EXPERIMENTAL BIOLOGY 2010

April 24-28, 2010
Anaheim, CA

ASPET Scientific Program

ASPET thanks Cadmus and Cephalon for their support of annual meeting related activities.
The Division for Behavioral Pharmacology thanks Med Associates, Inc., Pfizer, Inc., and Targacept Inc. for their support of the Award Winner Meet and Greet.

Friday & Saturday, April 23-24

The Behavioral Pharmacology Society Meeting

Saturday, April 24 Afternoon Sessions

2010 Teaching Institute: Simulation in Pharmacology Education: Going Beyond Mannequins
Chair: L.M. Crespo, University of Central Florida
Anaheim Convention Center, Room 208
12:30 PM – 3:00 PM
Many emerging technologies are available for the teaching of pharmacology in an applied format through simulation. These applications are adaptable to a large classroom, small groups or web-based self-learning. The interactive teaching institute will provide participants the opportunity to engage in these technologies from the students' perspective, and learn the nuts and bolts to implementing these simulations in their own programs.

Speakers: Lynn Crespo, Asst Dean, University of Central Florida College of Medicine
Moshe Feldman, Ph.D., University of Central Florida College of Medicine

Diversity Committee Workshop: Traditional and Alternative Career Paths in Rough Economic Times
Chairs: M. Davila-Garcia, Howard University and Marcus Delatte, FDA
Anaheim Convention Center, Room 210AB
12:30 PM – 3:00 PM

Welcome
M. Davila-Garcia, Howard University
Introduction
M.S. Delatte, FDA
The Balancing Act: Being a Principle Investigator and Administrator in Academia.
P. Molina, LSU Hlth Sci Ctr., New Orleans
Career Paths for Minorities to Help Others Through Diversity Promotion and Community Outreach.
K.A. Albert, Louisiana State University
Going from the Bench to the Clinic.

P.A. Ardayfio, Eli Lilly & Co.

Intellectual Property Law As a Rewarding Career Alternative for Researchers, Scientists, and Other Technical Professionals

L. Stewart, Caterpillar, Inc

AAA/ASPET Master Class: The Problem with Pain

Anaheim Convention Center, Room 212AB

Chairs: D. Bolender, Medical College of Wisconsin and R. DePhillip, Ohio State University College of Medicine

1:30 pm – 4:00 pm

Ouch! Neuronal Pathways Responsible for Conduction of Somatosensory & Visceral Pain

J. McBride, Cleveland Clinic Lerner College of Medicine}}

Biology of Transmission in the Pain Pathway

T. Yaksh, UCSD

Basic Mechanisms Underlying Pain After Nerve Injury

Allan Basbaum, UCSF

Current Treatment for Chronic Pain

Quynh Pham, David Geffen School of Medicine at UCLA

Graduate Student/Postdoc Colloquium: Leadership: Skills, Styles and Self Awareness

Anaheim Convention Center, Room 209

Chairs: S.B. Bausch, USUHS and M. Sridharan, St. Louis University School of Medicine

3:15 pm – 5:45 pm

Speakers: F. E. Bloom, The Scripps Institute
M. J. Zigmond, University of Pittsburgh
K. A. Petrie, Vanderbilt University

ASPET Business Meeting

Anaheim Hilton, Pacific Ballroom A

6:00 pm – 7:30 PM

Sunday, April 25 Morning Sessions

9:30 – 12:00 noon (unless otherwise noted)

WIP Into Shape Networking Walk

Meet at the Anaheim Hilton Concierge Desk at 7:15 am

7:00 am – 8:30 am

Diversity Mentoring Breakfast

Anaheim Hilton, Monterey Room

7:30 am – 9:30 am

Spatial and Temporal Organization of Cell Signaling

Anaheim Convention Center, Room 208

Sponsored by the Division for Molecular Pharmacology and the American Society for Biochemistry & Molecular Biology

Chair: J.D. Scott, University of Washington School of Medicine Howard Hughes Medical Institute

Cell Signaling in Space and Time
J.D. Scott, University of Washington School of Medicine Howard Hughes Medical Institute

AKAP-dependent Calcium Signaling in Muscle
L. F. Santana, University of Washington School of Medicine

Anchored PKA and Immune Function
K. Taske'n, University of Oslo

AKAPs and Adenylyl Cyclases
C.W. Dessauer, University of Texas Medical School

Regenerative Pharmacology and Stem Cell Research for Tissue and Organ Repair: State-of-the-Art

Anaheim Convention Center, Room 209

Sponsored by the Divisions for Integrative Systems, Translational & Clinical Pharmacology; Cardiovascular Pharmacology; Drug Discovery, Development & Regulatory Affairs; and Neuropharmacology

Chairs: D.C. Marshall, Ferring Pharmaceuticals, Inc. and G.J. Christ, Wake Forest Institute for Regenerative Medicine

Overview of the Pharmacology, Differentiation and Model SystemsUsed in Stem Cell Research
S. Ding, Scripps Research Institute

Regenerative Pharmacology for Cardiac Repair
A. Terzic, Mayo Clinic

Stem and Progenitor Cells for Vascular and Muscle Tissue Engineering: Regenerative Pharmacology and Enabling Technologies Required for Clinical Translation
G.J. Christ, Wake Forest Institute for Regenerative Medicine

Pharmacological Modification of the hematopoietic Stem Cell Interaction with its Niche
G. Adams, University of Southern California Keck School of Medicine

Maturation and Growth of the Bladder Wall in a Rodent Model of Organ Regeneration (Abstract 754.1)
D.M. Burmeister, Wake Forest University School of Medicine

New Therapeutic Approaches to Combat Arterial Thrombosis

Anaheim Convention Center, Room 210AB

Sponsored by the Divisions for Cardiovascular Pharmacology; Drug Discovery, Development & Regulatory Affairs; and Integrative Systems, Translational & Clinical Pharmacology

Chairs: J. Kermode, Philadelphia College of Osteopathic Medicine (Georgia Campus) and Z.M. Ruggeri, The Scripps Research Institute

Arterial Thrombosis: How it Occurs and How to Combat It

Z. M. Ruggeri, Scripps Research Institute

Metabolism as a Determinant of the Activation of Clopidogrel and Prasugrel and their Subsequent Inhibitory Effects on P2Y12 and Platelet Function

J.A. Jakubowski, Eli Lilly & Company

Protease-Activated Receptor-1 (PAR-1) on the Platelet as a Novel Target for Antithrombotic Drugs

L.K. Jennings, University of Tennessee Health Science Center

"Thrombin Sponge": A Potent Nanoparticle Approach to Inhibiting Coagulation in Acute Thrombosis (Abstract 574.2)

J.W. Myerson, Washington University

Upcoming and Future Targets on the Platelet for Antithrombotic Drugs

J. Kermode, Philadelphia College of Osteopathic Medicine, Georgia Campus

Orphan Cytochrome P450 and Other Drug Metabolizing Enzymes

Anaheim Convention Center, Room 210C

Sponsored by the Divisions for Drug Metabolism; Integrative Systems, Translational & Clinical Pharmacology; and Toxicology

Chair: F.P. Guengerich, Vanderbilt University School of Medicine

Overview: The General Problem of Characterizing Proteins of Unknown

F.P. Guengerich, Vanderbilt University School of Medicine

Transgenic Mouse Approaches to P450 Function

F. J. Gonzalez, NIH, National Cancer Institute

Use of Humanized Mice in the Study of the Function of Human UGT Enzymes

J.C. Stevens, Pfizer, Inc.

Determinants of Variability in Divalproex Sodium (VPA) Glucuronidation in Children (Abstract 967.15)

J.S. Leeder, Children's Mercy Hospital and Clinics

In Vitro LC-MS Approaches to Deorphanization of Cytochrome P450 Enzymes

Z. Tang, Vanderbilt University School of Medicine

High Throughput Crystallography approaches to P450 Function

H-W. Park University of Toronto

When the Smoke Clears, There's More to Neuronal Nicotinic Acetylcholine Receptors

Anaheim Convention Center, Room 210D

Sponsored by the Divisions for Behavioral Pharmacology; Drug Discovery, Development & Regulatory Affairs; Molecular Pharmacology; and Neuropharmacology

Chairs: M. Picciotto, Yale University School of Medicine and L. McMahon, University of Texas Health Science Center at San Antonio

Electrophysiological perspectives on the therapeutic use of nicotinic partial agonists

R. Papke, University of Florida

Nicotine Addiction and Depression: Rodent Studies

M. Picciotto, Yale University School of Medicine

Nicotinic Chemistry and Drug Discovery

H. Rollema, Pfizer, Inc.

Nicotine Addiction and Depression: Human Studies
T. George, University of Toronto
Behavioral and Physiological Effects of Novel nAChR Ligands in Rodents.
E. Jutkiewicz, University of Michigan
Behavioral Effects of Novel nAChR Ligands: Pre-clinical Studies
L. McMahon, University of Texas Health Science Center at San Antonio

Applying Web 2.0 Technologies in Teaching Pharmacology: Developing the Tool Box
Anaheim Hilton, Palos Verdes AB
Sponsored by the Divisions for Pharmacology Education and Integrative Systems, Translational & Clinical Pharmacology
Chairs: W.B. Jeffries, University of Vermont College of Medicine and J.L. Szarek, The Commonwealth Medical College

Rethinking Education for the Net-Geners
J.L. Szarek, The Commonwealth Medical College
Creative Use of Web 2.0 Technologies for Medical Education: Specific Examples
W.B Jeffries, University of Vermont College of Medicine
Web 2.0 Technologies: Providing New Tools for Teaching and the Next Generation of Students
S. Dennis, University of Utah Eccles Health Science Library
Starting Your Web 2.0 Toolbar: Hands-on Session (bring your laptop)
S. Dennis, University of Utah Eccles Health Science Library

Sunday, April 25 Afternoon Sessions
2:00 pm – 2:50 pm

P. B. Dews Award Lecture in Behavioral Pharmacology: Staying on Schedule

Introduction: N. Ator, Johns Hopkins University
Speaker: D. E. McMillan, University of Arkansas for Medical Sciences (ret)
Anaheim Convention Center, Room 210C

Sunday, April 25 Afternoon Sessions
3:00 pm – 5:30 pm (unless otherwise noted)

Receptor-Independent Activators of G-Protein Signaling in the Nervous System
Anaheim Convention Center, Room 208
Sponsored by the Divisions for Drug Discovery, Development & Regulatory Affairs and Molecular Pharmacology
Chair: S.M. Lanier, Medical University of South Carolina

AGS3 and AGS4 in G-Protein Signaling
J. B. Blumer, Medical University of South Carolina

Regulation of G-Protein Signaling and Expression by the Non-Receptor GEFs Ric-8A and Ric-8B
G. Tall, University of Rochester
GIV/Girdin, a Non-Receptor GEF for Gαi, is Required for Cell Migration
M.G. Farquhar, University of California, San Diego
The Role of AGS3 in Craving, Alcoholism and Addiction
I. Diamond, University of California, San Francisco
Tctex1 (AGS2) and Neural Stem Cell Maintenance
D. Kaplan, University of Toronto

Applications of Stem Cell Therapies in Clinical Development and Regenerative Pharmacology in Organ Repair
Anaheim Convention Center, Room 209
Sponsored by the Divisions for Integrative Systems,Translational & Clinical Pharmacology; Cardiovascular Pharmacology; Drug Discovery, Development & Regulatory Affairs; and Neuropharmacology
Chair: A. Chen, University of Pittsburgh School of Medicine

MHC-I Expression on ESC-derived Vascular Progenitor Cells is Critical for Syngentic Transplant Survival
M. Boehm, NHLBI, NIH
Endothelial Progenitor Cells and Vasculogenesis in Diabetes
A. Chen, University of Pittsburgh School of Medicine
Wnt signaling in cardiac and lung development and regeneration
E. Morrisey, University of Pennsylvania
Cardiac Regeneration: iPS, ES, or Endogenous Cells
S.M. Wu, Massachusetts General Hospital
Stem Cell Models of Cardiac Development and Disease
I.Domian, Massachusetts General Hospital

Stimulus-Bias in an Allosteric World: Relevance to CNS Drug Target Validation
Anaheim Convention Center, Room 210AB
Sponsored by the Divisions for Neuropharmacology and Drug Discovery, Development & Regulatory Affairs
Chairs: A. Christopoulos, Monash University and C. Felder, Eli Lilly & Company

Quantifying Functional Bias at 7TM Receptors
T. Kenakin, GlaxoSmithKine
Allosteric Modulator-Engendered Stimulus Trafficking: Implications for Drug Discovery
A. Christopoulos, Monash University
Importance of Stimulus Bias in Discovery and Utility of Allosteric Modulators of GPCR's as Therapeutic Agents
P.J. Conn, Vanderbilt University Medical Center
Deciphering the Complexity of Allosteric Modulation from In Vitro Pharmacology through In Vivo Behavioral Assessment
C. Felder, Eli Lilly & Company

In Vivo Animal Modeling in Drug Discovery and Development: Multiple Approaches to Predict Clinical Efficacy in CNS Disorders

Anaheim Convention Center, Room 210C

Sponsored by the Divisions for Behavioral Pharmacology; Integrative Systems, Translational & Clinical Pharmacology; and Neuropharmacology

Chair: S. Rosenzweig-Lipson, Wyeth Research and P. McGonagle, PsychoGenics, Inc.

Introduction
S. Rosenzweig-Lipson, Wyeth Research

Use of Transgenic Animal Models in the Discovery of Drugs for Neurological Disorders
R. Paylor, Baylor Medical College

Cognition in NHP's: Utility of Translation into the Clinic
D.M. Hutcheson, Maccine Pte, Ltd.

Behavior-Driven Approach to Drug Discovery
P. McGonagle, PsychoGenics, Inc.

Animal Models in Psychiatry, Tried and True vs. Disease-Based, What's the Advantage?
S. Rosenzweig-Lipson, Wyeth Research

Discussant: Pros/Cons of these In Vivo Approaches
J.A. Barrett, Drexel University College of Medicine

Industrial Academic Partnerships: A New Era (Workshop)

Anaheim Convention Center, Room 210D

Sponsored by the Divisions for Drug Metabolism; Behavioral Pharmacology; Drug Discovery, Development & Regulatory Affairs; Pharmacology Education; and Integrative Systems, Translational & Clinical Pharmacology

Chair: L. Wienkers, Amgen, Inc.

Insights on Joint Academic-Industrial Research Collaborations
K. Seibert, Pfizer Global Research and Development

The Consortium Model for Strengthening Industrial/Academic Relations
T.A. Baillie, University of Washington

The Academic Sabbatical in the Pharmaceutical Industry: Opportunity to Enhance Both Missions
T. Tracy, University of Minnesota College of Pharmacy

Knowledge Request and Transfer: an Academic's Perspective of What Works and What Does Not Work
R. Kim, University of Western Ontario

Monday, April 26 Morning Sessions

8:30 am – 9:20 am

Julius Axelrod Lecture: Structure Based Drug Design in the Nervous System

Introduction: D. Sibley
Speaker: P.W. Taylor, University of California, San Diego
Anaheim Convention Center, Room 209

Followed at 9:30 am by the Julius Axelrod Symposium: Instilling Structure and Mechanisms in Drug Design: Prospects of Academic-Industry Partnerships.

Monday, April 26 Morning Sessions

9:00 am – 12:00 noon (unless otherwise noted)

Wnt Signaling and Development: Conventional and Unconventional GPCR's Mechanisms

Anaheim Convention Center, Room 208

Sponsored by the Divisions for Molecular Pharmacology and Neuropharmacology

Chair: C.C. Malbon, Stony Brook University-SUNY

Introduction
C. C. Malbon, Stony Brook University - SUNY

Wnt-Frizzled Signaling: The G-Protein-Coupled Mechanisms and Targets
L. Katanaev, University of Konstanz

Wnt-Frizzled Signaling: The Non-G-Protein-Coupled Mechanisms
R. Van Amerongen, Stanford University

Wnt-Frizzled Signaling and LRP5/6
X. He, Children's Hospital and Harvard Medical School

Wnt-Frizzled Signaling and Protein Domains
H. Wang, State University of New York at Stony Brook

Wnt-Frizzled Signaling and the Function of ß-Arrestins
G. Schulte, Karolinska Institute

Julius Axelrod Symposium: Instilling Structure and Mechanism in Drug Design: Prospects for Academic-Industry Partnerships

Anaheim Convention Center, Room 209

Chair: P. W. Taylor, University of California, San Diego

Structure and Mechanism in Nicotinic Receptor Activation: Implications for Partial Agonism and Congenital Myasthenia
S. Sine, Mayo Medical College

Using G Protein-coupled Receptor Structural Information to Create Novel Probes and Candidate Medications for Neuropsychiatric Disease.
B. Roth, University of North Carolina Chapel Hill.

Structural Genomics of Human G Protein Coupled Receptors
R. Stevens, Scripps Research Institute

Allosteric Modulation of G Protein Coupled Receptors as a Novel Approach to Treatment of CNS Disorders
P.J. Conn, Vanderbilt University

Recent Advances in the Neuropharmacology of Anxiety: Implications for Novel Therapeutics
Anaheim Convention Center, Room 210AB
Sponsored by the Divisions for Integrative Systems, Translational & Clinical Pharmacology and Neuropharmacology
Chair: B. Greenwood-Van Meerveld, University of Oklahoma Center for Neuroscience

Overview of Anxiety: Current and Future Treatment Approaches
B. Greenwood-Van Meerveld, University of Oklahoma Center for Neuroscience
GABA-A Receptors and Therapeutics: Beyond Benzodiazepines
L. Gerak, University of Texas Health Science Center
Visceral Pain Related Anxiety: Role of Glucocorticoids
B. Meyers, University of Oklahoma Center for Neuroscience
Pathophysiology of Panic Disorder: Neuroimaging Studies of Monoaminergic Neurotransmitter Systems
W. Drevets, University of Oklahoma, Tulsa
Molecular Pharmacology of Anxiety: Role of Orphan FX/Nociceptin
Kelly Standifer, University of Oklahoma Health Sciences Center

Introduction of Drug Safety (Pharmacovigilance) Into Curricula
Anaheim Convention Center, Room 210C
Sponsored by the Divisions for Pharmacology Education; Behavioral Pharmacology; Cardiovascular Pharmacology; Drug Discovery, Development & Regulatory Affairs; Drug Metabolism; Integrative Systems, Translational & Clinical Pharmacology; Molecular Pharmacology; Neuropharmacology; and Toxicology
Chairs: G. Dunaway, Southern Illinois University and J. Strandhoy, Wake Forest University

Introduction to Pharmacovigilance
G. Dunaway, Southern Illinois University School of Medicine
Mechanisms of Common and Important Adverse Drug Reactions
J. Strandhoy, Wake Forest University
The Role of the FDA in Drug Safety Education
C. Furberg, Wake Forest University
Models for Introduction of Pharmacovigilance into the Pharmacology Curriculum
C. Faingold, Southern Illinois University School of Medicine
Careers in Drug Safety
S. W. Mittelstadt, Abbot Laboratories

Extracellular Matrix Proteins of the CCN Family as Therapeutic Targets
Anaheim Convention Center 210D
Sponsored by the Divisions for Drug Discovery, Development & Regulatory Affairs and Molecular Pharmacology
Chairs: J. Heller Brown, University of California, San Diego and L.F. Lau, University of Illinois at Chicago

CCN Proteins, Inflammation , and Wound Healing
L.F. Lau, University of Illinois at Chicago
CCN1/CYR61 in Breast Cancer
R. Lupu, Mayo Clinic

CCN1//Cyr61 in GPCR Signaling
J. Heller Brown, University of California, San Diego
CCN2/CCTGF in Liver Fibrosis
D. Brigstock, Ohio State University
Thrombin Mediated PAR1 Stimulation Results in Sustained Activation of Rap12 and Downstream Responses in Human 1231N1 Astroglioma Cells (Abstract 769.16)
J. Sayyahm, University of California, San Diego

Monday April 26th Afternoon Sessions
2:00 pm – 2:50 pm

B.B Brodie Award Lecture in Drug Metabolism: Structure and Function of Cytochromes P450 2B and 3A: From Mechanism-based Inactivators to X-ray Crystal Structures and Back

Introduction: E. Johnson, Scripps Research Institute
Speaker: J. R. Halpert, University of California, San Diego
Anaheim Convention Center, Room 208

Monday April 26th Afternoon Sessions
3:00 pm – 5:30 pm (unless otherwise noted)

Division for Drug Metabolism and James Gillette Best Paper Award Platform Session
Anaheim Convention Center, Room 208
Chairs: S. Leeder, Children's Mercy Hospital and Clinics and J.C. Stevens, Pfizer, Inc

James R. Gillette Best Paper Award Winner: *Residues Controlling Binding of Diverse Ligands to Human Cytochrome P450 2A Enzymes*
N.M. Devore, University of Kansas
Crystal Structure of a Cytochrome P450 2B6 Genetic Variant in Complex with the Inhibitor 4-(4-chlorophenyl) imidazole at 2.0• Resolution (Abstract 967.16)
S.C. Gay, University of California, San Diego, The University of Texas Medical Branch, and Scripps Research Institute
Regulation of CYPa31 by AMP-activated Protein Kinase and Peroxisome Proliferator Activated Receptor Alpha (Abstract 757.13)
N. Bumpus, The Scripps Research Institute
James R. Gillette Best Paper Award Winner: *In Silico and In Vitro Modeling of Hepatocyte Drug Transport Processes: Importance of ABCC2 Expression Levles in the Disposition of Carbosydichlorofuorescein*
K. Howe, Pfizer, Ltd.
Isolation of a Modulator of the Liver Specific Organic Anion Transporting Polypeptides 1B1 and 1B3 from Rollinia emarginata (Abstract 758.7)
M. Roth, University of Kansas

Mitochondrion is a Novel Site of Biotransformation of Dichloroacetate by Glutathione Transferase Zeta (Abstract 967.17)

W. Li, University of Florida

Division for Neuropharmacology Post Doctoral Award Finalists

Anaheim Convention Center, Room 209

Stimulation of ^{35}S-GTPγ$_S$ Binding by BAGA-B Receptor Agonists and Positive Modulators in Different Mouse Brain Regions

T. Advani, University of Texas Health Sciences Center at San Antonio

Blast-induced Traumatic Brain Injury Reduced Rotarod Performance in Sprague-Dawley Male Rats with No Impact on Visible Morris Water Maze Performance

H. Awwad, University of Oklahoma Health Sciences Center

Contingent Methamphetamine Administration Decreases Dopamine and Vesicular Monoamine-2 Transporter Function

L. McFadden, University of Utah

Receptor Signaling and Behavioral Properties of EFF0311, a Longer Acting Selective Full D1 Agonists as a Potential Treatment for Parkinson's Disease

V. Murthy, Pennsylvania State College of Medicine

Activation of the HO-CO System in Spontaneously Hypertensive Rats Counterbalances the Sympathoexcitatory Response Elicited by Ethanol in Rostral Ventrolateral Medulla

N. Nassar, East Carolina University

Hyperactive Mice Show Elevated D2 High Receptors, A Model for Schizophrenia: Calcium/Calmodulin-dependent Kinase II Alpha Knockouts

G. Novak, University of Toronto

Division for Cardiovascular Pharmacology Trainee Showcase

2:00 pm – 4:30 pm

Anaheim Convention Center, Room 210AB

Vascular KCNQ Potassium Channels as Therapeutic Targets in Cerebral Vasospasm (Abstract 770.5)

B. K. Mani, Loyola University Chicago

ET-t-induced Vascular Contraction is Mediated by RhoA/Rho-kinase Pathway Activation Via 0-GlcNAcylation

V. Lima, Medical College of Georgia

Antiarrhythmic Drug-induced Modulation of Kv Channel Surface Density in Cardiomyocytes (Abstract 961.6)

S.M. Schumacher, University of Michigan

Aging is Associated with Resistance to the Cardiovascular Actions of Leptin for Baroreflex Modulation (Abstract 624.8)

A.C. Arnold, Wake Forest University School of Medicine

The Role of Autophagy in Angiogenesis in Aortic Endothelial Cells (Abstract 252.1)

J. Du, Medical College of Wisconsin

Monoamine Oxidase B Gene Deletion Prevents Cardiac Pump Dysfunction in Mice with Pressure Overload (Abstract 573.7)

N. Kaludercic, Johns Hopkins Medical Institutions

Paul Vanhoutte Award Lecture in Cardiovascular Pharmacology: Arachidonic Acid Metabolites as Endothelium-Derived Hyperpolarizing Factors
4:30 pm – 5:30 pm

Speaker: W.B. Campbell, Medical College of Wisconsin
Anaheim Convention Center, Room 210AB

Division for Pharmacology Education Symposium: Making Medical Pharmacology More Clinically Relevant
Anaheim Convention Center, Room 210C
Organizers: K. K. McMahon, Texas Tech Paul L. Foster School of Medicine and A. Wilson-Delfosse, Case Western Reserve University

Making pharmacology more clinically relevant: An overview
D. Quest, Texas Tech University Health Sciences Center
Approach to teaching pharmacology at Paul L. Foster School of Medicine
K. McMahon, Texas Tech Paul L. Foster School of Medicine
Approach to teaching pharmacology at Case Western Reserve
A. Wilson-Delfosse, Case Western Reserve University School of Medicine
Approach to teaching pharmacology at Southern Illinois School of Medicine
G. Dunaway, Southern Illinois School of Medicine

Division for Behavioral Pharmacology Symposium: Stress, Cognitive Function, and Monoaminergic Mechanisms in Psychiatric Disorders
Anaheim Convention Center, Room 210D
Chairs: D. Morilak, University of Texas Health Science Center at San Antonio and A. Frazer, University of Texas Health Science Center at San Antonio

Catecholaminergic Regulation of Impulse Control
J. D. Jentsch, University of California, Los Angeles
Role of the Medial Prefrontal Cortex in Stress Resilience and Vulnerability
S. Maier, University of Colorado
Molecular Mechanisms Underlying Stress-induced Prefrontal Cortical Dysfunction: Relevance to Mental Illness
R. Shansky, Yale University School of Medicine
Monoaminergic Mechanisms Linking Stress, Cognitive Dysfunction and its Treatment in Depression and Anxiety Disorders
D. Morilak, University of Texas Health Science Center

Tuesday, April 27 Morning Sessions
8:00 am – 8:50 am

Ray Fuller Lecture in the Neurosciences: Transcriptional and Epigenetic Mechanisms of Drug Addiction

Introduction: Brian M. Cox
Speaker: E.J. Nestler, Mt. Sinai School of Medicine
Anaheim Convention Center, Room 209

Followed at 9:30 am by the Ray Fuller Symposium: Epigenetic Mechanisms of Learning and Memory

Tuesday, April 27 Morning Sessions
9:30 am – 12:00 noon (unless otherwise noted)

High-Resolution Structural Approaches to Understanding GPCR Activation
Anaheim Convention Center, Room 208
Sponsored by the Division for Molecular Pharmacology and the American Society for Biochemistry & Molecular Biology
Chair: B. Kobilka, Stanford University

The Structure of a Constitutively Active Mutant of Rhodopsin: Implications for the Activation of GPCRs
G. Schertler, MRC Centre Laboratory of Molecular Biology
Long Time-Scale Molecular Dynamics Simulations of G-Protein-Coupled Receptors
R. Dror, D.E. Shaw Research
Allosteric Regulation on Ligand Binding by G-Proteins
R. Sunahara, University of Michigan Medical School
Mechanism of Receptor G-Protein Interaction
H. Hamm, Vanderbilt University

Ray Fuller Symposium: Epigenetic Mechanisms of Learning and Memory
Anaheim Convention Center, Room 209
Chair: E. J. Nestler, Mt. Sinai School of Medicine

DNA and Histone Methylation in Learning and Memory
J.D. Sweatt, University of Alabama, Birmingham
Role of CBP in Long-Term Memory
J. Hoff, University of Pennsylvania
Histone Acetylation in Hippocampus in Long-Term Memory Storage in Health and Disease
L-H. Tsai, MIT
Role of Histone Deacetylases in Memory Formation and Retrieval
M.A. Wood, University of California, Irvine

Integrating Genetics, Genomics and Pharmacology: How the Pharmacogenomics Knowledge Base Catalyzes Pharmacogenomic Research and Translational Medicine

Anaheim Convention Center, Room 210AB

Sponsored by the Divisions for Integrative Systems, Translational & Clinical Pharmacology; Behavioral Pharmacology; Cardiovascular Pharmacology; Drug Discovery, Development & Regulatory Affairs; Drug Metabolism; Pharmacology Education; Molecular Pharmacology; Neuropharmacology; and Toxicology

Chairs: R. Altman, Stanford University and A. Gaedigk, Children's Mercy Hospital & Clinics

The PharmGKB database and the Pharmacogenetics Research Network: What it Can Do for Your Research

R. Altman, Stanford University

Genome-Wide Association Studies in Pharmacogenomics

E. Dolan, University of Chicago

Pharmacogenomics and Membrane Transporters: A Critical Component of Pharmacokinetics

D. Kroetz, University of California, San Francisco

Curation Process at Pharm GKB

L. Gong, Stanford University

Regulating the Regulators: Redox Regulation, Stress Response Proteins and Apoptosis

Anaheim Convention Center, Room 210C

Sponsored by the Divisions for Toxicology and Drug Metabolism

Chair: D. St. Clair, University of Kentucky

Introduction to the Connections Among Cellular Redox Status, Mitochondria and Transcription Response

D. St. Clair, University of Kentucky

p53 Regulates Mitochondrial Function

P.M. Hwang, NIH, National Heart, Lung, and Blood Institute

ROS and p53 Modulators in Cancer-specific Apoptosis

S. Lee, Harvard Medical School

SIRT3 is a Mitochondrial Tumor Suppressor Gene Required for Maintenance of Mitochondrial Integrity and Oxidative Metabolism During Stress

D. Gius, NIH, National Cancer Institute

Mitochondria: Novel Regulators of the Keap1/Nrf-2 Antioxidant Pathway

A. Landar, University of Alabama, Birmingham

The Bi-directional Role of p53 on MnSOD Expression

S. Dhar, University of Kentucky

New Insights About an "Old" Second Messenger, cAMP: Implications for Cardiovascular Pharmacology

Anaheim Convention Center, Room 210D

Sponsored by the Divisions for Cardiovascular Pharmacology and Molecular Pharmacology

Chair: P.A. Insel, University of California, San Diego

Cyclic AMP: New Discoveries, Insights, and Therapeutic Opportunities

P.A. Insel, University of California, San Diego

Plasma Membrane Efflux: An Unappreciated Determinant of cAMP Signaling in Vascular Cells

J. Hulot, Inserm U621

Choreographing the Adenylyl Cyclase Signalasome: Sorting out the Partners and the Steps

R. Feldman, Robarts Research Institute

Epacs: cAMP Effectors that Link to Low Molecular Weight G-Proteins

M. Schmidt, University of Groningen

Tues April 27th Afternoon Sessions

3:00 pm – 5:30 pm

Division for Molecular Pharmacology Postdoctoral Award Finalists

Anaheim Convention Center, Room 208

Chair: Joan Heller Brown, University of California, San Diego

Identification of New G Protein-coupled Receptor Target(s) for the Regulation of Cardiac Fibrosis (Abstract 769.12)

A.N. Snead, University of California, San Diego

Attenuation of Dynamin-dependent Internalization Decreases Antinociception During the Expression of Morphine Tolerance (Abstract 585.4)

T. A. Macey, Washington State University, Vancouver

Heterologous Sensitization of Human AC5: Dependence on heterotrimeric G Proteins (Abstract 962.5)

K.F.K. Ejendal, Purdue University

Keynote Speaker: *RhoA at the Heart of GPCR Signaling*

J. Heller Brown, University of California, San Diego

Epigenetic Regulation: Concepts and Applications in Psychiatric, Neurological and Substance Abuse Disorders

Anaheim Convention Center, Room 209

Sponsored by the Divisions for Behavioral Pharmacology; Drug Discovery, Development & Regulatory Affairs; Integrative Systems, Translational & Clinical Pharmacology; and Neuropharmacology

Chairs: J.E. Barrett, Drexel University College of Medicine and M.A. Nader, Wake Forest University School of Medicine

Epigenetic Principles and Mechanisms Underlying Nervous System Function in Health and Disease States

M.F. Mehler, Albert Einstein College of Medicine

Studies of Schizophrenia Through the Prism of Epigenetics

S. Akbarian, University of Massachusetts Medical Center

Epigenetic Mechanisms in Drug Addiction

S.J. Russo, Mount Sinai School of Medicine

Epigenetic Alterations of miRNA in Neuropathic Pain Reveal Novel Regulatory Mechanisms

S. Ajit, Wyeth Research

Therapeutic Application of Histone Deacetylase Inhibitors for CNS Disorders

G. Sadri-Vakili, Harvard Medical School

Division for Integrative Systems, Translational & Clinical Pharmacology Award Session

Anaheim Convention Center, Room 210AB

Chair: A. Gaedigk, Children's Mercy Hospital & Clinics

Myogenic Constriction Occurs in the Absence of a Detectble Increase in pLC20 in the Presence of Agonist-induce Tone (Abstract 956.1)

A.F. El-Yazbi, University of Calgary

Alternation in β-arrestin Expression in Guinea Pig Ileum and Colon Following Morphine Tolerance (Abstract 583.6)

M. Kang, Virginia Commonwealth University

ACE 2: A Potential Therapeutic Target for Angiotensin II-mediated Insulin Resistance and Glucose Intolerance (Abstract 569.2)

K.H. Chhabra, Louisiana State University Health Sciences Center, New Orleans

Lipopolysaccharide Hyperpolarizes the Guinea Pig Tracheal epithelium by Increasing the Activities of the epithelial Sodium Channel and the Na,K-pump (Abstract 770.4)

M.W. Dodrill, West Virginia University

MitoQ Portects Against Cold Ischemic Injury in Renal Cells and Rat Kidneys (Abstract 1059.8)

T. Mitchell, University of Arkansas for Medical Sciences

Inhibition of Rho Kinase by Y27632 Increases Low Oxygen Tension-induced ATP Release from Human Red Blood Cells (Abstract 974.3)

K. Thuet, St. Louis University

Division for Toxicology Symposium: ABC Transporters, Their Role in Physiology, Toxicology and Cancer

Anaheim Convention Center, Room 210C

Chair: J. Schuetz, St. Jude's Children's Research

Transcriptional Regulation of Hepatobiliary Transporters

C.D. Klaassen, University of Kansas Medical Center

Applying Principles Derived from Laboratory Studies to Multidrug Resistance in Human Cancers

M.M. Gottesman, NIH, National Cancer Institute

Regulation of ABC Transporters at the Blood-Brain Barrier: New Targets for CNS Therapy

B. Bauer, University of Minnesota College of Pharmacy

The Contribution of ABC Transporters to Drug Resistance in a Realistic Mouse Mammary Tumor Model
P. Borst, University of Amsterdam

Division for Drug Discovery, Development & Regulatory Affairs Symposium: Protease-Activated Receptors: New Roles and Regulatory Mechanisms
Anaheim Convention Center, Room 210D
Chair: J. Trejo, University of California, San Diego

Dysregulation of Protease-Activated Receptor Signaling in Cancer
J. Trejo, University of California, San Diego
The Role of PAR1 in Neuronal Function and CNS Disease
S. F. Traynelis, Emory University
ß-arrestins as Mediators of PAR-2 Induced Inflammation
K. DeFea, University of California, Riverside
Proteinase-Mediated Signaling and Inflammation: Tissue Kallikreins (KLKs) and More
M. D. Hollenberg, University of Calgary

Wednesday, April 28 Morning Sessions Only
9:00 am – 12:00 noon

Sphingosine 1-Phosphate Signaling as a Therapeutic Target
Anaheim Convention Center, Room 208
Sponsored by the Divisions for Molecular Pharmacology, Drug Discovery, Development & Regulatory Affairs; Integrative Systems, Translational & Clinical Pharmacology; and Neuropharmacology
Chair: K.R. Lynch, University of Virginia

Sphingosine Kinases as Targets
K.R. Lynch, University of Virginia
Targeting S1P Signaling in Autoimmune Disease
V. Brinkmann, Novartis Pharma AG
Anti-S1P Antibodies as Potential Treatmenst for Cancer and Age-related Macular Degeneration
R.A. Sabbadini, Lpath Therapeutics, Inc
S1P and Pain
S.P. Welch, Virginia Commonwealth University

Protein-Protein Interactions and Modulation of Drug Metabolism
Anaheim Convention Center, Room 210AB
Sponsored by the Divisions for Drug Metabolism; Integrative Systems, Translational & Clinical Pharmacology; and Toxicology
Chair: T. Tracy, University of Minnesota College of Pharmacy

Introduction
T. Tracy, University of Minnesota
Effect of P450-P450 Complex Formation on Monooxygenase Function

W. L. Backes, Louisiana State University School of Medicine

Microsomal Monooxygenase as a Multienzyme System: Exploring Protein-Protein Interactions of Cytrochromes P450

D. Davydov, University of California, San Diego

UGT-CYP Protein Interactions: Role of Conjugating Enzymes in Modulating Oxidative Enzyme Activity

Y. Ishii, Kyushu University

Lack of Substrate Inhibition in a Monomeric Form of Human Cytosolic Sult2A1 (Abstract 967.5)

I.T. Cook, University of Alabama at Birmingham

Role of Mitochondria in Drug Hepatotoxicity: A Tale of Stress

Anaheim Convention Center, Room 210C

Sponsored by the Divisions for Toxicology; Drug Metabolism; and Integrative Systems, Translational & Clinical Pharmacology

Chair: N. Kaplowitz, University of Southern California

Compartmentation of Oxidative Stress Defense in Mitochondria: Implications of Drug Toxicity

D. Jones, Emory University School of Medicine

Mitochondrial Permeability Transition - Target and Executioner in DILI

J. Le Masters, Medical University of South Carolina

Interplay of Signal Transduction and Mitochondria in the Acetaminophen Model

D. Han, University of Southern California

Threshold for Mitochondrial Participation in Idiosyncratic DILI

U. Boelsterli, University of Connecticut