Johnson, L.M. Franca, B. Kramer.** New York Institute of Technology College of Osteopathic Medicine and Universidade Federal do Maranhão, Brazil.

901. CARDIAC FUNCTION, DYNAMICS AND ELECTROPHYSIOLOGY II

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W31 **901.1** Sex-Specific Aspects in Cardiac Transplantation Evaluated by Left Ventricular Size in Male and Female Recipients. **P.L. Kerkhof, G. Parry.** Amsterdam Cardiovascular Sciences, VUmc, Netherlands and Freeman Hospital, United Kingdom.

W32 **901.2** The Structure-Function Remodeling and Therapeutic Effect of Tongxinluo Capsule in Rabbit Hearts of Myocardial Infarction. **L. Li, H. Yunlong.** Peking University, People's Republic of China.

W33 **901.3** Preconception Exposure of Particulate Matter Leads to Adult Cardiac Dysfunction Through Altering Myocyte Function and $Ca2^+$ Signaling Pathways. **V. Tanwar, J. Adelstein, B. Sugar, N. Schwieterman, D. Youtz, M. Falvo, L. Wold.** The Ohio State University, Veteran's Biomedical Research Institute and Inc.

W34 **901.4** Adults Born Preterm Exhibit Bi-Ventricular Hypercontractility and Inefficiency. **G. Barton, A. Beshish, J. Macdonald, K. Haraldsdottir, K. Goss, C. Francois, O. Wieben, M. Eldridge.** University of Wisconsin—Madison.

W35 **901.5** Interleukin 13 Promotes Cardiomyocyte Proliferation and Heart Regeneration *in Vivo.* **S.J. Paddock, D. Wodsedalek, A. Kenarsary, M.J. Flister, C.C. O'Meara.** Medical College of Wisconsin.

W36 **901.6** Contraction and Relaxation Coupling Unaffected by Disease in Canine and Human Myocardium. **J. Santini, S.J. Repas, B.D. Canan, G.E. Billman, A. Kilic, B. Whitson, P.M.L. Janssen.** The Ohio State University.

W37 **901.7** Resuscitation with Anaerobically Stored Blood. **A.T. Williams, T. Yoshida, A. Dunham, P. Cabrales.** University of California, San Diego and Hemanext.

W38 **901.8** Effects of Chronically Inhaled Nicotine on Cardiac Function. **J. Oakes, R. Fuchs, T.M. Basting, T.D. Lobell, N.W. Gilpin, E. Lazartigues, X. Yue, J.D. Gardner.** Louisiana State University Health Sciences Center—New Orleans and Louisiana State University Health Sciences Center.

W39 **901.9** Chronic Cardiac Output Measurements in Unrestrained Rats: Surgical Description. **F. Konecny, J. Newton-Northup, M. Callahan, K. Pitsillides, M. Sosa.** Transonic Scisense Inc., Canada, TCI Inc. , Transonic EndoGear Inc. and Transonic Systems Inc.

W40 **901.10** Carbonic Anhydrase Inhibition: Effect on Rat Hearts *in Vitro* with and Without pH Perturbations. **N.A. Wasinger, T.P. Geisbuhler, W.F. Brechue.** A.T. Still University.

W41 **901.11** The Acute Inotropic Effect of the Uremic Metabolite, Trimethylamine-N-Oxide (TMAO), on Human Cardiac Muscle. **C.I. Oakley, D. Sanborn, N. Rafie, M. Hendrix, J.R. Stubbs, T. Shawgo, E. Daon, G. Zorn III, M.J. Wacker.** University of Missouri—Kansas City School of Medicine and University of Kansas Medical Center.

W42 **901.12** Differential Respiratory Response of Isolated Cardiac Mitochondria from Young and Aged Mice Towards Nitric Oxide Synthase Inhibitors. **S.S.V.P. Sakamuri, V.N.L.R. Sure, J.A. Sperling, P.S. Mahalingam, M.H. Dholakia, W.R. Evans, P.V.G. Katakam.** Tulane University School of Medicine.

W43 **901.13** Age-Related Changes in Sympathetic Responsiveness and Cardiac Electrophysiology. **S.D. Francis Stuart, L. Wang, W.R. Woodard, B.A. Habecker, C.M. Ripplinger.** University of California, Davis and Oregon Health & Science University.

W44 **901.14** Increment in Systolic Blood Pressure During Cold Pressure Test Is Associated with Baseline Lf Power in Young Prehypertensive Men. **V.E. Shekh.** V. N. Karazin Kharkiv National University, Ukraine.

W45 **901.15** The Role of p62 on Chronic Oxidative Stress-Induced Myocytes Ca Handling. **Y. Koh, Y. Jung, K. Lee, G. Salazar, H.S. Hwang.** Florida State University.

W46 **901.16** Antiarrhythmic Activity of NMDA Receptor Antagonists in Humans Versus Animal Models. **M.T. Elnakish, S.J. Repas, B.A. Whitson, P.J. Mohler, P.M.L. Janssen.** The Ohio State University.

902. ENDOTHELIAL CELL BIOLOGY IN HEALTH AND DISEASE II

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W47 **902.1** Rhythmic Handgrip Exercise Elevates Arterial Shear-Rate and Increases Indices of Endothelial Cell Autophagy and Nitric Oxide Synthase Activation in Humans. **S-K. Park, D.T. LaSalle, J. Cerbie, J.M. Cho, A. Nelson, D.E. Morgan, J.D. Trinity, J.D. Symons.** University of Utah.

W48 **902.2** LAT1 Promotes Angiogenic Responses in Human Endothelial Cells. **W. Durante, X-M. Liu, K.J. Peyton.** University of Missouri.

W49 **902.3** Glucose-Derived Microparticles Induce Adhesion Molecule Surface Expression on Endothelial Cells. **T.D. Bammert, J.G. Hijmans, K.A. Stockelman, L.M. Brewster, J.J. Greiner, C.A. DeSouza.** University of Colorado Boulder.

W50 **902.4** Endoplasmic Reticulum Stress Drives High Selenium-Induced Endothelial Dysfunction. **A. Agouni, M. Zachariah, H. Maamoun, L. Meira, M.P. Rayman.** Qatar University, Qatar and University of Surrey, United Kingdom.

W51 **902.5** Inclusion of Dairy Cheese in an 8-Day Controlled Dietary Intervention Prevents Sodium-Induced Endothelial Dysfunction in the Cutaneous Microcirculation of Healthy Older Adults. **B.K. Alba, A.E. Stanhewicz, R.S. Bruno, W.L. Kenney, L.M. Alexander.** Pennsylvania State University and The Ohio State University.

W52 **902.6** Differential Response of GK and WKY Rat Microvascular Endothelial Cells to a Hyperglycemic Environment. **D. Haspula, A. Vallejos, T. Moore, N. Tomar, R. Dash, B. Hoffmann.** Medical College of Wisconsin and Marquette University.

W53 **902.7** Exercise-Training Attenuates Endothelial Dysfunction and Repressed Vascular Autophagy Associated with Aging in Mice. **J.M. Cho, S-K. Park, A. Wallace, B. Hauck, M. White, M. Hansen, J.D. Symons.** University of Utah.

W54 **902.8** Vascular Localization of Zika Virus Following *in Vivo* Infection. **I.A.M. Brown, L.J. DeLalio, S. Liu, B.E. Isakson, T.T. Wang.** University of Virginia and SRI International

W55 **902.9** Acid Sensing Ion Channel 1 Contributes to Endothelium-Derived Hyperpolarizing Factor Induced Vasodilation in Small Mesenteric Arteries. **S. Garcia, J.S. Naik, T.C. Resta, N.L. Jernigan.** University of New Mexico Health Sciences Center.

W56 **902.10** Type 2 Diabetes and Older Age Contribute to Elevated Plasma Microparticle Concentrations. **R.Q. Landers-Ramos, M.C. Serra, J.B. Blumenthal, A.S. Ryan, C.E. Hafer-Macko, S.J. Prior.** University of Maryland School of Medicine, Baltimore VA Medical Center and University of Maryland Co, Emory University School of Medicine and Atlanta VA Medical Center and University of Maryland School of Medicine and Baltimore VA Medical Center.

W57 **902.11** *Carom*, a Novel Gene Suppressing Endothelial Cell Migration. **J. Xia, X. Xiong, J.J. Saredy, Y. Xu, S. Liu, X-F. Yang, H. Wang.** Lewis Katz School of Medicine at Temple University.

W58 **902.12** Endothelial Nitric-Oxide Blockade Influences Endothelial MicroRNA Expression. **V.P. Garcia, J.G. Hijmans, M.A.V. Levy, W.R. Reiakvam, K.A. Stockelman, Z.A. Goldthwaite, J.J. Greiner, C.A. DeSouza.** University of Colorado Boulder.

W59 **902.13** Novel Heparin Receptor Transmembrane Protein 184a Is Involved in Maintaining Proper Endothelial Cell Responses to Laminar Flow. **B.E. Tsaousis, S.L.N. Farwell, C.J. Brown, Y. Li, L.J. Lowe-Krentz.** Lehigh University.

W60 **902.14** Enhanced NLRP3 Inflammasome Activation in the Arterial Endothelium with Acid Sphingomyelinase Transgene in Mice. **X. Yuan, O.M. Bhat, H. Lohner, P-L. Li.** Department of Pharmacology and Toxicology and Virginia Commonwealth University.

W61 **902.15** Microvascular Endothelial Function Across the Cancer Survivorship Continuum. **H.R. Banister, S.L. Sutterfield, J.T. Caldwell, H.K. Post, G.M. Lovoy, C.J. Ade.** Kansas State University.

W62 **902.16** Activation of Endothelial Cell-Specific Sodium Channel Promotes Obesity Induced Diastolic Dysfunction in Female Mice. **A.R. Aroor, G. Jia, M. Hill, J. Habibi, Y. Yan, V. DeMarco, C. Manrique, G. Lastra, M. Martin, A. Whaley-Conell, F. Jaisser, J. Sowers.** University of Missouri, Centre de Recherche des Cordeliers and UPMC, France.

W63 **902.17** Gut Microbial Metabolite TMAO Induces Endothelial Dysfunction by Activating the HMGB1/TLR-4 Signalling Pathway. **G.B. Singh, R.S. Mohammad, N. Kshirasagar, Y. Zhang, B.K. McConnell, P-L. Li, K.M. Boini, S. Koka.** University of Houston and Virginia Commonwealth University.

W64 **902.18** Hydrogen Sulfide Improves Endothelial Dysfunction Through Inhibition of the Vicious Circle of NLRP3 and Oxidative Stress in Spontaneously Hypertensive Rats. **Y. Wu, J. Li.** Department of Physiology and Hebei Medical University, People's Republic of China.

W65 **902.19** Modulation of Nitric Oxide Release in Human Umbilical Vein Endothelial Cells by Myristolated-PKC Epsilon Activator/Inhibitor Peptides. **T. Dean, W. Hwang, G. Ajene, M. Bamimore, Q. Chen, R. Barsotti, F.E. Jenney, L.H. Young.** Philadelphia College of Osteopathic Medicine and Philadelphia College of Osteopathic Medicine Georgia Campus.

W66 **902.20** The Impact of Acute Tetrahydrobiopterin Administration on Plasma Adropin Concentration in Patients with Systemic Sclerosis. **H.L. Clifton, O.S. Kwon, D.R. Machin, G. Layec, R.S. Richardson, T.M. Frech, A.J. Donato, D.W. Wray.** Salt Lake City VA Medical Center and University of Utah.

903. HEART FAILURE

Poster

WED. 9:00 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

Presentation time: 10:00 AM–12:00 PM

W67 **903.1** Inhibition of DNA Methylation Reverses Aberrant Pathological Remodeling in the Setting of Pressure Overload. **A. Russell-Hallinan, R. Neary, C. Watson, J.A. Baugh.** University College Dublin, Ireland and Queens University Belfast, Ireland.

W68 **903.2** Remodeling of Cardiac Energy Metabolism During Heart Failure. **L. Kalfhues, K. Bottermann, L. Leitner, U. Flögel, A. Gödecke.** Heinrich-Heine University of Düsseldorf, Germany.

W69 **903.3** Effects of Prior Heavy Exercise in Heart Failure with Preserved Ejection Fraction on VO_2 Kinetics. **N.G. Boyes, J. Eckstein, S. Pylypchuk, S.J. Butcher, D.D. Marciniuk, D.M.K. Dewa, C.R. Wells, M.J. Haykowsky, C.R. Tomczak.** University of Saskatchewan, Canada and The University of Texas at Arlington.

W70 **903.4** Sex Specific Differences in Cardiac Fibrosis. **A. Conger, G. Milburn, C. Blair, M. Guglin, G. Wells, R. Waikel, K. Campbell.** University of Kentucky and Eastern Kentucky University

W71 **903.5** Development of Isolated Diastolic Dysfunction Associated with Early Impairment in Coronary Blood Flow in Hypertensive Diabetes. **J. Varagic, S. Ahmad, M. Ola, J.L. VonCannon, K. Wright, S. Reyes Ramirez, H. Wang, L. Groban, C.P. Cheng, C.M. Ferrario.** Wake Forest School of Medicine and King Saud University, Saudi Arabia.

W72 **903.6** Stretching Single Titin Molecules from Failing Human Hearts at Cardiac Cycle Reveals Titin's Role in Cardiac Kinetic Reserve. **M-P. Chen, S.A. Kiduko, N.S. Saad, B.D. Canan, A. Kilic, P.J. Mohler, P.M.L. Janssen.** The Ohio State University.

W73 **903.7** Exosomal MicroRNA-27a Passenger Strand Was Upregulated in Chronic Heart Failure. **C. Tian, L. Gao, I.H. Zucker.** University of Nebraska Medical Center.

W74 **903.8** Serelaxin and Augmented L-Arginine Transport Attenuates Renal Fibrosis and Inflammation in Experimental Dilated Cardiomyopathy. **N. Rajapakse, B. Giam, S. Kuruppu, P-Y. Chu, H. Kiriazis, X-J. Du, D. Kaye.** University of Queensland, Australia, Baker Heart and Diabetes Institute, Australia and Monash University, Australia.

W75 **903.9** Influence of the Soluble Guanylate Cyclase Stimulator Riociguat on Myocardial Function and Proteome After Experimental Aortic Stenosis in Mice. **A. Benkner, J. Ruedebusch, K. Klingel, E. Hammer, E. Witt, V.M. Dhople, M. Doerr, S. Felix, K. Grube.** University of Greifswald Medical School, Germany and University Hospital of Tubingen, Germany.

W76 **903.10** Diabetic Heart Failure Patients Demonstrate a Mitochondrial Complex I Dependent Impairment in Skeletal Muscle. **J.O. Garnham, J. Boyle, L.D. Roberts, C. Peers, M.T. Kearney, T.S. Bowen, K.K. Witte.** University of Leeds, United Kingdom.

W77 **903.11** Bardoxolone Activates Cardiac Nrf2, Increases Antioxidant Expression and Lowers Arterial Pressure in Rats with Heart Failure. **A. Zhang, C. Tian, L. Gao, I.H. Zucker.** University of Nebraska Medical Center.

W78 **903.12** Glucose-6-Phosphate Dehydrogenase Regulate Metabolome-Transcriptome Axis and Mitochondrial Malfunction in Diabetic Hearts: Implications in Pathogenesis of Diabetic Cardiomyopathy and Mending of Broken Hearts. **V. Dhagia, S. Joshi, V. Soldatos, P. Rocic, J. Edwards, S. Gupte.** New York Medical College.

W79 **903.13** Assessment of Cardiac Function of RBM 20-/- Rats Using Pressure-Volume Loop Analysis After 28 Days of Angiotensin II Treatment. **H. Ahuja, C. Zhu, A. Willoughby, F. Monteiro Pedrei, W. Guo, H.G. Chew; Jr.** Western Wyoming College and University of Wyoming.

W80 **903.14** Inhibition of Type 1 Phosphodiesterse Confers Therapeutic Benefit to Proteinopathy-Based HfpEF in Mice. **H. Zhang, M.D. Rekhter, X. Wang.** Sanford School of Medicine, University of South Dakota, Lilly Research Laboratories and Lilly Corporate Center.

W81 **903.15** Force-Frequency Relationship and Early Relaxation Kinetics Are Preserved Upon SR Blockade in Human Myocardium. **J-H. Chung, B. Canan, B. Whitson, A. Kilic, P. Mohler, P. Janssen.** The Ohio State University.

W82 **903.16** Eight Weeks of Slow Deep Breathing Training Alters Cardiorespiratory Function and Improves Functional Exercise Capacity in Chronic Heart Failure Patients. **R. Lewis, Y. Seo, B.T. Hackfort, B. Pozehl, H.D. Schultz.** University of Nebraska Medical Center and The University of Texas at Arlington.

W83 **903.17** Role of Pi3-Kinase in Angiotensin II-Induced Cardiac Hypertrophy: Shift from Class III to Class I. **T. Zhong, L. Guo, S.T. O'Rourke, C. Sun.** North Dakota State University and Jilin University, People's Republic of China.

W84 **903.18** Inhibition of Lysyl Oxidase Activity Prevents Volume Overload Diastolic and Systolic Dysfunction. **E.C. El Hajj, M.C. El Hajj, V.K. Ninh, J.D. Gardner.** Louisiana State University Health Sciences Center.

W85 **903.19** In Utero Alcohol Exposure Alters the Collagen Profile in Neonatal Hearts and Leads to Cardiac Dysfunction. **V. Ninh, E. El Hajj, J. Gardner.** Louisiana State University Health Sciences Center—New Orleans.

W86 **903.20** The Critical Role of Scleraxis in Pressure Overload-Induced Cardiac Fibrosis. **R.S. Nagalingam, D.Y-C. Cheung, N. Aroutiounova, D.S. Jassal, M.P. Czubryt.** University of Manitoba, Canada and St. Boniface Hospital Albrechtsen Research Centre, Canada.

W87 **903.21** Malignant Hyperthermia-Associated Mutation of Leaky Ryr1 Induces Mitochondrial Ca^{2+} Overload in the Heart. **J. O-Uchi, B.S. Jhun, S-S. Sheu.** Rhode Island Hospital, Brown University and Thomas Jefferson University.

W88 **903.22** Mathematical Modeling of Left Ventricle Hypertrophy and Dilatation in Response to Volume Overload in Heart Failure: A Coupled Renal-Cardiac Model. **S. Anjum, G. Jajamovich, R. Allen, A. Sher, M. Dockendorf, C.J. Musante, K.M. Hallow.** University of Georgia, Merck & Co., Inc. and Pfizer Worldwide Research & Development.

904. RENIN-ANGIOTENSIN-ALDOSTERONE SYSTEM IN REGULATION OF BLOOD PRESSURE AND RENAL FUNCTION

Poster

WED. 9:00 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

Presentation time: 10:00 AM–12:00 PM

W89 **904.1** Activation of Renin-Angiotensin Aldosterone System's Effect on Protein Disulfide Isomerase. **K. Veliz, J. Cazares, A. Rivera, R. Ortiz, J. Romero.** University of California, Merced, Boston Children's Hospital and Brighman and Women's Hospital.

W90 **904.2** Regulation of Basolateral ClC-K2-Dependent Cl- Reabsorption in Collecting Duct Intercalated Cells by Dietary Electrolyte Intake and Ang II. **O. Zaika, V.N. Tomilin, O.M. Pochynyuk.** The University of Texas Health Science Center at Houston.

W91 **904.3** Temporal Association Between Endoplasmic Reticulum Stress and Reactive Oxygen Species in the Subfornical Organ During Angiotensin-II-Mediated Hypertension. **M.L. Judice, C. Hurr, C.N. Young.** George Washington University.

W92 **904.4** High Salt Diet Induces a Rapid Increase in Blood Pressure and Mortality in the $Ren^{-/-}$ Dahl SS Rats. **D. Ilatovskaya, V. Levchenko, A. Zietara, D.R. Spires, A. Staruschenko.** Medical College of Wisconsin.

W93 **904.5** Female BALB/c Mice Develop Salt-Sensitive Hypertension and Endothelial Dysfunction in Association with Activation of the Renin-Angiotensin Aldosterone System. **J.L. Faulkner, D. Harwood, L. Bender, J. Morwitzer, M. Brands, S. Kennard, G. Antonova, E.J. Belin de Chantemele.** Augusta University.

W94 **904.6** Angiotensin-II-Induced Increase in Blood Pressure in Female and Male Mice. **A. Rouch, A. Platt, L. Fan.** Oklahoma State University Center for Health Sciences.

W95 **904.7** The Short and Long-Term Effects of Food Restriction on Body Composition and the Renin Angiotensin System. **A. Souza, C.A. West, G. Campos, A.V. Pai, H. Ji, K. Sandberg.** Georgetown University and Universidade Federal de Ouro Preto, Brazil.

W96 **904.8** Mineralocortidoid Receptor Mediates Uremic Serum-Induced Increase in Endothelial Cell Dysfunction. **D. Alvarez de la Rosa, V. Cazaña-Perez, T. Giraldez, J.F. Navarro-Gonzalez, K. Kusche-Virhog.** Universidad de La Laguna, Spain, Hospital Universitario Nuestra Señora de Candelaria, Spain and University of Muenster, Germany.

905. STRESS, SLEEP, CIRCADIAN RHYTHMS AND BLOOD PRESSURE REGULATION (POSTERS)

Poster

WED. 9:00 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

Presentation time: 10:00 AM–12:00 PM

W98 **905.1** Vasopressin's Role in Stress Response and Glucose Homeostasis in a Pig Model of Endotoxin-Induced Inflammation. **C.F.T. Uyehara, D.H. Ho, L-A.M. Murata, J.M. Piaggione, W.M. Ichimura, C.A. Hernandez, J.W. Blythe, W.J. Sherman.** Tripler Army Medical Center.

W99 **905.2** Early Life Stress Induces Endothelial-Derived HDAC9 and Et-1 Expression. **K.C. McPherson, D.H. Ho, Y.D. Pettway, X. Liu, K.A. Hyndman, J.S. Pollock.** University of Alabama at Birmingham.

W100 **905.3** α1-Adrenoreceptor-Mediated Vasoconstriction Is Enhanced in the Aorta but Not Resistance Arteries of Humanized Sickle Cell Mice. **B.M. Fox, J.M. Allan, R.S. Sedaka, M. Kasztan, C. Jin, P.A. Molina, D.M. Pollock, J.S. Pollock.** University of Alabama at Birmingham.

W101 **905.4** Impact of Exercise-Induced Dehydration on Perceived Sleep Quality. **W.M. Adams, L.W. Vandermark, L.N. Belval, C.L. Benjamin, G.E.W. Giersch, R.K. Katch, E.C. Lee, L.E. Armstrong, L.J. DiStefano, D.J. Casa.** University of North Carolina at Greensboro, University of Arkansas and University of Connecticut.

W102 **905.5** Influence of Insufficient Sleep on Circulating microRNAs in Middle-Aged Adults. **Z.A. Goldthwaite, J.G. Hijmans, K.J. Diehl, T.D. Bammert, G.M. Lincenberg, J.J. Greiner, B.L. Stauffer, C.A. DeSouza.** University of Colorado Boulder and University of Colorado Denver.

W103 **905.6** Kidney-Specific KO of the Circadian Clock Protein Bmal1 Lowers Blood Pressure in Male C57BL/6J Mice. **L.G. Douma, K-Y. Cheng, I.J. Lynch, M. Holzworth, S. Masten, D. Barral, A. Miller, K.A. Esser, C.S. Wingo, M.L. Gumz.** University of Florida.

W104 **905.7** Cosinor Analysis Reveals Non-Dipping Hypertension in Mixed Background Strain Mice Lacking the Circadian Clock Protein Per1. **A. Miller, K. Solocinski, I.J. Lynch, C.S. Wingo, M.L. Gumz.** University of Florida and North Florida/South Georgia Veterans Health System.

W105 **905.8** Evidence for Circadian Control of Endothelial Function in Mice on a High Fat Diet. **P. Pati, J.M. Allan, J. Colson, M. Young, S. Bailey, D.M. Pollock, K. Gamble, J.S. Pollock.** University of Alabama at Birmingham.

W106 **905.9** Chronic High Fat Diet Disrupts Renal Molecular Clock. **D. Zhang, J.S. Speed, J.C. Colson, S.M. Bailey, M.E. Young, K.L. Gamble, J.S. Pollock, D.M. Pollock.** University of Alabama at Birmingham.

W107 **905.10** Timing of Food Intake Differentially Impacts Urinary Electrolyte and Aldosterone Excretion. **J.G. Johnston, J.S. Speed, C. Jin, D. Zhang, D.M. Pollock.** University of Alabama at Birmingham.

W108 **905.11** Timing of Blood Pressure Rhythms Predict Risk of Renal Injury in the Dahl Salt-Sensitive Rats. **D. Chen, J.N. Booth III, C. Houchin, J.C. Colson, C. Jin, A.W. Cowley, A. Geurts, P. Muntner, M.E. Young, D.M. Pollock, J.S. Pollock.** University of Alabama at Birmingham and Medical College of Wisconsin.

W109 **905.12** Daily and Seasonal Rhythms of Interleukin 6 and Cortisol Levels in Saliva and Some Lifestyle Habits of Medical Students in Poland. **D. Kanikowska, R. Rutkowski, D. Sikorska, Z. Orzechowska, M. Sato, A. Brębborowicz, J. Witowski.** Poznan University of Medical Sciences, Poland and Aichi Medical University, Japan.

906. CARDIOVASCULAR AND RENAL MECHANISMS OF HYPERTENSION, METABOLIC SYNDROME AND DIABETES

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W110 **906.1** Flow Mediates Collecting Duct Histone Deacetylase 1 Nuclear Export. **R.S. Sedaka, K.A. Hyndman, J.S. Pollock.** The University of Alabama at Birmingham.

W111 **906.2** Myostatin Deletion Prevents Kidney Specific Increases in NOX4 in Obesity and Protects Against Renal Injury and Hypertension. **J.T. Butcher, S. Larion, J.D. Mintz, D.J. Fulton, D.W. Stepp.** Augusta University.

W112 **906.3** Expression Pattern of Renal Transporters in Urinary Exosomes of Patients with Edematous States. **L. Rojas-vega, S. Bazúa-Valenti, F. Gallardo, I. Hurtado, D.L. Carrillo-Pérez, B. Marfil-Garza, G. Gamba.** Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico and Instituto de Investigaciones Biomédicas-UNAM, Mexico.

W113 **906.4** Lack of Endothelium-Derived ET-1 Accelerates Diabetes-Mediated Renal Damage in Female, but Not Male, Mice. **C. De Miguel, D.M. Pollock, J.S. Pollocks.** University of Alabama at Birmingham.

W114 **906.5** Sex Differences in the Development of Renal Injury in Obese Dahl Salt-Sensitive Leptin Receptor Mutant Rats During Prepubertal Obesity. **B. Poudel, C.A. Shields, D.C. Cornelius, J.M. Williams.** University of Mississippi Medical Center.

W115 **906.6** Inhibition of Necrosis via Necrox-5 Attenuates the Development of Hypertension in Male, but Not Female Spontaneously Hypertensive Rats (SHR). **M. Abdelbary, C. Onyilo, G.R. Crislip, E. Gillis, M. Brands, J.C. Sullivan.** Augusta University.

W116 **906.7** Hypertension Precedes Metabolic Syndrome in the ALMS1 (Alstrom Syndrome 1) Knockout Rat. **K.N. King-Medina, P.A. Ortiz.** Henry Ford Health System.

W117 **906.8** Chronic 17β-Estradiol Supplementation Reduces Blood Pressure and Alters Renal Estrogen Receptor Expression in Female Growth-Restricted Rats in Later Life. **G.K. Davis, A. Cole, A.D. Newsome, N.B. Ojeda, B.T. Alexander.** University of Mississippi Medical Center.

W118 **906.9** AMPK as a Metabolic Sensor Regulates Inflammatory Response During Ischemic Insults. **J. Li, X. Chen, C. Cates, T. Rousselle, X. Li.** University of Mississippi Medical Center.

W119 **906.10** Association Between Cardio-Metabolic Risk Factors, Plasma Catecholamines and Cognitive Performance in Mexican Pre-Adolescents. **A.E. Soto-Piña, C. Flores-Reséndiz, R. Valdés-Ramos, A.D. Benítez-Arciniega, B. Martínez-Carrillo.** Universidad Autónoma del Estado de México, Mexico.

W120 **906.11** Nighttime Sodium Intake Is Associated with Cardiometabolic Risk and Insulin Resistance in Night Shift Nurses. **J.S. Speed, H.E. Molzov, R.L. Johnson, B.K. Becker, D.M. Pollock, K.L. Gamble.** University of Alabama at Birmingham.

W121 **906.12** Effects of *Ilex guayusa* Tea on Glycaemia, Cardiovascular Autonomic Modulation and Oxidative Stress in Streptozotocin-Diabetic Rats. **F.F. Stoyell-Conti, T.C. Mello, D.S. Dias, N. Bernardes, A.A. Araujo, C.P. Santos, S.F. Llesuy, K. De Angelis.** Universidade Nove de Julho, Brazil, Universidade Federal de São Paulo, Brazil and Universidad de Buenos Aires, Argentina.

907. EXERCISE AND SKELETAL MUSCLE AS KEY REGULATORS OF WHOLE BODY AGING (POSTERS)

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W122 **907.1** Effect of Denervation on Redox-Regulation in Skeletal Muscle. **M. Scalabrin, N. Pollock, A. McArdle, M.J. Jackson, A. Vasilaki.** University of Liverpool, United Kingdom.

W123 **907.2** Senescence in Myoblasts; Role in Age-Related Muscle Dysfunction. S**. Shigdar, C. Staunton, A. Vasilaki, A. McArdle.** University of Liverpool, United Kingdom.

W124 **907.3** Do Senescent Cells Drive the Ageing Phenotype of Skeletal Muscle in Vivo? **S. Shigdar, C. Staunton, A. Vasilaki, A. McArdle.** University of Liverpool, United Kingdom.

W125 **907.4** Novel Intravital Assessment of Muscle Cytosol H_2O_2 Content Supports a Key Role for Motor Unit Remodelling in Sarcopenia. **C.A. Staunton, A. Vasilaki, R. Barrett-Jolley, A. McArdle, M.J. Jackson.** University of Liverpool, United Kingdom.

W126 **907.5** Characterisation of NF-κB Activation in Regenerating Fibres of Old Mice. **E.D. Owen, N. Pollock, M.J. Jackson, A. Vasilaki, A. McArdle.** University of Liverpool, United Kingdom.

W127 **907.6** Maternal Protein Restriction Mediates the Development of the Musculoskeletal System in the Offspring. **A. Vasilaki, I. Kanakis, I. Giakoumaki, N. Pollock, A. McArdle, A.A. Sayer, K. Whysall.** University of Liverpool, United Kingdom and Newcastle University, United Kingdom.

W128 **907.7** Age-Related Dysfunction in the Satellite Cell Niche. **A. Thomas, J. Nederveen, T. Snijders, S. Joanisse, K. Bell, S. Phillips, D. Kumbhare, G. Parise.** McMaster University, Canada, Maastricht University, Netherlands, University of Birmingham, United Kingdom and University of Toronto, Canada.

W129 **907.8** Reduced Training Frequency Improves Muscle Adaptation and Pi3k-Akt Signaling Following Resistance-Type Training in an Aging Model. **M. Naimo, J. Ensey, E. Rader, B. Baker.** National Institute for Occupational Safety and Health and Centers for Disease Control and Prevention.

W130 **907.9** Aerobic Exercise Training Reduces Regulators of Denervation in Exercise Resistant and Exercise Sensitive Old Rats. **L.A. Brown, P.C. MacPherson, L.G. Koch, N.R. Qi, S.L. Britton, S.V. Brooks.** University of Michigan and University of Toledo.

W131 **907.10** Metformin Blunts Exercise-Induced Improvements in Skeletal Muscle Mitochondrial Respiration Independent of Changes in Mitochondrial Biogenesis. **A.R. Konopka, W.M. Castor, J. Reid, H. Schoenberg, J. Laurin, C. Wolff, K. Hamilton, B. Miller.** University of Illinois at Urbana-Champaign and Colorado State University.

W132 **907.11** UCHL1 Regulates Interleukin-6 Expression in Skeletal Muscles. **Y. Li, H. Gao, P. Wu, X. Wang.** University of South Dakota.

W133 **907.12** Senescent Skeletal Muscle Produces a Distinct Cytokine Secretory Profile in Response to Endotoxin Exposure *in Vitro*. **A.J. Mattingly, O.J. Laitano, T.L. Clanton.** University of Florida.

908. ROLE AND IMPORTANCE OF MITOPHAGY IN SKELETAL MUSCLE HEALTH AND DISEASE (POSTERS)

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W134 **908.1** PGC--1α Overexpression Increases Lysosome Abundance and Autophagy in Dystrophic Skeletal Muscle. **A. Ludwig, H.R. Spaulding, M. Hudson, J. Selsby.** Purdue University, Iowa State University and University of Delaware.

W135 **908.2** Muscle Mitochondrial Dysfunction at Different Stages of Chronic Kidney Disease (CKD). **J. Gamboa, C.A. Keller, A.M. Falck, B. Roshanravan, N.J. Brown, T.A. Ikizler.** Vanderbilt University Medical Center and University of Washington.

909. ALTITUDE AND HYPOXIA

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W136 **909.1** $P_{et}co_2$ in Women at Sea-Level and Upon Acute Exposure to a Normobaric Hypoxic Environment Simulating 3,500 M. **M. Yasukawa, A. Degarmo, L. Quiroga, S. Muza, K. Kambis.** Chuo University, Japan, College of William and Mary and U.S. Army Research Institute of Environmental Medicine.

W137 **909.2** Acid-Base Compensation During Incremental Ascent to High Attitude. **S.M. Zouboules, H. Nysten, T. Brutsaert, C. Nysten, K.D. O'Halloran, C.D. Steinback, M. Sherpa, T.A. Day.** Mount Royal University, Canada, Red Deer Regional Hospital, Canada, Syracuse University, University College Cork, Ireland, University of Alberta, Canada and Kunde Hospital, Nepal.

W138 **909.3** Does Normobaric Hypoxia Sustain Altitude Acclimatization-Induced Improvements in Fluid Intelligence During Reintroduction to Altitude? **B.A. Beidleman, I.V. Sils, A. Cymerman, C.S. Fulco, J.E. Staab, S.R. Muza.** U.S. Army Research Institute of Environmental Medicine.

W139 **909.4** The Effect of Cognitive Fatigue and Hypoxia on Repeated Arm Bike Sprint Performance: A Combined and Individual Stressors Approach. **M. Lawes, G. Raccuglia, K. O'Keeffe, G. Havenith, A. Lloyd.** Loughborough University, United Kingdom.

W140 **909.5** The Effect of Winter Clothing Ensembles and Hypoxia on Performance and Exercise-Related Sensations During Uphill Walking: A Combined and Individual Stressors Approach. **A. Lloyd, G. Raccuglia, J. Grainger, S. Hodder, G. Havenith.** Loughborough University, United Kingdom.

W141 **909.6** Anabolic Signaling Responses to Exercise and Recovery Whey Protein Are Suppressed at High Altitude. **L.M. Margolis, C.E. Berryman, J.W. Carbone, C.T. Carrigan, N.E. Murphy, A.A. Ferrando, A.J. Young, S.M. Pasiakos.** U.S. Army Research Institute of Environmental Medicine, Eastern Michigan University and University of Arkansas for Medical Sciences.

W142 **909.7** Dynamics of Blood Lactate Concentration During Recovery Period of Short Duration-High Intensity Exercise in Acute Hypoxia or Normoxia. **N. Takei, K. Kakinoki, H. Hatta.** The University of Tokyo, Japan and Blue Wych Ltd., Japan.

W143 **909.8** Effect of Ischemic Preconditioning on Oxygen Uptake and Extraction Kinetics During Exercise in Normoxia and Hypoxia. **C.C. Wiggins, K. Constantini, H. Paris, T. Mickleborough, R. Chapman.** Indiana University.

W144 **909.9** Indispensably Evil! the Role of Oxygen in Nitric-Oxide Dependent Endothelial Function. **A. Pedrinolla, A. Savoldelli, S. Scafidas, G. Giuriato, A. Fornasiero, B. Pellegrini, L. Bortolan, F. Schena, M. Venturelli.** University of Verona, Italy.

W145 **909.10** Muscle Metaboreflex Activity After an Acute Session of Exercise Under Hypoxia. **A. Crisafulli, G. Sainas, S. Magnani, S. Roberto, M.O. Mannoni, V. Pinna, F. Tocco, A. Doneddu, G. Mulliri.** University of Cagliari, Italy.

W146 **909.11** Human iPSC-Derived Cerebral Organoids Reveal Altered Neuronal Excitability in Subjects with Monge's Disease. **W. Wu, H. Yao, H. Zhao, P.D. Negraes, A. Muotri, G. Haddad.** University of California and San Diego.

910. FLUID BALANCE, BLOOD VOLUME REGULATION AND TRAUMA

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W147 **910.1** Swelling of the Subcutaneous Adipose, but Not the Dermis, in Burn Wound Edema Is Exacerbated by IV Fluids. **D.M. Burmeister, T. Chao, B.I. Gomez, J.S. Little, M.A. Dubick, R.J. Christy.** U.S. Army Institute of Surgical Research.

W148 **910.2** Relationships Between Dual-Energy X-Ray Absorptiometry Fat and Lean Tissue Masses and Standing and Sitting Bioimpedance Spectroscopy Variables in Healthy Men and Women. **J.R. Moon, M.T. Lane, L.A. Doernte, R.M. Bean, A.M. Spears.** ImpediMed, Inc. and Eastern Kentucky University.

W149 **910.3** Cross-Shift Body Mass Change and Associated Health Outcomes Related to Chronic Kidney Disease in Sugarcane Workers in Guatemala. **H.A. Yoder, J. Butler-Dawson, L.K. Krisher, L.S. Newman, E.C. Johnson.** University of Wyoming and Colorado School of Public Health.

W150 **910.4** Modest Reductions in Skin Temperature After the Onset of a Simulated Hemorrhagic Challenge Improve LBNP Tolerance Following Exercise Heat Stress. **C.E. Trotter, F.K. Pizzey, P.M. Batterson, R.A. Jacobs, J. Pearson.** University of Colorado Colorado Springs.

W151 **910.5** Oxidative Stress During Simulated Hemorrhage Elicited by Lower Body Negative Pressure. **F.S. Park, V.L. Kay, G.K. Anderson, J.D. Sprick, C.A. Rickards.** University of North Texas Health Science Center.

W152 **910.6** Responses of Cerebral Blood Flow and Tissue Oxygenation to Low Frequency Oscillations During Simulated Hemorrhagic Stress in Humans. **G.K. Anderson, F.S. Park, J.D. Sprick, C.A. Rickards.** University of North Texas Health Science Center.

W153 **910.7** Comparison of Measures of Compensatory Reserve and Tissue Oxygen in Differentiating Tolerance to Simulated Hemorrhage. **T.E. Schlotman, J.T. Howard, V.A. Convertino.** U.S. Army Institute of Surgical Research.

W154 **910.8** L-Arginine Prevents Heme-Induced Acute Lung Injury (ALI) in a Rat Model of Trauma/Hemorrhage and Resuscitation with Transfusion. **F.K. Johnson, W. Durante, R.A. Johnson, S.A. Rhodes, R.M. Stewart.** College of Osteopathic Medicine, William Carey University, University of Missouri and The University of Texas Health Science Center at San Antonio.

W155 **910.9** The Effects of Ethynylestradiol-3-Sulfate (EE-3-S) on Blood Volume and Organ Function in Pigs with Severe Traumatic Hemorrhage. **W.Z. Martini, H. Xia, M.A. Dubick.** U.S. Army Institute of Surgical Research.

W156 **910.10** Effects of Ketamine on Cardiovascular and Respiratory Responses to a Moderate 40 Percent Hemorrhage in Rats. **H.G. Klemcke, M.L. Calderon, A.S. Calderon, S.L. Crimmins, C. Hinojosa-Laborde.** U.S. Army Institute of Surgical Research.

911. FLUID BALANCE AND BLOOD PRESSURE REGULATION DURING PREGNANCY (POSTERS)

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W157 **911.1** The Role of Interleukin-2 (IL-2) in Natural Killer Cell (NK) Activation and Hypertension in a Preclinical Rat Model of Preeclampsia. **M.W. Cunningham, T. Ibrahim, D. Cornelius, L. Amaral, V.R. Vaka, B. LaMarca.** University of Mississippi Medical Center.

W158 **911.2** T Lymphocytes Contribute to the Development of Maternal Syndrome in Dahl Ss Rats Maintained on a Low Salt Diet. **J.H. Dasinger, J.M. Abais-Battad, H. Lund, D.J. Fehrenbach, A. Alsheikh, D.L. Mattson.** Medical College of Wisconsin.

W159 **911.3** A Novel Anti-Inflammatory Agent for the Management of Preeclampsia. **A.C. Eddy, H. Chapman, F. Mahdi, E.M. George, G.L. Bidwell III.** University of Mississippi Medical Center.

W160 **911.4** Arginine Vasopressin Infusion in C57BL/6J Mice Induces Changes in the Placenta Transcriptome That Parallel Changes Observed in Placenta from Human Preeclampsia. **G. Deng, J.A. Sandgren, H.L. Keen, K.J. Perschbacher, S.Y. Zhang, D.A. Santillan, G.L. Pierce, K.N. Gibson-Corley, M.K. Santillan, C.D. Sigmund, J.L. Grobe.** University of Iowa.

W161 **911.5** Cardiovascular Effects of Endothelial-Specific Interference with PPARγ Activity in Offspring Born from AVP-Induced Preeclamptic Pregnancies. **A.R. Nair, M. Mukohda, L.N. Agbor, K-T. Lu, J. Wu, J.A. Sandgren, J.L. Grobe, C.D. Sigmund.** University of Iowa.

W162 **911.6** Reduced Placental Expression of Regulator of G-Protein Signaling-2 (RGS2) and Preeclampsia. **K.J. Perschbacher, G. Deng, J.A. Sandgren, L.C. Saenz, D.A. Santillan, E.J. Devor, G.L. Pierce, M.K. Santillan, R.A. Fisher, K.N. Gibson-Corley, J.L. Grobe.** University of Iowa.

W163 **911.7** ELP-VEGF Treatment Improves the Maternal Syndrome of Preeclampsia in the Dahl Salt Sensitive (S) Rat. **C.A. Ross, K.J. Maeda, O.C. Logue, G.L. Bidwell, M.R. Garrett, J. Sasser.** University of Mississippi Medical Center.

W164 **911.8** Vascular Permeability Is Increased in Cerebral Arteries from the Dahl S Model of Superimposed Preeclampsia. **D. McClung, K. Maeda, M. Garrett, M. Ryan, J. Sasser.** University of Mississippi Medical Center.

W165 **911.9** Altered Glomerular Function Is Associated with Spontaneous Gestational Hypertension in African Green Monkeys. **C.C. Weaver, J.L. Grobe, M.K. Santillan, J.L. Osborn.** University of Kentucky and University of Iowa Carver College of Medicine.

W166 **911.10** Infant Birthweight and Postpartum Hypertension in African Green Monkeys. **E. Bateman, C. Weaver, J.L. Osborn.** University of Kentucky.

W167 **911.11** Time Course of Changes in Arterial and Venous Function During Normal and Hypertensive Pregnancies in Humans. **J-K. Yoo, M.B. Badrov, O. Syed, R.S. Parker, A.S. Stickford, Y. Okada, S.A. Best, B.D. Levine, Q. Fu.** The University of Texas Southwestern Medical Center, Institute for Exercise and Environmental Medicine and Texas Health Presbyterian Hospital Dallas.

912. REDUCED GRAVITY AND HYPERBARIC ENVIRONMENTS

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W168 **912.1** Prolonged Saturation Exposure Alters Human Gut Microbiota: A Case Report. **D. Xiang, B. Luo, Y. Fang, R. Chen, T. Yang, J. Xu, J. He.** Naval Medical Research Institute, Second Military Medical University, People's Republic of China and Shanghai University of Sport, People's Republic of China.

W169 **912.2** Subjects with a High Baseline Central Chemosensitivity Have a Delayed Onset of Co_2 Retention During Thermoneutral Head Out Water Immersion. **J.R. Sackett, Z.J. Schlader, M.C. O'Leary, C.L. Chapman, B.D. Johnson.** University at Buffalo and State University of New York.

W170 **912.3** One Week Diving on Pure Oxygen: Vascular Function Is Altered in Similar Fashion to Air Diving in Short Term Analyses Yet a Unique Sustained Hyperemia Results from Hyperbaric Hyperoxia and Subsequent Intense Aerobic Exercise. **J. Campbell, E. Bergeron, J. Florian.** Navy Experimental Dive Unit.

W171 **912.4** Effects of Consecutive, Long-Duration Hyperoxic Water Immersions on Neuromuscular Performance in Well Trained, Male Divers. **C. Myers, J-S. Kim, J. Florian.** Florida State University and Navy Experimental Dive Unit.

913. CONTROL OF BREATHING: INTEGRATED RESPONSES

Poster

WED. 9:00 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

Presentation time: 10:00 AM–12:00 PM

W172 **913.1** Impact of Cervical Spinal Contusion on the Upper Airway Resistance in the Rat. **K-J. Xu, K-Z. Lee.** National Sun Yat-sen University, Taiwan.

W173 **913.2** Cough Response to Sulfur Dioxide Inhalation Challenge Is Enhanced by Tumor Necrosis Factor Alpha: A Primary Role of Vagal Bronchopulmonary C-Fibers. **R-L. Lin, C. Zhang, M. Khosravi, A-H. Lin, A. Athukorala, L-Y. Lee.** University of Kentucky Medical Center.

W174 **913.3** Sudden Death in Response to Severe Acute Hypoxemia Under Urethane Anesthesia Is Caused by Catastrophic Failure of Respiratory Control. **A.A. Sifuentes, Z.M. Fattal, M.L. Scott, K.A. McCarthy, B.M. Sauer, H.J. Bell.** Central Michigan University.

W175 **913.4** Can Daytime Measures of Respiratory Sinus Arrhythmia and Breathing Stability Serve as Biomarkers for Osa? **C.M. DeLucia, S. Barreda, J.R. Vranish, E.F. Bailey.** University of Arizona, University of California, Davis and The University of Texas at Arlington.

W176 **913.5** Role of Distention in Swallow Phase Transition. **A. Huff, M. Reed, T. Pitts.** University of Louisville

W177 **913.6** Effect of Hypercapnia on the Swallow-Breathing Relationship in Cats. **M. Reed, A. Huff, I. Poliacek, D.C. Bolser, T. Pitts.** University of Louisville, Jessenius Faculty of Medicine, Comenius University, Slovakia and University of Florida.

W178 **913.7** A New Method for Automated and Unbiased Classification of Respiratory-Related Electromyogram (EMG) and Pressure Waveforms. **M.D. Sunshine, D.D. Fuller.** University of Florida.

W179 **913.8** Characterization of Alterations in Basal Inspiratory Motor Output and Chemical Control of Breathing in Two Parkinson's Disease Rat Models. **I.C. Solomon, J.J. Tuchinsky, A. Brogan, R.M. Wadolowski.** Stony Brook University.

W180 **913.9** New Insights into a Decerebrate Feline Model of Swallow-Breathing Coordination. **K-K. Horton, L. Segers, S. Nuding, R. O'Connor, P. Alencar, P. Davenport, B. Lindsey, K. Morris, C. Gestreau.** University of South Florida, University of Florida and Aix Marseille University, France.

W181 **913.10** Work of Breathing in Obese Men with and Without Dyspnea on Exertion. **V. Bernhardt, D.M. Bhammar, R. Marines-Price, T.G. Babb.** Texas A&M University—Commerce, University of Nevada, Las Vegas and Texas Health Presbyterian Hospital and The University of Texas Southwestern Medical Center.

W182 **913.11** Inspiratory Resistive (R) Load Endurance Testing in Normal Healthy Adults: Load Compensation, Effort Sensation and Affective Perception. **P.W. Davenport, M.P. Davenport, J. Feinstein, S. Khalsa, A. von Leupoldt.** University of Florida, Laureate Institute for Brain Research and University of Leuven, Belgium.

W183 **913.12** Respiratory Load Compensation and Perception During 10-Breath Sustained Inspiratory Resistive Loading in Normal Subjects. **M.P. Davenport, J. Feinstein, S. Khalsa, A. von Leupoldt, P.W. Davenport.** University of Florida, Laureate Institute for Brain Research and University of Leuven, Belgium.

W184 **913.13** Impact of Acute Intermittent Hypoxia (AIH) on Lower Urinary Tract Function Following Mid-Thoracic Spinal Cord Contusion Injury. **W.F. Collins, C. Wang, M.E. Torpie, I.C. Solomon.** Stony Brook University.

W185 **913.14** Evidence That the Prebotzinger Complex Does Not Participate in Cough Rhythmogenesis in the Anesthetized Cat. **T.Y. Shen, I. Poliacek, Z. Kotmanova, M.N. Musselwhite, M.J. Rose, D.C. Bolser.** University of Florida, Jessenius Faculty of Medicine and Comenius University, Slovakia.

W186 **913.15** Multiple Abdominal Burst Patterns Observed During Tracheobronchial Coughing in Anesthetized Cats. **A.L. Fullerton, T.Y. Shen, M.N. Musselwhite, M.J. Rose, P.W. Davenport, K.F. Morris, D.C. Bolser.** University of Florida and University of South Florida.

W187 **913.16** The Influence of CO_2 on Spatiotemporal Features of Mechanically-Induced Coughing in Anesthetized Cats. **M.N. Musselwhite, T.Y. Shen, M.J. Rose, J. Watts, D.C. Bolser.** University of Florida.

W188 **913.17** Time Course of Alterations in Chemical Control of Breathing in Conscious Spontaneously Breathing 6-OHDA Sn-Lesioned Parkinson's Disease Rat Model. **R.M. Wadolowski, I.C. Solomon.** Stony Brook University.

W189 **913.18** Respiratory Changes in Offspring of High Fat Diet Fed Dams. **M. Bassi, R.M. Barbosa, J.M. de Sa, J.V. Menani, E. Colombari, D.S.d.A. Colombari.** Sao Paulo State University, Brazil.

W190 **913.19** The Impact of Tauopathy on Ultrasonic Vocalization in a Mouse Model of Frontotemporal Dementia. **D. Stanic, P. Trevizan-Bau, E. Burrows, R.R. Dhingra, M. Dutschmann.** The Florey Institute of Neuroscience and Mental Health, Australia.

W191 **913.20** Superior Cervical Ganglionectomy Affects the Cardiorespiratory Network of the *in Situ* Arterially Perfused Brainstem Preparation. **G. Kola, G.A. Coffee, P.M. Getsy, T.E. Dick, Y-H. Hsieh, M. Dutschmann, S.J. Lewis.** Case Western Reserve University and The University of Melbourne, Australia.

914. CONTROL OF BREATHING: INFLUENCE OF STATE ON CARDIORESPIRATORY CONTROL MECHANISMS

Poster

WED. 9:00 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

Presentation time: 10:00 AM–12:00 PM

W192 **914.1** Breathing and Blood Pressure in Conscious and 1% Isoflurane Anesthetized Mice. **A.M. Loeven, C.N. Receno, L.R. DeRuisseau.** Le Moyne College.

W193 **914.2** ATP in the Lateral Hypothalamus/Perifornical Area (LH/PFA) Increases CO_2 Chemoreflex. **M.B. Dias, E.N. da Silva, L.H. Gargaglioni, J.D.A.D.C. Horta-Junior.** UNESP, Brazil.

W194 **914.3** Muscarinic Blockade Stabilizes the Breathing Pattern of Serotonin-Deficient Rat Pups During Active Sleep. **M.L. Davis, J.L. Magnusson, K.J. Cummings.** University of Missouri.

W195 **914.4** Drowning a Frog Respiratory Oscillator in a Wash of Network Excitability. **R.J.A. Wilson, M. Baghdadwala.** University of Calgary, Canada.

915. CONTROL OF BREATHING: RHYTHM GENERATION

Poster

WED. 9:00 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

Presentation time: 10:00 AM–12:00 PM

W196 **915.1** Experimental Validation of a Respiratory Control Model. **C.O. Diekman, P.J. Thomas, C.G. Wilson.** New Jersey Institute of Technology, Case Western Reserve University and Loma Linda University.

W197 **915.2** Phase Synchronization as a Flexible Definition of the Respiratory Pattern: Application to Pontine-Dependent Control of the Respiratory Pattern. **R.R. Dhingra, T.E. Dick, S.J. Lewis, R.F. Galan, M. Dutschmann.** The Florey Institute of Neuroscience and Mental Health, Australia and Case Western Reserve University.

916. LUNG PHYSIOLOGY: DEVELOPMENT AND PLASTICITY

Poster

WED. 9:00 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

Presentation time: 10:00 AM–12:00 PM

W198 **916.1** Liposomal Delivery of miR-29b Restored PRMT -1 and PRMT-5 Expression and Histone Methylation in Mice Exposed to Perinatal Inflammation. **S.S. Sugar, K.M. Heyob, R.M. Lee, L.K. Rogers.** The Research Institute at Nationwide Children's Hospital and The Ohio State University.

W199 **916.2** Maternal High Fat Diet Causes Changes in Pulmonary Function and Persistent Deficits in Pulmonary Vascularization. **K.M. Heyob, S. Mieth, R.J. Lee, L.K. Rogers.** The Research Institute at Nationwide Children's Hospital and The Ohio State University.

W200 **916.3** Developmental Profile of Adiponectin and Adiponectin Receptor Expression in Newborn Rat Lung During Alveolarization. **J. Ivanovska, N-Y. Kang, L. Tamir Hostovsky, J. Pan, J. Belik, E.B. Gauda.** The Hospital for Sick Children, Canada.

W201 **916.4** Novel Role of CREB in Regulating Maturation of Alveolar Macrophages and Thereby in Maintaining Lung-Fluid Balance. **I.P. Rochford, J.P. Joshi, D.P. Mehta.** University of Illinois at Chicago.

917. LUNG PHYSIOLOGY: ENDOTHELIAL CELL BIOLOGY

Poster

WED. 9:00 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

Presentation time: 10:00 AM–12:00 PM

W202 **917.1** The Role of S100A6 in the PP5C-FKBP51-Mediated Inhibition of Endothelial *ISOC.* **B. Haldar, C.L. Hamilton, V. Solodushko, J.G. Scammell, D.L. Cioffi.** University of South Alabama and Troy University.

W203 **917.2** Bicarbonate Is Required for Proliferation of Pulmonary Endothelial Cells. **S.L. Sayner, M. Maulucci, T. Harvell.** University of South Alabama.

W204 **917.3** Arginase II Regulates NO-Mediated Human Pulmonary Microvascular Endothelial Cell Migration. **L.D. Nelin, Y. Jin, B. Chen, Y. Liu.** Nationwide Children's Hospital.

W205 **917.4** Mesenchymal Stromal Cell Microparticles Enhance Lung Endothelial Barrier Through CD44 and the S1P/Ceramide Rheostat. **M. Maishan, M.J. McVey, W.L. Lee, G.F. Curley, W.M. Kuebler.** Keenan Research Centre for Biomedical Science, St. Michael's Hospital, Canada and University of Toronto, Canada.

W206 **917.5** Myeloperoxidase-Derived 2-Chlorofatty Acids: Accumulation in Rat and Human Sepsis, and Association with Acute Respiratory Distress Syndrome Mortality in Human Sepsis. **D. Pike, M. Nuala, J. Reilly, R. Feng, J. Christie, C. Albert, C. Hartman, J. Franke, J. McHowat, D. Ford.** Saint Louis University School of Medicine, Perelman School of Medicine and University of Pennsylvania.

W207 **917.6** Hypoxia Upregulates ErbB Family Members in Human Pulmonary Microvascular Endothelial Cells. **C.S. Regan, Y. Jin, C.S. Pool, Y.S. Liu, B.S. Chen, L.D. Nelin.** Nationwide Children's Hospital, Research Institute at Nationwide Children's Hospital and Department of Pediatrics and Center for Perinatal Research.

W208 **917.7** Loss of BMPR2 Confers Proliferative Advantage on Pulmonary Artery Endothelial Cells by Decreasing Dependence on Growth Suppressor Merlin. **C.A. Josephs, R. Ceballos, A.A. Vasauskas, R.L. Morrow, K.A. Morrow.** Alabama College of Osteopathic Medicine.

W209 **917.8** FK506-Binding Protein 51 Plays a Role in Pulmonary Endothelial Cell Phenotype Switching. **J.R. Brown, R.L. Morrow, K.A. Morrow, A.A. Vasauskas.** Alabama College of Osteopathic Medicine.

918. SYMPATHETIC REGULATION IN HYPERTENSION

Poster

WED. 9:00 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

Presentation time: 10:00 AM–12:00 PM

W210 **918.1** Sympathetic Innervation Promotes Bone Marrow Homing of Specific $CD8^+$ Effector Memory T Cells in Hypertension. **L. Xiao, H.A. Itani, J.D. Foss, W. Chen, D.G. Harrison.** Vanderbilt University Medical Center.

W211 **918.2** Carotid Body and Subfornical Organ AT1R-Mediated Sympathoexcitation Following Repetitive Hypoxia Requires Intrarenal Ischemia in Rats. **S.J. Kim, P.M. Pilowsky, S.B.G. Abbott.** University of Sydney, Australia and University of Virginia.

W212 **918.3** Stellate Transcriptomics Reveal Consistent Patterns of Gene Expression Across Species. **E.N. Bardsley, H. Davis, R. Bayles, B.A. Habecker, D.J. Paterson.** Oxford University, United Kingdom and Oregon Health & Science University.

W213 **918.4** Examination of the Role of the Commissural Nucleus of the Solitary Tract in the Maintenance of Hypertension in the Shr. **A.M. Allen, M. Melo, A.A. Connelly, J.K. Bassi, E. Colombari.** University of Melbourne, Australia and Sao Paolo State University, Brazil.

W214 **918.5** The Role of Corticotrophin Releasing Hormone in Paraventricular Nucleus in Elevated Sympathetic Outflow in Spontaneous Hypertension Rat. **J. Zhou, H-J. Ma, D-P. Li.** The University of Texas MD Anderson Cancer Center.

W215 **918.6** Effects of Sympathetic Activation on Aortic Stiffness in Young Healthy and Hypertensive Adults. **D.S. Lahti, S.D. Hayward, C.R. Wells, E.D. McNair, C.R. Tomczak.** University of Saskatchewan, Canada.

W216 **918.7** Association of Chronic Nicotine Inhalation with Hypertension in Mice. **R.M. Fuchs, J. Oakes, T. Basting, T. Lobell, N. Gilpin, J. Gardner, X. Yue, E. Lazartigues.** Louisiana State University Health Sciences Center.

W217 **918.8** Reduced Bone Marrow Adrenergic Receptor Signaling Is Protective Against Weight Gain and High Fat-Induced Hypertension. **N. Ahmari, T. Yang, W. Malphurs, C.J. Martyniuk, J. Zubcevic.** University of Florida.

919. SYMPATHETIC REGULATION IN DIABETES AND OBESITY

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W218 **919.1** Early Blood Pressure Response to Isometric Exercise Is Attenuated in Obese Individuals Who Have Undergone Bariatric Surgery. **W. Guo, M.J. Joyner, T.B. Curry, J.K. Limberg.** Mayo Clinic and University of Missouri.

W219 **919.2** Leptin-Mediated Sympatho-Excitation in Obese Rats: Role for Astrocyte-Neuron Crosstalk in the Arcuate Nucleus. **X. Liu, Y. Li, K.P. Patel, H. Zheng.** Sanford School of Medicine, University of South Dakota and University of Nebraska Medical Center.

W220 **919.3** Nicotine Acutely Induces Hyperglycemia and Hepatic Steatosis by Altering the Sympathetic Outflow. **H.H. Ruiz, S. Peddibhotla, L. Ramalingam, N. Moustaid-Moussa, A.C. Shin.** New York University and Texas Tech University.

920. AUTONOMIC CONTROL AND AUTOREGULATION OF THE CEREBRAL CIRCULATION

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W221 **920.1** Effect of Graded Sympathetic Activation on Regional Cerebral Vascular Conductance. **J. Kaur, T.C. Barbosa, B.E. Young, B.Y. Stephens, J.R. Vranish, R.M. Brothers, P.J. Fadel.** The University of Texas at Arlington.

W222 **920.2** Altered Cerebrovascular Control in Concussed Patients During Sympathoexcitation. **M.C. O'Leary, J.R. Sackett, Z.J. Schlader, J.J. Leddy, B.D. Johnson.** University at Buffalo and State University of New York.

W223 **920.3** Dynamic Cerebral Autoregulation Impairment Persists Past Resolution of Symptoms in Collegiate Athletes Following Concussion. **J. Frantz, S. Sedaghat, L. Ryan, M. Wainman, S. Lyng, T. Sabo, K. Bell, S. Purkayastha.** Southern Methodist University, Northwestern University and The University of Texas Southwestern Medical Center.

W224 **920.4** A Novel Non-Invasive Method to Measure Sympathetic Activity and Autoregulation in Humans. **R.J.A. Wilson, N. Jendzjowsky, C. Steinback, W.H. Tsai, R.J. Herman.** University of Calgary, Canada and University of Alberta, Canada.

921. THE GUT-BRAIN AXIS (POSTERS)

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W225 **921.1** Environmental Enrichment Reverses Chronic Stress-Induced Brain-Gut Axis Dysfunction. **J. Love, A. Johnson, C. Ligon, B. Greenwood-Van Meerveld.** University of Oklahoma Health Sciences Center and VA Medical Center Oklahoma City.

W226 **921.2** Visceral Organ Cross-Sensitization in a Rodent Model of Early Life Stress. **J. May, E. Mohammadi, A.C. Johnson, B. Greenwood-Van Meerveld.** University of Oklahoma Health Sciences Center and VA Medical Center.

W227 **921.3** Acute Preoperative Anti-Inflammatory Treatment in a Rat Model for Postoperative Cognitive Dysfunction; a Role for the Gut-Brain Axis? **R.G. Schoemaker, I.B. Hovens, J.G. Falcao Salles, J.J. de Haan, B.L. van Leeuwen.** University of Groningen, Netherlands and University Medical Center Groningen, Netherlands.

W228 **921.4** Probiotic Administration in an Endometriosis Animal Model Can Influence the Gut Microbiota and Gut-Brain Axis to Counteract the Effects of Stress. **G. Chompre, M.L. Cruz, G.A. Arroyo, R.M. Rivera, M.C. Colon, C.B. Appleyard.** Pontifical Catholic University of Puerto Rico, Puerto Rico, Ponce Health Sciences University, Puerto Rico and University of Puerto Rico at Ponce, Puerto Rico.

W229 **921.5** NOD-Like Receptors: Novel Regulators of the Microbiota-Gut-Brain Axis in Mice. **M. Pusceddu, K.A. Wong, P. Stokes, J. Sladek, M. Gareau.** University of California and Davis.

W230 **921.6** Inulin/FOS-Rich Diet Alters Gut Microbiota, Brain Activity and Cardiovascular Responses in the SHR. **C.G.B. Silva, T. Yang, W.L. Malphurs, K.L. Magee, R.M. Larkin, M. Febo, T.W. Vickroy, J. Zubcevic.** University of Florida.

W231 **921.7** Probiotic Treatment Induces Neuroprotection in Hyperhomocysteinemia Mice After Ischemic Stroke. **N.K. Mondal, J. Behera, K. Kelly, N. Tyagi.** University of Louisville School of Medicine.

W232 **921.8** Colitis-Induced Neurobehavioral Deficits Following Chronic Brain Injury. **M. Hanscom, T. Aubrecht, D.J. Loane, A.I. Faden, T. Shea-Donohue.** University of Maryland School of Medicine.

W233 **921.9** Gut Microbiota Modulates Behavior in Adult Mice: Potential Role for Microbial-Metabolite Sensors in the Brain. **F.A. Vicentini, Q. Pittman, M. Swain, S. Hirota, K. Sharkey.** University of Calgary, Canada.

W234 **921.10** Sex Differences and Stress Alter the Vagally-Mediated Gastric Response to Oxytocin in Rats. **J.E. Zimmerman, Y. Jiang, R.A. Travagli.** Swarthmore College and Pennsylvania State University.

W235 **921.11** Linoleic Acid in Soybean Oil-Based High Fat Diet May Induce Obesity by Altering Hypothalamic Orexigenic and Anorexigenic Neuropeptide Signaling. **E. Truong, E. Kozlova, P. Deol, D. Enriquez, J. Valdez, F. Sladek, M. Curras-Collazo.** University of California and Riverside.

922. BLOOD-BRAIN BARRIER, BRAIN BLOOD FLOW AND METABOLISM

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W236 **922.1** Western Versus Omega-3 Based Diets Differentially Alter Key Brain Fatty Acid Transport Genes. **D.S. Umbaugh, M.L. Schaller, M.P. Harris, J.S. Wooten, K.E. Sandoval, K.A. Witt.** Southern Illinois University Edwardsville.

W237 **922.2** Inhibition of Nitric Oxide Synthase (NOS) by N^{g}-Monomethyl-*L*-Arginine (*L-NMMA*) Reduces Transient Increase in the Blood-Brain Barrier Solute Permeability in Rat Brain by Transcranial Direct Current Stimulation. **B.M. Fu, D.W. Shin, J. Fan, N. Khadka, E. Luu, W. Khalid, Y. Xia, M. Bikson.** City College of New York.

W238 **922.3** Cerebral Hypoperfusion and Metabolic Regulation During Isocapnic Hyperoxia: The Role of Reactive Oxygen Species. **I.A. Fernandes, J.D. Mattos, M.O. Campos, M.P. Rocha, D.E. Mansur, H.N.M. Rocha, V.P. Garcia, T.S. Alvares, R.R. Videira, G.M.S. Batista, N.H. Secher, A.C.L. Nóbrega.** Fluminense Federal University, Brazil, Federal University of Rio de Janeiro, Brazil and University of Copenhagen, Denmark.

W239 **922.4** N-Cadherin Juxtacrine Signaling Maintains Blood Brain Barrier and Cognitive Function. **Q.S. Lee, K.N. Kruse, F.M. Marottoli, R. Thomas, Y. Sun, L.M. Tai, Y.A. Komarova.** University of Illinois at Chicago.

W240 **922.5** TNFα Impairs Cerebral Blood Flow Autoregulation in Pregnant Rats. **J.W. Duncan, J.P. Warrington, H.A. Drummond, J.P. Granger, M.J. Ryan.** University of Mississippi Medical Center.

W241 **922.6** Altered Permeability of the Blood-CSF Barrier in Chronic Migraine. **N.B. Gross, M. Sweeney, A. Sagare, B. Zlokovic, K. Castor, A.N. Fonteh, X. Arakaki, Y.W. Woldeamanuel, R.P. Cowan, M.G. Harrington.** Huntington Medical Research Institutes, Zilkha Neurogenetic Institute, Keck School of Medicine, University of Southern California and Stanford University School of Medicine.

923. CENTRAL REGULATION OF FOOD INTAKE AND BODY WEIGHT

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W242 **923.1** Insulin Receptor Signaling in the Subfornical Organ Protects Against the Development of Metabolic Syndrome. **J.K. Jeong, H. Simonyan, C.N. Young.** The George Washington University.

W243 **923.2** High-Fat Diet Induced Modulation of Glutamatergic Currents in Neurons of the Dorsal Motor Nucleus of the Vagus Increases Gastric Tone and Motility. **C. Clyburn, A. Travagli, K.N. Browning.** Pennsylvania State University.

W244 **923.3** High-Fat Diet Induced Modulation of Glutamatergic Currents in the Neurons of the Dorsal Motor Nucleus of the Vagus Is Dependent on Activation of Extrasynaptic Nmda Receptors. **C. Clyburn, A. Travagli, K.N. Browning.** Pennsylvania State University.

W245 **923.4** Co-Expression of Orexin-B and Corticotropin-Releasing Factor in Hypothalamic Neurons of the Ovariectomized Female on a High Fat Diet. **J. Ciriello, W. Iqbal, N.J. Durand.** University of Western Ontario, Canada.

W246 **923.5** Mutations in the Ph Domain of Sh2b1 Result in Energy Imbalance and/or Impaired Glucose Metabolism. **A. Flores, L.C. DeSantis, A. Malaga, E.S. Clutter, L.S. Argetsinger, M.G. Myers; Jr., C. Carter-Su.** University of Michigan.

W247 **923.6** Role of Hypothalamic TRPV1-Expressing Neurons in the Regulation of Energy Homeostasis. **L.D. Desmoulins, B.V. Hamling, A. Sato, A. Zsombok.** Tulane University.

924. BRAIN-GUT MICROBIOTA INTERACTIONS IN CARDIOVASCULAR AND METABOLIC CONTROL

Poster

Wed. 9:00 am—San Diego Convention Center, Sails Pavilion

Presentation time: 10:00 am–12:00 pm

W248 **924.1** Role of the OVLT-Gut Microbiome Axis on the Development of DOCA-Salt Hypertension. **J. Collister, D. Nahey, R. Hartson, B. Youmans, T. Johnson.** University of Minnesota.

W249 **924.2** Probiotic Kefir Antihypertensive Effects in Spontaneously Hypertensive Rats Involves Central and Peripheral Mechanisms. **M.A. Silva-Cutini, S.C. Peaden, F.E. Mowry, H.A.G. Ducray, L.P. Globa, I.B. Sorokulova, T.U. Andrade, V.C. Biancardi.** Auburn University and Vila Velha University, Brazil.

W250 **924.3** Gut Microbiota Effects on Bone Density Are Dependent on T- And B- Lymphocytes. **N.D. Rios-Arce, J. Schepper, L.R. McCabe, N. Parameswaran.** Michigan State University.

W251 **924.4** Hypertension-Associated Dysbiosis Leads to Elevated Sympathetic Drive and Alterations in Neurotransmitter Signaling in the Nucleus of the Solitary Tract in WKY. **T. Yang, C.G.B. Silva, W.L. Malphurs, R. Arocha, J. Zubcevic.** University of Florida.

W252 **924.5** Gut Microbiome Manipulation Promotes Bone Anabolism via Regulatory T-Cell Differentiation in Obese Mice. **J. Behera, K.E. Kelly, N.K. Mandal, N. Tyagi.** University of Louisville.

W253 **924.6** Alcohol-Induced Gut Lymphatic Leak Results in Adipocentric Immunometabolic Dysregulation in Female Rats. **F.M. Souza-Smith, L. Simon, R. Siggins, P.E. Molina.** Louisiana State University Health Sciences Center—New Orleans.

925. NUTRITION AND NUTRIENT METABOLISM II

Poster

WED. 9:00 AM—SAN DIEGO CONVENTION CENTER, SAILS PAVILION

Presentation time: 10:00 AM–12:00 PM

W254 **925.1** An Apple a Day: Pectin Is an Important Source of Formate in the Rat. **J.T. Brosnan, K.A. Clow, M.E. Brosnan.** Memorial University, Canada.

W255 **925.2** A Mathematical Model for the Population Dynamics of Intestinal Microbiota: Obese Versus Healthy Gastrointestinal Tract. **F. Giron Arango, A. Pizano Umaña, P. Calvachi Prieto, J.M. Cordovez.** Universidad de los Andes, Colombia.

W256 **925.3** The Effects of Sex and Age on the Metabolic Response to Methionine Deprivation, a Novel Intervention for the Treatment of Obesity and Diabetes. **D. Yu, S.E. Yang, B.R. Miller, S.A. Haws, M.H. Wakai, J.A. Brinkman, J.L. Tomasiewicz, N.E. Cummings, J.M. Denu, V.L. Cryns, D.W. Lamming.** University of Wisconsin—Madison.

W257 **925.4** Insoluble Fraction from Brewer's Spent Grain Reduces Hypercholesterolemia in Mice Fed a Western Style Diet. **G.S. Raza, J. Maukonen, M.J. Mäkinen, P. Niemi, L. Niiranen, J. Buchert, K-H. Herzig.** Research Unit of Biomedicine, University of Oulu, Finland, VTT Technical Research Centre of Finland Ltd., Finland, Medical Research Center Oulu and University of Oulu, Finland.

W258 **925.5** Intakes of Vegetables and Red Meat in Relation to Circulating Nitrate Levels. **T. Wu, S. Sonoda, G. Fan.** San Diego State University, Medpace and University of Cincinnati.

W259 **925.6** Dietary Lipid Structure in Early Life Does Not Program Fat Absorption in Later Life. **O. Ronda, R. Havinga, B.v.d. Heijning, F. Kuipers, H. Verkade.** University Medical Center Groningen, Netherlands and Nutricia Research, Netherlands.

W260 **925.7** Dietary Calcium and Phosphate Levels Affect Bone Development and Mesenchymal Stem Cell Lineage Allocation in Neonatal Pigs. **W. Zhang, R.L. Murray, R. Rhoads, C.H. Stahl.** University of Maryland and Virginia Polytechnic Institute and State University.

W261 **925.8** A High Fat Diet Increases Plasma Ceramides and Leads to Depressive-Like Behavior in Female Rats. **S.A. Bronfen-Quinones, D.L. Ramos-Ortolaza, A.P. Gonzalez, C. Rodriguez, C. Appleyard, N.J. Haughey, G. Chompre.** Pontifical Catholic University of Puerto Rico, Ponce Health Sciences University and Johns Hopkins University School of Medicine.

W262 **925.9** Effects of Prepubertal Oxidized Dietary Fat Consumption on Body Weight, Adiposity and Adipose Distribution in a Swine Model. **F. Arowolo, A. Nicholson, M. Blaser, E. Hosokawa, X. Yang, J.R. Booth, C.T. Jobsis, J.J. Meudt, J.L. Reichert, T. Crenshaw, D. Shanmuganayagam.** University of Wisconsin—Madison.

W263 **925.10** A Comparison of Liquid Vinegar and Commercial Vinegar Pills for Managing Insulin Resistance and Postprandial Glucose Concentrations. **C.S. Johnston, N. Feise.** Arizona State University.

W264 **925.11** Exogenous Ketones Lower Blood Glucose Level. **C. Ari, Z. Kovacs, C. Murdun, A.P. Koutnik, C.R. Goldhagen, C. Rogers, C. Park, S. Bharwani, D.M. Diamond, D.P. D'Agostino.** University of South Florida and Eotvos Lorand University, Hungary.

W265 **925.12** Leucine Improves Markers Energy Metabolism in C2C12 Myotubes Treated with Palmitate. **H. Wu, S. Dridi, J.I. Baum.** University of Arkansas.

W266 **925.13** Determination of Total Energy Requirements in Burned Children Using the Doubly-Labeled Water Technique. **E. Polychronopoulou, G. Singh, C. Porter, I. Malagaris, L. Sidossis, D. Herndon.** The University of Texas Medical Branch and Rutgers University.

W267 **925.14** Effect of Germinated Brown Rice on the LPS-Induced Inflammation in Adipocytes. **M-Y. Park, Y.M. Lee.** Soonchunhyang University, Republic of Korea and Seoul Women's University, Republic of Korea.

W268 **925.15** Effect of *Agrimonia Pilosa* Ledeb. on Glucose Tolerance and Hepatic Steatosis in Ovariectomized Rats Fed High Fat Diet. **Y.M. Lee, H.H. Jang, M-Y. Park, J.H. Bae, J.B. Kim, J.S. Choi, H.R. Kim.** Seoul Women's University, Republic of Korea, National Institute of Agricultural Science, Republic of Korea and Soonchunhyang University, Republic of Korea.

W269 **925.16** Fasting-Mimicking Diet and Risk Factors for Aging, Diabetes, Cancer and Cardiovascular Disease. **M. Shelechi, M. Wei, S. Brandhorst, T. Morgan, T. Dorff, K. Hong.** University of Southern California, Norris Cancer Center and Keck School of Medicine of the University of Southern California

The EB 2018 Exhibit Program

EB 2018 EXHIBITION HALL

The EB 2018 Exhibition Hall features more than 225 leading providers of equipment, supplies and publications required for research labs and experimental studies. The EB Exhibition facilitates friendly, professional interaction among providers, allowing attendees to gather important information, make critical decisions and be better prepared to help guide product decisions at their organizations.

The exhibition hall is also home to more than 6,000 poster presentations that are intermingled with exhibitors.

EXHIBIT DAYS AND HOURS

Day	Date	Time
Sunday	April 22	9:00 AM–4:00 PM
Monday	April 23	9:00 AM–4:00 PM
Tuesday	April 24	9:00 AM–4:00 PM

WHAT'S NEW IN THE EB 2018 EXHIBITION HALL?

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Passport to Coffee	Earn a $5 Starbucks Card
EB Talks	Micro-Learning/$10 voucher
Poster Vote	Vote for Daily Winners

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EXHIBITOR LISTINGS AND SERVICES

An alphabetical listing of exhibiting companies is provided in this program following the floor plan of the exhibition area. You can also search providers by product category. **Click Here** to view the floorplan online.

COMPANY INDEX
(Company, Booth Number)

Listing as of 4/9/2018

Newport Corporation, a Division of MKS Instruments	731
Nicoya Lifesciences	1120
NIH Common Fund	1412
NuAire, Inc	922
Olympus America Inc	1012
Omicron Biochemicals, Inc	1121
Omni International, Inc.	930
Oxford University Press	407
Panlab	1519
Perimed Inc	1516
Physiologic Instruments	1605
Pinnacle Technology Inc.	1122
Pipette.com	1405
Poly Scientific R&D Corp.	533
Precisionary Instruments Inc.	1522
Primal Pictures	410
PromoCell GmbH	420
PsychoGenics Inc.	722
Public Library of Science	705
Purina LabDiet®	703
Quidel Corporation	1007
Randox Laboratories	1233
RayBiotech, Inc	312
Reaction Biology Corporation	708
Research Diets, Inc.	1030
Research In Germany	920
Roboz Surgical Instrument Co., Inc.	701
Rockland Immunochemicals Inc	1334
RWD Life Science	1633
Sable Systems International	1001
SAGE Publications	1139
Sapphire North America	1336
Sarstedt, Inc.	1322
Scarlet Imaging, LLC	419
Science & Technology Policy Fellowships	704
Science/AAAS	702
ScienCell Research Laboratories	707
Scientific Industries, Inc.	308
Scintica Instrumentation	1616
SCIREQ Inc.	1624
ScyTek Laboratories, Inc.	433
Shimadzu Scientific Instruments, Inc.	1430
Society for Experimental Biology and Medicine	1520
Society for Neuroscience	618
SPEX SamplePrep LLC	1104
St. Jude Children's Research Hospital	1308
Starr Life Sciences Corp	1518
STE, Inc	1102
STEMCELL Technologies	1620
Sutter Instrument	938
TCI America	1436
Tecan	815
The Histochemical Society	320
The Jackson Laboratory	839
The National Academy of Science	1420
The Nutrition Society	1108
The Physiological Society	1109
Thieme Medical Publishers	1115
Touch of Life Technologies	412
Transonic Systems, Inc.	1529
Triangle Biosystems	1517
TSE Systems, Inc.	1021
U.S. Army Medical Research & Materiel Command	1435
VacuMed	1637
Vector Laboratories, Inc.	608
Visikol	334
VistaLab Technologies, Inc	740
Vium	719
Warner Instruments	1515
Wiley	401
William Carey University COM	431
Wolters Kluwer Health	1130
World Precision Instruments	1530
Worthington Biochemical Corporation	1721
WPI Instrument	1423
XLSTAT	507
ZenBio, Inc	1016
Zymo Research Corporation	1229

PRODUCT INDEX
(Product, Company, Booth Number)

A

B

C

D

E

F

G

H

I

L

M

N

O

P

R

S

T

EB TALKS

Sunday, April 22

495. OLYMPUS FV3000RS: INDUSTRY FASTEST IN SPEED AND SENSITIVITY

Sun. 11:00 am—11:20 am, San Diego Convention Center, Exhibit Hall

496. STOP SYNERGY OR DRUG-DRUG COMBINATIONS FROM BLOWING YOUR MIND!

Sun. 11:30 am—11:50 am, San Diego Convention Center, Exhibit Hall

497. ACCELERATING THE IMPACT OF YOUR RESEARCH: MANAGING YOUR DISSEMINATION WITH KUDOS

Sun. 12:00 pm—12:20 pm, San Diego Convention Center, Exhibit Hall

Monday, April 23

499. DECODING QUANTITATIVE WESTERN BLOTTING

Mon. 12:30 pm—12:50 pm, San Diego Convention Center, Exhibit Hall

What's New @ Exhibit Hall

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Society Special Events

Daily Listing

Thursday, April 19, 2018

ASIP Office—8:00 AM
(San Diego Marriott Marquis & Marina, Encinitas)

*ASBMB Finance Committee Meeting—8:30 AM
(San Diego Marriott Marquis & Marina, Leucadia)

*AAA Committee Chair Orientation—1:00 PM
(San Diego Marriott Marquis & Marina, Presidio)

*AAA Board Orientation—4:00 PM
(San Diego Marriott Marquis & Marina, Presidio)

*ASPET Finance Committee Meeting—5:00 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1-2)

*ASBMB Council Reception and Working Dinner—5:30 PM
(San Diego Marriott Marquis & Marina, Mission Hills)

Friday, April 20, 2018

Give a Day of Service to San Diego at EB2018—7:00 AM
(Off-site Location)

*ASPET Council Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1-2)

ASIP Office—7:00 AM
(San Diego Convention Center, Room 5B)

*AAA Board Meeting—8:00 AM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 13)

*ASIP Council Meeting—8:00 AM
(San Diego Marriott Marquis & Marina, Del Mar)

*ASBMB Council Meeting—8:30 AM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 11)

*ASPET Mentoring Network: Coaching for Career Development—11:00 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 3)

*AAA Preparing for Professional Careers Workshop—1:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 4)

*ASPET Council of Division Chairs Meeting—2:00 PM
(San Diego Marriott Marquis & Marina, Torrey Pines 2)

*ASBMB Student Chapters Committee Meeting—3:00 PM
(San Diego Marriott Marquis & Marina, Leucadia)

*ASBMB Travel Award Networking Reception for Graduate Students and Postdoctoral Fellows—5:00 PM
(San Diego Convention Center, Sails Pavilion)

*ASBMB—JBC Assoc. Editors Working Dinner—6:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 11)

Saturday, April 21, 2018

APS Business Office—7:00 AM
(San Diego Marriott Marquis & Marina, La Jolla/La Mesa)

Anatomy Lounge—7:30 AM
(San Diego Convention Center, Room 10)

ASIP Meet The Mentor Breakfast—7:30 AM
(San Diego Convention Center, ASIP Office Corridor)

*APS Physiological Genomics Editor Retreat—8:00 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 2)

APS Refresher Course on GI Physiology: Not Just the Gut Anymore—8:00 AM
(San Diego Convention Center, Room 20A)

*APS Animal Care and Experimentation Committee Meeting—8:30 AM
(San Diego Marriott Marquis & Marina, Malibu)

*ASBMB—JBC Assoc. Editors Meeting—8:30 AM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 12)

ASIP NextGen Science: New Discoveries of Graduate Student and Post-Doctoral Fellow Rising Stars—8:30 AM
(San Diego Convention Center, Room 2)

By invitation only. For up-to-date information, please visit www.experimentalbiology.org

*ASPET Mentoring Network:
Coaching for Career Development—8:30 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 3)

*ASBMB Graduate Student and Postdoctoral Fellow Career Development Event—9:00 AM
(San Diego Convention Center, Room 6D)

Pre-Meeting Epithelial Transport Group Business Meeting—9:00 AM
(San Diego Convention Center, Room 25A)

*APS NCAR Steering Committee meeting—11:00 AM
(San Diego Marriott Marquis & Marina, Newport Beach)

*ASBMB Career Development Networking Luncheon—11:30 AM
(San Diego Convention Center, Room 6A)

ASBMB Undergraduate Student Meeting Orientation—11:30 AM
(San Diego Convention Center, Room 6C)

ASBMB Undergraduate Poster Competition Judges Orientation—11:30 AM
(San Diego Convention Center, Room 6E)

*ASIP XVIIIth Annual Workshop on Graduate Education in Pathology: Wellness for Students and Faculty—11:45 AM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon G)

*APS Physiology EIC Meeting—12:00 PM
(San Diego Marriott Marquis & Marina, Malibu)

*AAA Professional Development Committee—12:00 PM
(San Diego Convention Center, Room 7B)

*ASBMB—JBC Editorial Board Luncheon—12:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 8-9)

APS Teaching Section Steering Committee Meeting—12:00 PM
(San Diego Marriott Marquis & Marina, Leucadia)

*AAA Fellows Lunch—12:30 PM
(San Diego Marriott Marquis & Marina, Cardiff)

*ASPET Mentoring Network Lunch—11:45 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 2-3)

ASBMB Undergraduate Student Research Poster Competition—1:00 PM
(San Diego Convention Center, Room 6B)

*ASBMB-JBC Editorial Board Meeting—1:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 5-6)

*AAA Publications Committee—2:00 PM
(San Diego Marriott Marquis & Marina, Carlsbad)

*ASPET Science Policy Committee Meeting—2:00 PM
(San Diego Marriott Marquis & Marina, Torrey Pines 2)

APS WEH Section Trainee Symposium and Data Diuresis—2:00 PM
(San Diego Convention Center, Room 26AB)

*APS Minority Travel Fellow Orientation and Porter Reunion Reception—3:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 10)

NCARnation—3:00 PM
(San Diego Convention Center, Room 22)

ASBMB Undergraduate Workshop—
Careers Speed Networking—4:30 PM
(San Diego Convention Center, Room 6A)

ASPET Business Meeting and Awards Presentation—4:30 PM
(San Diego Convention Center, Room 16AB)

*The American Journal of Pathology Editorial Board Dinner—6:30 PM
(San Diego Marriott Marquis & Marina, Palomar)

*ASBMB—JBC Editorial Board Reception—7:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 8-9)

*ASBMB—JBC Editorial Board Dinner—8:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 8-9)

Sunday, April 22, 2018

*ASPET Division for Translational and Clinical Pharmacology Executive Committee Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1)

*ASPET Division for Molecular Pharmacology Executive Committee Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 3)

By invitation only. For up-to-date information, please visit www.experimentalbiology.org

*ASPET Division for Cancer Pharmacology Executive Committee Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 2)

APS Careers Symposium I: Hallmarks of and Ground Rules for Productive Collaborations in Science—7:00 AM
(San Diego Convention Center, Room 25B)

APS Physiology Understanding Week Poster Session—7:00 AM
(San Diego Marriott Marquis & Marina, Marina Ballroom DE)

APS Mentoring Symposium I: Recognizing and Responding to Implicit Bias in Science—7:00 AM
(San Diego Convention Center, Room 25C)

APS Trainee Symposium I: Do it again: How to achieve rigorously reproducible research—7:00 AM
(San Diego Convention Center, Room 25A)

*ASIP Committee for Career Development & Diversity Workshop and Breakfast: Mentor/Mentee Relationship: A Two-Way Street—7:00 AM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon F)

*APS AJP-Cell Physiology Editorial Board Meeting—7:30 AM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 4)

*APS Physiological Reports Editorial Board Meeting—7:30 AM
(San Diego Marriott Marquis & Marina, Balboa)

AAA First Time Attendee Breakfast—7:30 AM
(San Diego Convention Center, Room 7AB)

APS Respiration Section Trainee Highlights Breakfast—7:30 AM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 3)

*ASPET Diversity and Inclusion Breakfast—7:30 AM
(San Diego Convention Center, Room 14B)

*ASPET *JPET* Associate Editors Meeting—7:30 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 3)

*APS Science Policy Committee Meeting—8:00 AM
(San Diego Marriott Marquis & Marina, Mission Hills)

ASBMB Herbert Tabor Research Award Lecture—8:00 AM
(San Diego Convention Center, Room 6B)

FASEB Excellence in Science Award Lecture—9:00 AM
(San Diego Convention Center, Room 6B)

ASIP Networking Lounge—9:00 AM
(San Diego Convention Center, ASIP Lounge)

*ASBMB Publications Committee Meeting—9:30 AM
(San Diego Marriott Marquis & Marina, Leucadia)

*APS Physiological Reports EIC meeting—10:00 AM
(San Diego Marriott Marquis & Marina, La Costa)

AAA Education Roundtable Session—10:30 AM
(San Diego Convention Center, Room 7AB)

*APS Journal of Neurophysiology EIC Meeting—11:00 AM
(San Diego Marriott Marquis & Marina, Conference Room 1)

*ASIP XVIIIth Annual ASIP/AAA Career Development and Mentoring Program and Lunch: The IDP: Highway to Success—11:45 AM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon F)

APS Bodil M. Schmidt-Nielsen Distinguished Mentor and Scientist Award Lecture—12:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 9)

APS Teaching Section Roundtable Box Luncheon—12:00 PM
(San Diego Convention Center, Room 20BC)

*ASPET Undergraduate Networking and Career Development Luncheon—12:15 PM
(San Diego Convention Center, Room 14B)

AAA Career Networking Lunch—12:30 PM
(San Diego Convention Center, Room 7AB)

AAA Scientific Affairs Committee Meeting—12:30 PM
(San Diego Marriott Marquis & Marina, Carlsbad)

*APS ETG Steering Committee Meeting—12:30 PM
(San Diego Marriott Marquis & Marina, Mission Hills)

*ASPET Board of Publications Trustees Meeting—12:30 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 2)

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ASBMB Advocacy Town Hall Meeting—12:30 PM
(San Diego Convention Center, Room 6A)

APS Medical Physiology Course Directors Meeting—2:00 PM
(San Diego Marriott Marquis & Marina, Newport Beach)

ASBMB Award for Exemplary Contributions to Education Lecture—2:30 PM
(San Diego Convention Center, Room 6C)

APS David Bruce Undergraduate Poster Session & Horwitz/Horowitz Awards Ceremony—3:00 PM
(San Diego Convention Center, Sails Pavilion)

*ASBMB Accreditation Exam Meeting—4:00 PM
(San Diego Marriott Marquis & Marina, Conference Room 2)

ASBMB Workshop: Storytelling and the Art of Giving a Good Presentation—5:30 PM
(San Diego Convention Center, Room 6B)

APS Renal Section Posters & Professors—5:30 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon F)

*ASBMB Education Fellows Reception—6:00 PM
(San Diego Marriott Marquis & Marina, Balboa)

ASPET Student/Postdoc Poster Competition—6:30 PM
(San Diego Convention Center, Room 20BC)

APS Physiologists in Industry Mixer—6:45 PM
(San Diego Marriott Marquis & Marina, Oceanside)

*ASBMB Student Chapters Advisors Reception—7:00 PM
(San Diego Marriott Marquis & Marina, Mission Hills)

*ASBMB Annual Meeting Networking Reception—7:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 12-13)

*ASPET Board of Publications Trustees Joint Editorial Boards Dinner—7:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 8)

ASPET Student & Postdoc Mixer—8:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 10)

Monday, April 23, 2018

APS Membership and FAPS Committee Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Mission Hills)

*AAA ASE Editorial Board Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Carlsbad)

*ASBMB Past Presidents' Breakfast—7:00 AM
(Off-site Location)

*ASPET Division for Drug Discovery and Development Executive Committee Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1)

*ASPET Division for Neuropharmacology Executive Committee Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 2)

*ASPET Division for Drug Metabolism and Disposition Executive Committee Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 3)

*ASPET Division for Behavioral Pharmacology Executive Committee Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 2)

*ASPET Division for Pharmacology Education Executive Committee Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 3)

ASIP Town Hall Meeting and Breakfast—7:00 AM
(San Diego Convention Center, Room 5A)

APS Careers Symposium II: Hallmarks of and Ground Rules for Productive Collaborations in Science—7:00 AM
(San Diego Convention Center, Room 25B)

APS Mentoring Symposium II: Recognizing and Responding to Implicit Bias in Science—7:00 AM
(San Diego Convention Center, Room 25C)

APS Trainee Symposium II: Do it again: How to achieve rigorously reproducible research—7:00 AM
(San Diego Convention Center, Room 25A)

AAA Mentoring Breakfast—7:30 AM
(San Diego Convention Center, Room 7B)

AAA Educational Affairs Committee Meeting—7:30 AM
(San Diego Convention Center, Room 7A)

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*ASPET *Molecular Pharmacology* Editorial Board Meeting—7:30 AM
(San Diego Marriott Marquis & Marina, Presidio)

*APS Comparative and Evolutionary Physiology Section—8:30 AM
(San Diego Marriott Marquis & Marina, Coronado Room)

AAA Career Networking Lunch—12:00 PM
(San Diego Convention Center, Room 7B)

APS International Physiology Committee Meeting—12:00 PM
(San Diego Marriott Marquis & Marina, Catalina)

*AAA D&I Task Force Meeting—12:00 PM
(San Diego Marriott Marquis & Marina, Cardiff)

*GIL Programming Committee Meeting—12:00 PM
(San Diego Marriott Marquis & Marina, Conference Room 3)

*Translational Physiology Steering Committee—12:00 PM
(San Diego Marriott Marquis & Marina, Conference Room 1)

*APS Minority Travel Fellow Networking Lunch—12:00 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon D)

*ASBMB Lipid Research Division Committee Meeting—12:30 PM
(San Diego Marriott Marquis & Marina, Laguna)

*ASBMB—AMGDB Mid-year Meeting—12:30 PM
(San Diego Marriott Marquis & Marina, Leucadia)

*ASPET *Pharmacological Reviews* Editorial Board Meeting—12:30 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 2)

*ASBMB Membership Committee Meeting—2:00 PM
(San Diego Marriott Marquis & Marina, Oceanside)

*ASPET Division Communications Officer Meeting—2:15 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 3)

*APS Gastrointestinal & Liver Section Trainee Symposium—3:00 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon D)

APS Gastrointestinal & Liver Section Trainee Symposium—3:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 8-9)

APS Association of Chairs of Departments of Physiology (ACDP) Meeting—4:30 PM
(San Diego Marriott Marquis & Marina, Malibu)

APS EEP Business and Awards Meeting—5:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 6)

ASIP Business Meeting & Awards Presentation—5:15 PM
(San Diego Convention Center, Room 2)

APS CNS Section social event—5:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 1)

ASBMB Workshop: Transforming Science Research into Science Outreach—5:30 PM
(San Diego Convention Center, Room 6B)

APS Teaching Section Business Meeting—5:30 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon G)

AAA Members Meeting—5:45 PM
(San Diego Convention Center, Room 8)

APS Renal Section Banquet/Dinner—6:00 PM
(Off-site Location)

APS Endocrinology and Metabolism Section Business Meeting and Awards Reception—6:00 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon F)

ASPET Division for Behavioral Pharmacology Annual Division Meeting—6:00 PM
(San Diego Convention Center, Room 16A)

ASPET Division for Translational and Clinical Pharmacology Annual Division Meeting—6:00 PM
(San Diego Convention Center, Room 17A)

ASPET Division for Neuropharmacology Annual Division Meeting—6:00 PM
(San Diego Convention Center, Room 16B)

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ASPET Division for Pharmacology Education Annual Division Meeting—5:30 PM
(San Diego Convention Center, Room 15A)

ASPET Division for Cancer Pharmacology Annual Division Meeting—6:00 PM
(San Diego Convention Center, Room 15B)

AAA Student/Postdoc Poster Reception—6:30 PM
(San Diego Convention Center, Room 20BC)

*ASPET Past President's Dinner—6:30 PM
(San Diego Marriott Marquis & Marina, Presidio 1)

NCAR Reception and Awards—6:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 2)

Mark Sobel Appreciation Reception—6:30 PM
(San Diego Convention Center, ASIP Office Corridor)

ASPET Joint Mixer—Divisions for Behavioral Pharmacology & Neuropharmacology Joint Mixer—6:30 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1-3)

ASPET Joint Mixer—Divisions for Pharmacology Education, Cancer Pharmacology, Drug Discovery and Development, and Translational and Clinical Pharmacology—6:30 PM
(San Diego Marriott Marquis & Marina, Torrey Pines 2-3)

APS Teaching Section Banquet Dinner—7:00 PM
(Off-site Location)

Tuesday, April 24, 2018

*APS Conference Committee—7:00 AM
(San Diego Marriott Marquis & Marina, Coronado Room)

*ASPET Division for Cardiovascular Pharmacology Executive Committee Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Presidio)

*ASPET Mentoring and Career Development Committee Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 2)

*ASPET Nominating Committee Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1)

*ASPET Division for Toxicology Executive Committee Meeting—7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 3)

APS Careers Symposium III: Hallmarks of and Ground Rules for Productive Collaborations in Science—7:00 AM
(San Diego Convention Center, Room 25B)

APS Trainee Symposium III: Do it again: How to achieve rigorously reproducible research—7:00 AM
(San Diego Convention Center, Room 25A)

APS Mentoring Symposium III: Recognizing and Responding to Implicit Bias in Science—7:00 AM
(San Diego Convention Center, Room 25C)

*ASPET *Drug Metabolism and Disposition* Editorial Board Meeting—7:30 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 2-3)

ASIP Scientific Sleuthing of Human Disease for Undergraduate Students, High School Teachers and Students—9:30 AM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon G)

ASIP Specimen Room for High School Teachers Workshop—9:30 AM
(San Diego Marriott Marquis & Marina, Miramar)

APS Respiration Section Programing Committee—11:45 AM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 9)

*ASIP Lunch and Learn: Science, Statistics and Getting it Right—11:45 AM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon F)

*APS Comprehensive Physiology Advisory Board Meeting—12:00 PM
(San Diego Marriott Marquis & Marina, La Costa)

AAA Membership Committee Meeting—12:00 PM
(San Diego Marriott Marquis & Marina, Carlsbad)

AAA Career Networking Lunch—12:00 PM
(San Diego Convention Center, Room 7B)

*ASPET Trainee Mentoring and Career Development for Translational and Clinical Pharmacology—12:30 PM
(San Diego Convention Center, Room 14B)

By invitation only. For up-to-date information, please visit www.experimentalbiology.org

APS History of Physiology Luncheon and Lecture—12:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 3-4)

*ASPET Young Scientists Committee Meeting—2:15 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 3)

*ASPET *Pharmacology Research & Perspectives* Management Committee Meeting (PR&P)—3:00 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1)

Horace W. Davenport Distinguished Lectureship of the APS Gastrointestinal and Liver Physiology Section—4:30 PM
(San Diego Convention Center, Room 23ABC)

APS Teaching Section Trainee Networking Session—4:30 PM
(San Diego Marriott Marquis & Marina, La Costa)

ASPET Division for Cardiovascular Pharmacology Annual Division Meeting—5:00 PM
(San Diego Convention Center, Room 16A)

ASIP Scientific Interest Group (SIG) Interactive Poster Discussions —5:30 PM
(San Diego Convention Center, Ballrooms 20-B,C)

ASBMB Women Scientists' Professional Networking Event—5:30 PM
(San Diego Convention Center, Room 6A)

ASPET Division for Drug Metabolism Annual Division Meeting—6:00 PM
(San Diego Convention Center, Room 16B)

ASPET Division for Drug Discovery and Development Annual Division Meeting—6:00 PM
(San Diego Convention Center, Room 17A)

ASPET Division for Molecular Pharmacology Annual Division Meeting—6:00 PM
(San Diego Convention Center, Room 15B)

ASPET Division for Toxicology Annual Division Meeting—6:00 PM
(San Diego Convention Center, Room 15A)

AAA Closing Awards Reception—6:30 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom)

ASPET Divisions for Drug Metabolism and Disposition and Toxicology Joint Mixer—6:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 12)

ASPET Division for Cardiovascular Pharmacology Mixer—6:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom Terrace)

ASPET Division for Molecular Pharmacology Mixer—6:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 13)

AAA Closing Awards Ceremony—7:30 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom)

Wednesday, April 25, 2018

ASPET Journals Workshop: Hear It from the Editors—8:30 AM
(San Diego Convention Center, Room 14B)

*ASPET Program Committee Meeting—11:30 AM
(San Diego Convention Center, Room 7A)

*APS Minority Travel Fellow Luncheon—12:00 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon E)

By invitation only. For up-to-date information, please visit www.experimentalbiology.org

Society Special Events

Alphabetical Listing

*AAA ASE Editorial Board Meeting—Monday, 7:00 AM
(San Diego Marriott Marquis & Marina, Carlsbad)

*AAA Board Orientation—Thursday, 4:00 PM
(San Diego Marriott Marquis & Marina, Presidio)

*AAA Board Meeting—Friday, 8:00 AM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 13)

AAA Career Networking Lunch—Sunday, 12:30 PM
(San Diego Convention Center, Room 7AB)

AAA Career Networking Lunch—Monday, 12:00 PM
(San Diego Convention Center, Room 7B)

AAA Career Networking Lunch—Tuesday, 12:00 PM
(San Diego Convention Center, Room 7B)

AAA Closing Awards Ceremony—Tuesday, 7:30 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom)

AAA Closing Awards Reception—Tuesday, 6:30 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom)

*AAA Committee Chair Orientation—Thursday, 1:00 PM
(San Diego Marriott Marquis & Marina, Presidio)

*AAA D&I Task Force Meeting—Monday, 12:00 PM
(San Diego Marriott Marquis & Marina, Cardiff)

AAA Education Roundtable Session—Sunday, 10:30 AM
(San Diego Convention Center, Room 7AB)

AAA Educational Affairs Committee Meeting—Monday, 7:30 AM
(San Diego Convention Center, Room 7A)

*AAA Fellows Lunch—Saturday, 12:30 PM
(San Diego Marriott Marquis & Marina, Cardiff)

AAA First Time Attendee Breakfast—Sunday, 7:30 AM
(San Diego Convention Center, Room 7AB)

AAA Members Meeting—Monday, 5:45 PM
(San Diego Convention Center, Room 8)

AAA Membership Committee Meeting—Tuesday, 12:00 PM
(San Diego Marriott Marquis & Marina, Carlsbad)

AAA Mentoring Breakfast—Monday, 7:30 AM
(San Diego Convention Center, Room 7B)

*AAA Preparing for Professional Careers Workshop—Friday, 1:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 4)

*AAA Professional Development Committee—Saturday, 12:00 PM
(San Diego Convention Center, Room 7B)

*AAA Publications Committee—Saturday, 2:00 PM
(San Diego Marriott Marquis & Marina, Carlsbad)

AAA Scientific Affairs Committee Meeting—Sunday, 12:30 PM
(San Diego Marriott Marquis & Marina, Carlsbad)

AAA Student/Postdoc Poster Reception—Monday, 6:30 PM
(San Diego Convention Center, Room 20BC)

Anatomy Lounge—Saturday - Tuesday, 7:30 AM
(San Diego Convention Center, Room 10)

*APS AJP-Cell Physiology Editorial Board Meeting—Sunday, 7:30 AM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 4)

*APS Animal Care and Experimentation Committee Meeting—Saturday, 8:30 AM
(San Diego Marriott Marquis & Marina, Malibu)

APS Association of Chairs of Departments of Physiology (ACDP) Meeting—Monday, 4:30 PM
(San Diego Marriott Marquis & Marina, Malibu)

APS Bodil M. Schmidt-Nielsen Distinguished Mentor and Scientist Award Lecture—Sunday, 12:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 9)

By invitation only. For up-to-date information, please visit www.experimentalbiology.org

APS Business Office—Thursday, 7:00 AM
(San Diego Marriott Marquis & Marina, La Jolla/La Mesa)

APS Careers Symposium I: Hallmarks of and Ground Rules for Productive Collaborations in Science—Sunday, 7:00 AM
(San Diego Convention Center, Room 25B)

APS Careers Symposium II: Hallmarks of and Ground Rules for Productive Collaborations in Science—Monday, 7:00 AM
(San Diego Convention Center, Room 25B)

APS Careers Symposium III: Hallmarks of and Ground Rules for Productive Collaborations in Science—Tuesday, 7:00 AM
(San Diego Convention Center, Room 25B)

APS CNS Section social event—Monday, 5:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 1)

*APS Comparative and Evolutionary Physiology Section—Monday, 8:30 AM
(San Diego Marriott Marquis & Marina, Coronado Room)

*APS Comprehensive Physiology Advisory Board Meeting—Tuesday, 12:00 PM
(San Diego Marriott Marquis & Marina, La Costa)

*APS Conference Committee—Tuesday, 7:00 AM
(San Diego Marriott Marquis & Marina, Coronado Room)

APS David Bruce Undergraduate Poster Session & Horwitz/Horowitz Awards Ceremony—Sunday, 3:00 PM
(San Diego Convention Center, Sails Pavilion)

APS EEP Business and Awards Meeting—Monday, 5:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 6)

APS Endocrinology and Metabolism Section Business Meeting and Awards Reception—Monday, 6:00 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon F)

*APS ETG Steering Committee Meeting—Sunday, 12:30 PM
(San Diego Marriott Marquis & Marina, Mission Hills)

*APS Gastrointestinal & Liver Section Trainee Symposium—Monday, 3:00 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon D)

APS Gastrointestinal & Liver Section Trainee Symposium—Monday, 3:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 8-9)

APS History of Physiology Luncheon and Lecture—Tuesday, 12:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 3-4)

APS International Physiology Committee Meeting—Monday, 12:00 PM
(San Diego Marriott Marquis & Marina, Catalina)

*APS Journal of Neurophysiology EIC Meeting—Sunday, 11:00 AM
(San Diego Marriott Marquis & Marina, Conference Room 1)

APS Medical Physiology Course Directors Meeting—Sunday, 2:00 PM
(San Diego Marriott Marquis & Marina, Newport Beach)

APS Membership and FAPS Committee Meeting—Monday, 7:00 AM
(San Diego Marriott Marquis & Marina, Mission Hills)

APS Mentoring Symposium I: Recognizing and Responding to Implicit Bias in Science—Sunday, 7:00 AM
(San Diego Convention Center, Room 25C)

APS Mentoring Symposium II: Recognizing and Responding to Implicit Bias in Science—Monday, 7:00 AM
(San Diego Convention Center, Room 25C)

APS Mentoring Symposium III: Recognizing and Responding to Implicit Bias in Science—Tuesday, 7:00 AM
(San Diego Convention Center, Room 25C)

*APS Minority Travel Fellow Luncheon—Wednesday, 12:00 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon E)

*APS Minority Travel Fellow Networking Lunch—Monday, 12:00 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon D)

By invitation only. For up-to-date information, please visit www.experimentalbiology.org

*APS Minority Travel Fellow Orientation and Porter Reunion Reception—Saturday, 3:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 10)

*APS NCAR Steering Committee meeting—Saturday, 11:00 AM
(San Diego Marriott Marquis & Marina, Newport Beach)

*APS Physiological Genomics Editor Retreat—Saturday, 8:00 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 2)

*APS Physiological Reports Editorial Board Meeting—Sunday, 7:30 AM
(San Diego Marriott Marquis & Marina, Balboa)

*APS Physiological Reports EIC meeting—Sunday, 10:00 AM
(San Diego Marriott Marquis & Marina, La Costa)

APS Physiologists in Industry Mixer—Sunday, 6:45 PM
(San Diego Marriott Marquis & Marina, Oceanside)

*APS Physiology EIC Meeting—Saturday, 12:00 PM
(San Diego Marriott Marquis & Marina, Malibu)

APS Physiology Understanding Week Poster Session—Sunday, 7:00 AM
(San Diego Marriott Marquis & Marina, Marina Ballroom DE)

APS Refresher Course on GI Physiology: Not Just the Gut Anymore—Saturday, 8:00 AM
(San Diego Convention Center, Room 20A)

APS Renal Section Banquet/Dinner—Monday, 6:00 PM
(Off-site Location)

APS Renal Section Posters & Professors—Sunday, 5:30 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon F)

APS Respiration Section Programing Committee—Tuesday, 11:45 AM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 9)

APS Respiration Section Trainee Highlights Breakfast—Sunday, 7:30 AM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 3)

*APS Science Policy Committee Meeting—Sunday, 8:00 AM
(San Diego Marriott Marquis & Marina, Mission Hills)

APS Teaching Section Banquet Dinner—Monday, 7:00 PM
(Off-site Location)

APS Teaching Section Business Meeting—Monday, 5:30 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon G)

APS Teaching Section Roundtable Box Luncheon—Sunday, 12:00 PM
(San Diego Convention Center, Room 20BC)

APS Teaching Section Steering Committee Meeting—Saturday, 12:00 PM
(San Diego Marriott Marquis & Marina, Leucadia)

APS Teaching Section Trainee Networking Session—Tuesday, 4:30 PM
(San Diego Marriott Marquis & Marina, La Costa)

APS Trainee Symposium I: Do it again: How to achieve rigorously reproducible research—Sunday, 7:00 AM
(San Diego Convention Center, Room 25A)

APS Trainee Symposium II: Do it again: How to achieve rigorously reproducible research—Monday, 7:00 AM
(San Diego Convention Center, Room 25A)

APS Trainee Symposium III: Do it again: How to achieve rigorously reproducible research—Tuesday, 7:00 AM
(San Diego Convention Center, Room 25A)

APS WEH Section Trainee Symposium and Data Diuresis—Saturday, 2:00 PM
(San Diego Convention Center, Room 26AB)

*ASBMB Finance Committee Meeting—Thursday, 8:30 AM
(San Diego Marriott Marquis & Marina, Leucadia)

*ASBMB-AMGDB Mid-year Meeting—Monday, 12:30 PM
(San Diego Marriott Marquis & Marina, Leucadia)

*ASBMB-JBC Assoc. Editors Meeting—Saturday, 8:30 AM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 12)

By invitation only. For up-to-date information, please visit www.experimentalbiology.org

*ASBMB-JBC Assoc. Editors Working Dinner—Friday, 6:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 11)

*ASBMB-JBC Editorial Board Dinner—Saturday, 8:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 8-9)

*ASBMB-JBC Editorial Board Luncheon—Saturday, 12:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 8-9)

*ASBMB-JBC Editorial Board Meeting—Saturday, 1:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 5-6)

*ASBMB-JBC Editorial Board Reception—Saturday, 7:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 8-9)

*ASBMB Accreditation Exam Meeting—Sunday, 4:00 PM
(San Diego Marriott Marquis & Marina, Conference Room 2)

ASBMB Advocacy Town Hall Meeting—Sunday, 12:30 PM
(San Diego Convention Center, Room 6A)

*ASBMB Annual Meeting Networking Reception—Sunday, 7:00 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 12-13)

ASBMB Award for Exemplary Contributions to Education Lecture—Sunday, 2:30 PM
(San Diego Convention Center, Room 6C)

*ASBMB Career Development Networking Luncheon—Saturday, 11:30 AM
(San Diego Convention Center, Room 6A)

*ASBMB Council Meeting—Friday, 8:30 AM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 11)

*ASBMB Council Reception and Working Dinner—Thursday, 5:30 PM
(San Diego Marriott Marquis & Marina, Mission Hills)

*ASBMB Education Fellows Reception—Sunday, 6:00 PM
(San Diego Marriott Marquis & Marina, Balboa)

*ASBMB Graduate Student and Postdoctoral Fellow Career Development Event—Saturday, 9:00 AM
(San Diego Convention Center, Room 6D)

ASBMB Herbert Tabor Research Award Lecture—Sunday, 8:00 AM
(San Diego Convention Center, Room 6B)

*ASBMB Lipid Research Division Committee Meeting—Monday, 12:30 PM
(San Diego Marriott Marquis & Marina, Laguna)

*ASBMB Membership Committee Meeting—Monday, 2:00 PM
(San Diego Marriott Marquis & Marina, Oceanside)

*ASBMB Past Presidents' Breakfast—Monday, 7:00 AM
(Off-site Location)

*ASBMB Publications Committee Meeting—Sunday, 9:30 AM
(San Diego Marriott Marquis & Marina, Leucadia)

*ASBMB Student Chapters Advisors Reception—Sunday, 7:00 PM
(San Diego Marriott Marquis & Marina, Mission Hills)

*ASBMB Student Chapters Committee Meeting—Friday, 3:00 PM
(San Diego Marriott Marquis & Marina, Leucadia)

*ASBMB Travel Award Networking Reception for Graduate Students and Postdoctoral Fellows—Friday, 5:00 PM
(San Diego Convention Center, Sails Pavilion)

ASBMB Undergraduate Poster Competition Judges Orientation—Saturday, 11:30 AM
(San Diego Convention Center, Room 6E)

ASBMB Undergraduate Student Meeting Orientation—Saturday, 11:30 AM
(San Diego Convention Center, Room 6C)

ASBMB Undergraduate Student Research Poster Competition—Saturday, 1:00 PM
(San Diego Convention Center, Room 6B)

ASBMB Undergraduate Workshop—Careers Speed Networking—Saturday, 4:30 PM
(San Diego Convention Center, Room 6A)

By invitation only. For up-to-date information, please visit www.experimentalbiology.org

ASBMB Women Scientists' Professional Networking Event—Tuesday, 5:30 PM
(San Diego Convention Center, Room 6A)

ASBMB Workshop: Storytelling and the Art of Giving a Good Presentation—Sunday, 5:30 PM
(San Diego Convention Center, Room 6B)

ASBMB Workshop: Transforming Science Research into Science Outreach—Monday, 5:30 PM
(San Diego Convention Center, Room 6B)

ASIP Business Meeting & Awards Presentation—Monday, 5:15 PM
(San Diego Convention Center, Room 2)

*ASIP Committee for Career Development & Diversity Workshop and Breakfast: Mentor/Mentee Relationships: A Two-Way Street—Sunday, 7:00 AM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon F)

*ASIP Council Meeting—Friday, 8:00 AM
(San Diego Marriott Marquis & Marina, Del Mar)

*ASIP Lunch and Learn: Science, Statistics and Getting it Right—Tuesday, 11:45 AM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon F)

ASIP Meet The Mentor Breakfast—Saturday, 7:30 AM
(San Diego Convention Center, ASIP Office Corridor)

ASIP Networking Lounge—Sunday, 9:00 AM
(San Diego Convention Center, ASIP Lounge)

ASIP NextGen Science: New Discoveries of Graduate Student and Post-Doctoral Fellow Rising Stars—Saturday, 8:30 AM
(San Diego Convention Center, Room 2)

ASIP Office—Thursday, 8:00 AM
(San Diego Marriott Marquis & Marina, Encinitas)

ASIP Office—Friday, 7:00 AM
(San Diego Convention Center, Room 5B)

ASIP Scientific Interest Group (SIG) Interactive Poster Discussions —5:30 PM
(San Diego Convention Center, Ballrooms 20-B,C)

ASIP Scientific Sleuthing of Human Disease for Undergraduate Students and High School Teachers and Students—Tuesday, 9:30 AM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon G)

ASIP Specimen Room for High School Teachers Workshop—Tuesday, 9:30 AM
(San Diego Marriott Marquis & Marina, Miramar)

ASIP Town Hall Meeting and Breakfast—Monday, 7:00 AM
(San Diego Convention Center, Room 5A)

*ASIP XVIIIth Annual ASIP/AAA Career Development and Mentoring Program and Lunch: The IDP: Highway to Success—Sunday, 11:45 AM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon F)

*ASIP XVIIIth Annual Workshop on Graduate Education in Pathology: Wellness for Students and Faculty—Saturday, 11:45 AM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon G)

*ASPET Board of Publications Trustees Joint Editorial Boards Dinner—Sunday, 7:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 8)

*ASPET Board of Publications Trustees Meeting—Sunday, 12:30 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 2)

ASPET Business Meeting and Awards Presentation—Saturday, 4:30 PM
(San Diego Convention Center, Room 16AB)

*ASPET Council Meeting—Friday, 7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1-2)

*ASPET Council of Division Chairs Meeting—Friday, 2:00 PM
(San Diego Marriott Marquis & Marina, Torrey Pines 2)

*ASPET Diversity and Inclusion Breakfast—Sunday, 7:30 AM
(San Diego Convention Center, Room 14B)

*ASPET Division Communications Officer Meeting—Monday, 2:15 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 3)

ASPET Division for Behavioral Pharmacology Annual Division Meeting—Monday, 6:00 PM
(San Diego Convention Center, Room 16A)

By invitation only. For up-to-date information, please visit www.experimentalbiology.org

*ASPET Division for Behavioral Pharmacology Executive Committee Meeting—Monday, 7:00 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 2)

ASPET Division for Cancer Pharmacology Annual Division Meeting—Monday, 6:00 PM
(San Diego Convention Center, Room 15B)

*ASPET Division for Cancer Pharmacology Executive Committee Meeting—Sunday, 7:00 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 2)

ASPET Division for Cardiovascular Pharmacology Annual Division Meeting—Tuesday, 5:00 PM
(San Diego Convention Center, Room 16A)

*ASPET Division for Cardiovascular Pharmacology Executive Committee Meeting—Tuesday, 7:00 AM
(San Diego Marriott Marquis & Marina, Presidio)

ASPET Division for Cardiovascular Pharmacology Mixer—Tuesday, 6:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom Terrace)

ASPET Division for Drug Discovery and Development Annual Division Meeting—Tuesday, 6:00 PM
(San Diego Convention Center, Room 17A)

*ASPET Division for Drug Discovery and Development Executive Committee Meeting—Monday, 7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1)

ASPET Division for Drug Metabolism Annual Division Meeting—Tuesday, 6:00 PM
(San Diego Convention Center, Room 16B)

*ASPET Division for Drug Metabolism and Disposition Executive Committee Meeting—Monday, 7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 3)

ASPET Division for Molecular Pharmacology Annual Division Meeting—Tuesday, 6:00 PM
(San Diego Convention Center, Room 15B)

*ASPET Division for Molecular Pharmacology Executive Committee Meeting—Sunday, 7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 3)

ASPET Division for Molecular Pharmacology Mixer—Tuesday, 6:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 13)

ASPET Division for Neuropharmacology Annual Division Meeting—Monday, 6:00 PM
(San Diego Convention Center, Room 16B)

*ASPET Division for Neuropharmacology Executive Committee Meeting—Monday, 7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 2)

ASPET Division for Pharmacology Education Annual Division Meeting—Monday, 5:30 PM
(San Diego Convention Center, Room 15A)

*ASPET Division for Pharmacology Education Executive Committee Meeting—Monday, 7:00 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 3)

ASPET Division for Toxicology Annual Division Meeting—Tuesday, 6:00 PM
(San Diego Convention Center, Room 15A)

*ASPET Division for Toxicology Executive Committee Meeting—Tuesday, 7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 3)

ASPET Division for Translational and Clinical Pharmacology Annual Division Meeting—Monday, 6:00 PM
(San Diego Convention Center, Room 17A)

*ASPET Division for Translational and Clinical Pharmacology Executive Committee Meeting—Sunday, 7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1)

ASPET Divisions for Drug Metabolism and Disposition and Toxicology Joint Mixer—Tuesday, 6:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 12)

*ASPET *Drug Metabolism and Disposition* Editorial Board Meeting—Tuesday, 7:30 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 2-3)

By invitation only. For up-to-date information, please visit www.experimentalbiology.org

*ASPET Finance Committee Meeting—Thursday, 5:00 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1-2)

ASPET Give a Day of Service to San Diego at EB2018—Friday, 7:00 AM
(Off-site Location)

ASPET Joint Mixer—Divisions for Behavioral Pharmacology & Neuropharmacology Joint Mixer—Monday, 6:30 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1-3)

ASPET Joint Mixer—Divisions for Pharmacology Education, Cancer Pharmacology, Drug Discovery and Development, and Translational and Clinical Pharmacology—Monday, 6:30 PM
(San Diego Marriott Marquis & Marina, Torrey Pines 2-3)

ASPET Journals Workshop: Hear It from the Editors—Wednesday, 8:30 AM
(San Diego Convention Center, Room 14B)

*ASPET *JPET* Associate Editors Meeting—Sunday, 7:30 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 3)

*ASPET Mentoring and Career Development Committee Meeting—Tuesday, 7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 2)

*ASPET Mentoring Network Lunch—Saturday, 11:45 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 2-3)

*ASPET Mentoring Network: Coaching for Career Development—Friday, 11:00 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 3)

*ASPET Mentoring Network: Coaching for Career Development—Saturday, 8:30 AM
(San Diego Marriott Marquis & Marina, Torrey Pines 3)

*ASPET *Molecular Pharmacology* Editorial Board Meeting—Monday, 7:30 AM
(San Diego Marriott Marquis & Marina, Presidio)

*ASPET Nominating Committee Meeting—Tuesday, 7:00 AM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1)

*ASPET Past President's Dinner—Monday, 6:30 PM
(San Diego Marriott Marquis & Marina, Presidio 1)

*ASPET *Pharmacological Reviews* Editorial Board Meeting—Monday, 12:30 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 2)

*ASPET *Pharmacology Research & Perspectives* Management Committee Meeting (PR&P)—Tuesday, 3:00 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 1)

*ASPET Program Committee Meeting—Wednesday, 11:30 AM
(San Diego Convention Center, Room 7A)

*ASPET Science Policy Committee Meeting—Saturday, 2:00 PM
(San Diego Marriott Marquis & Marina, Torrey Pines 2)

ASPET Student & Postdoc Mixer—Sunday, 8:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 10)

ASPET Student/Postdoc Poster Competition—Sunday, 6:30 PM
(San Diego Convention Center, Room 20BC)

*ASPET Trainee Mentoring and Career Development for Translational and Clinical Pharmacology—Tuesday, 12:30 PM
(San Diego Convention Center, Room 14B)

*ASPET Undergraduate Networking and Career Development Luncheon—Sunday, 12:15 PM
(San Diego Convention Center, Room 14B)

*ASPET Young Scientists Committee Meeting—Tuesday, 2:15 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 3)

FASEB Excellence in Science Award Lecture—Sunday, 9:00 AM
(San Diego Convention Center, Room 6B)

By invitation only. For up-to-date information, please visit www.experimentalbiology.org

*GIL Programming Committee Meeting—
Monday, 12:00 PM
*(San Diego Marriott Marquis & Marina,
Conference Room 3)*

Horace W. Davenport Distinguished Lectureship of the APS Gastrointestinal and Liver Physiology Section—
Tuesday, 4:30 PM
(San Diego Convention Center, Room 23ABC)

Mark Sobel Appreciation Reception—Monday, 6:30 PM
(San Diego Convention Center, ASIP Office Corridor)

NCAR Reception and Awards—Monday, 6:30 PM
*(San Diego Marriott Marquis & Marina,
Marriott Grand Ballroom 2)*

NCARnation—Saturday, 3:00 PM
(San Diego Convention Center, Room 22)

Pre-Meeting Epithelial Transport Group Business Meeting—Saturday, 9:00 AM
(San Diego Convention Center, Room 25A)

*The American Journal of Pathology Editorial Dinner—
Saturday, 6:30 PM
(San Diego Marriott Marquis & Marina, Palomar)

*Translational Physiology Steering Committee—
Monday, 12:00 PM
*(San Diego Marriott Marquis & Marina,
Conference Room 1)*

By invitation only. For up-to-date information, please visit www.experimentalbiology.org

Ancillary Events

Microcirculatory Society Executive Council Meeting—Friday, 6:00 PM
(Off-site Location)

BPS: Behavioral Pharmacology Society Annual Meeting—Saturday, 8:00 AM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 4)

Microcirculatory Society Trainee Symposium—Saturday, 11:30 AM
(San Diego Convention Center, Room 23ABC)

SEBM Mentor Meet-Up & Career Development Workshop—Saturday, 5:30 PM
(San Diego Marriott Marquis & Marina, Presidio)

Microcirculatory Society Reception and Poster Discussion—Saturday, 6:00 PM
(San Diego Convention Center, Room 23ABC)

*The University of Michigan Department of Pharmacology Society Hour—Saturday, 9:00 PM
(San Diego Marriott Marquis & Marina, Rancho Santa Fe 3)

NDOGS Hosted Discussion of New T32 FOA from NIGMS—Sunday, 4:30 PM
(San Diego Convention Center, Room 14B)

SEBM Awards and Poster Session—Sunday, 5:30 PM
(San Diego Marriott Marquis & Marina, Marriott Grand Ballroom 4)

The Global GI Club—Sunday, 6:00 PM
(San Diego Marriott Marquis & Marina, Marina Ballroom Salon G)

Experimental Biology Christian Fellowship—Sunday, 7:00 PM
(San Diego Marriott Marquis & Marina, Miramar)

APS International Liaison Committee for Microcirculation—Monday, 8:00 AM
(San Diego Marriott Marquis & Marina, Catalina)

Microcirculatory Society Membership Business Meeting—Monday, 4:30 PM
(San Diego Convention Center, Room 20A)

Association of Medical School Pharmacology Chairs Mixer—Monday, 6:00 PM
(San Diego Marriott Marquis & Marina, Oceanside)

Catecholamine Society Dinner 2018—Tuesday, 7:30 PM
(Buster's Beach House Longboard Bar Seaport Village)

By invitation only. For up-to-date information, please visit www.experimentalbiology.org

Author/Speaker Index

Numbers following an S refer to the invited speaker's session number. The numbers following each name refer to abstract numbers.

Author Index

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z