ASPET 2009 Program

Saturday, April 18
12:30 - 3:00 PM

2009 Teaching Institute: Threading New Concepts into Existing Curriculum: Experiences with Genomics
Chair: George A. Dunaway
Convention Center, Room 207

Curricular threads in medical school curricula.

Phillip R. Musich, East Tennessee State University
Experience with introduction of genomics into medical biochemistry.

Phillip R. Musich, East Tennessee State University
Experience with introduction of genomics into medical pharmacology.

George A. Dunaway, Southern Illinois University
Development and use of clinical scenarios to introduce pharmacogenomics.

George A. Dunaway, Southern Illinois University
Resources for learning and curricular integration of genomics.

Phillip R. Musich, East Tennessee State University

Diversity Committee Symposium: ASPET Travel Fellows: Lessons Learned Along the Way: Career Choices from Past Travel Awardees
Chairs: Gonzalo E. Torres and Dolores Shockley
Convention Center, Room 208

The goal of this symposium is to present and discuss career options taken by past fellows and travel awardees. The stories are of scientists who made the decision to either stay in academia or leave academic research and forged paths to alternative career options related to science. These stories will focus on how these scientists got to where they are today and what they have learned along the way. After the talks, there will be an open session with questions and discussion from the audience.

Career options in science.

Gonzalo E. Torres, University of Pittsburgh
A career path outside the bench as a medical science liaison.

Shola Adewale, Eisia Inc.
Scientific regulatory and policy writing in the government: Desktop, an alternative to benchtop.

Michelle D. Walker, Drug Enforcement Administration
Career opportunities in biomedical research: The academic perspective.

Chantal A. Rivera, Louisiana State University Health Sciences Center
Closing remarks

Dolores C. Shockley, Meharry Medical College
Saturday, April 18
3:15 - 5:45 PM

Graduate Student-Postdoctoral Colloquium: Mentoring: It Goes Both Ways
Chair: Sarah H. Lindsey
Convention Center, Room 209

The success of graduate or post-graduate research experiences depends largely on a positive relationship between the trainee and mentor. This colloquium, based on a program developed by Chris Pfund at the Wisconsin Program for Scientific Teaching, is focused on helping participants improve the efficiency and effectiveness of their current mentor/mentee relationship and learn how to become effective research mentors themselves. Discussions will focus on different mentoring styles and strategies for developing confidence and independence, establishing expectations and improving communication skills.

Entering mentoring: Learning to become an effective research mentor.

Chris E. Pfund, University of Wisconsin Program for Scientific Teaching
Session 1: Learning to communicate
Session 2: Goals and expectations
Session 3: The elements of good mentoring
Pulling it all together: Pharmacologists helping pharmacologists.

Stephanie Watts, Michigan State University

Sunday, April 19
8:50 - 9:20 AM

Ray Fuller Lecture in the Neurosciences
Convention Center, Room 206
Introduction. Joe A. Beavo

Henry A. Lester, Caltech
Changes in the Brain During Chronic Exposure to Nicotine

Sunday, April 19
9:30 - 12:00 PM

RAY FULLER SYMPOSIUM: Mechanisms of Nicotine Addiction
Chair: Henry A. Lester
Convention Center, Room 206
Preceded by the Ray Fuller Lecture in the Neurosciences

Genome-wide association scans and candidate genes in nicotine addiction.
Laura S. Bierut, Washington University

Signal transduction pathways in nicotine addiction.
Darlene Brunzell, Virginia Commonwealth University

The Ubiquitin-proteasome pathway in nicotine addiction.
Mariella De Biasi, Baylor College of Medicine

Imaging studies of neural substrates in nicotine addiction.
Edythe D. London, UCLA
Workshop: Integrating Basic Sciences and Patient Care in a Core Clerkship Curriculum
(Sponsored by the Divisions for Pharmacology Education; Cardiovascular Pharmacology; and Systems & Integrative Pharmacology)
Chair: Amy Wilson-Delfosse
Convention Center, Room 208

Integrating basic and clinical sciences in the post-gateway era.
Frazier Stevenson, UC, Davis
Building integration in a new medical school: University of Central Florida College of Medicine.
Lynn M. Crespo, University of Central Florida
Integrating basic sciences and patient care in Western Reserve2.
Amy L. Wilson-Delfosse, Case Western Reserve University
Design of an integrative case: Small Group Discussions
Discussants: Amy Wilson-Delfosse, Case Western Reserve University
James P. Bruzik, Case Western Reserve University
Lynn M. Crespo, University of Central Florida
Frazier Stevenson, UC, Davis
Small group presentations and panel discussion.

AMPK as a Novel Therapeutic Approach for the Treatment of Metabolic Disorders and Heart Disease
(Sponsored by the Division for Cardiovascular Pharmacology and ASBMB)
Chairs: Kenneth B. Walsh and Benoit Viollet
Convention Center, Room 207

Targeting AMPK as a novel therapeutic approach for the treatment of metabolic disorders.
Benoit Viollet, University of Paris
Cardioprotective effects of adiponectin are mediated in part through AMPK.
Kenneth Walsh, Boston University School of Medicine
AMPK activation as a strategy for protecting vascular endothelial function.
Ming-Hui Zou, University of Oklahoma Health Science Center
AMPK activation projects the failing diabetic heart.
David J. Lefer, Emory University
Adiponectin induces vascular smooth muscle cell differentiation via AMPK (Abstract 577.11)
M. Ding, R.J. Wagner, K.M. Fetalvero, Z. Kasza, R.J. Powell, K.A. Martin, Dartmouth College
Metabolic and structural remodeling of heart-derived H9c2 cells by AMPK activation (Abstract 577.10)
J.M. Dai, R. Saeedi, V. Sharma, V. Saran, H. Parsons, J. Dyck, M. Allard, University of British Columbia & University of Alberta

Advances in Down Syndrome Neuroscience Research: Implications for Alzheimer's Disease, Dementias and Other Cognitive Disorders
(Sponsored by the Divisions for Neuropharmacology; Behavioral Pharmacology; Drug Discovery, Drug Development, & Regulatory Affairs; Molecular Pharmacology; and Systems & Integrative Pharmacology)
Chairs: Tim A. Esbenshade and Alberto Costa
Convention Center, Room 210

Down syndrome: A genetic disorder in biobehavioral perspective.
Lynn Nadel, University of Arizona
Human chromosome 21/Down syndrome gene function: Implications for cognitive development and Alzheimer's disease.
Kathleen Gardiner, University of Colorado Denver in Aurora
Structural and functional changes at the synapse associated with Down syndrome and Alzheimer's disease

Craig C. Garner, Stanford University
Evidence for NMDA receptor dysfunction in Down Syndrome: implications for a potential pharmacotherapy

Alberto Costa, University of Colorado Health Sciences Center

A Renaissance in Marine Pharmacology: Preclinical Curiosity to Clinical Reality
(Sponsored by the Divisions for Drug Discovery, Drug Development & Regulatory Affairs and Systems & Integrative Pharmacology)
Chairs: Keith B. Glaser and Alejandro M. Mayer
Convention Center, Room 209

Marine-sourced secondary metabolites as leads to drugs.

David J. Newman, NCI, Frederick
A fresh pipeline of marine natural product leads for the control of neuroinflammation and depression

Mark M. Hamann, Triton Biopharma
Conus peptides: How snail compounds can win the race.

J. Michael McIntosh, University of Utah

Guy T. Carter, Wyeth Research
The pseudopterosins – Investigation into their mode of action.

Claudia E. Moya, University of California, Santa Barbara
The global marine pharmacology pipeline: Compounds with anti-infective, immune, anti-inflammatory and CNS activity.

Alejandro M. Mayer, Midwestern University

Sunday, April 19
2:00 - 2:50 PM

IUPHAR Lecture
Convention Center, Room 206
Introduction: S.J. Enna

Seven Transmembrane Receptors
Robert J. Lefkowitz, Duke University

Sunday, April 19
3:00 - 5:30 PM

Metabolomics in the Search for Biomarkers for Human Diseases
(Sponsored by the Divisions for Clinical Pharmacology, Pharmacogenomics & Translational Medicine; Drug Metabolism; Molecular Pharmacology; and ASBMB)
Chairs: Frank J. Gonzalez and Richard B. Kim
Convention Center, Room 207

Metabolite profiling.

Oliver Fiehn, University of California, Davis
Metabolomics identifies perturbations in human disorders of propionate metabolism.
William R. Wikoff, The Scripps Research Institute
Metabolomics in biomarker discovery: Future uses for cancer prevention.

Young Kim, NCI, NIH
Pharmacometabolomics

Andrew D. Patterson, NCI, NIH
LC-MS-based metabolomics of acetaminophen-induced acute toxicity (Abstract 760.4)

C. Chen, K.W. Krausz, Y.M. Shah, J.R. Idle, F.J. Gonzalez, University of Minnesota, St. Paul and NCI, NIH, and Charles University, Czech Republic

The Serotonin Transporter: Not Just for Neurons Anymore
(Sponsored by the Divisions for Cardiovascular Pharmacology; Clinical Pharmacology
Chair: A. Elizabeth Linder and Stephanie W. Watts
Convention Center, Room 206

Plasma serotonin levels and the platelet serotonin transporter.

Fusun Kilic, University of Arkansas for Medical Sciences
5-HT, 5-HT receptors and SERT in the pulmonary circulation.

Barry L. Fanburg, Tufts University School of Medicine
5-HT uptake in the peripheral vasculature: Focus in veins.

A. Elizabeth Linder, Michigan State University
A role for 5-HT in the immune response.

John Gordon, University of Birmingham, United Kingdom
Beyond Prozac: generation and characterization of SSRI insensitive transgenic mice (Abstract 942.7)

Chronic serotonin infusion leads to prolonged fall in blood pressure in the spontaneously hypertensive rat (Abstract 932.2)

R.P. Davis, T. Szasz, E. Linder, R. Burnett, S.W. Watts, Michigan State University

Generating Proteomic Diversity in Xenobiotic Biotransformation with Alternative RNA Splicing
(Sponsored by the Divisions for Toxicology; Drug Metabolism; and Molecular Pharmacology
Chair: Curt J. Omiecinski
Convention Center, Room 208

Genome wide analysis and heritability of alternatively spliced transcripts in humans.

Jacek Majewski, McGill University
Small molecule approaches for dissecting the structure and function of the RNA spliceosome.

Melissa S. Jurica, UC, Santa Cruz
Correcting aberrant splicing patterns in human disease genes with cell penetrating morpholino oligonucleotides.

Patrick L. Iverson, AVI Biopharma, Inc.
Aberrant splicing of human P450 genes as a modifier of drug and chemotherapeutic metabolism.

Ulrich M. Zanger, Dr. Margarete Fischer-Bosch Inst of Clinical Pharmacology, Stuttgart
Alternative splicing of the human xenoreceptor, CAR, results in distinct receptor subtypes with unique biological activities.

Curt J. Omiecinski, Penn State University

Emerging Approaches to Treatment of Alzheimer’s Disease
(Sponsored by the Divisions for Behavioral Pharmacology; Drug Discovery, Drug Development & Regulatory Affairs; Neuropharmacology; and Systems & Integrative Pharmacology
Chairs: Randy Strong and Greg A. Gerhardt
Convention Center, Room 210
Current status of treatment of Alzheimer’s and related neurodegenerative diseases.

Randy Strong and Greg A. Gerhardt, University of Texas Health Science Center Barshop Institute for Longevity & Aging
Studies & University of Kentucky
Understanding angiogenic dysregulation in Alzheimer’s disease: opening the door for new therapeutic strategies in AD.

Gregory A. Jicha, University of Kentucky

Veronica Galvan, The Buck Institute for Aging Research
The effect of anti-Aß interventions on tau pathology.

Salvatore Oddo, University of Texas Health Science Center, San Antonio
Steroid hormone receptor signaling and Alzheimer’s disease.

Meharvan Singh, University of North Texas Health Science Center, Fort Worth

Pharmacology Education Division Workshop: Using Human Patient Simulators to Enhance Pharmacology Education Throughout the Undergraduate Medical Curriculum
Chair: John L. Szarek

Simulation has been a mainstay in graduate medical education, but only recently has it become more common in undergraduate medical education. This workshop will help pharmacology faculty learn how simulation using patient simulators can be used as part of their repertoire of learning modalities for medical students in the first two years and beyond. The workshop will include didactic and hands-on activities on simulation modalities, the rationale for the use of simulation, simulation as a complement to the basic science curriculum, and scenario construction and debriefing.

Hands on experience using a human patient simulator.
Facilitators: John L. Szarek, AT Still University and Robert J. Theobald, Jr., AT Still University, Kirksville, MO

The rationale for the use of simulation as a complement to the basic science curriculum.
John L. Szarek, AT Still University
Scenario construction and debriefing.
Susan Pasquale, University of Massachusetts Medical School
Adoption and implementation strategies (and coping strategies for dealing with barriers) that could be used to support using simulation for teaching pharmacology throughout the undergraduate curriculum.
William B. Jeffries, Creighton University School of Medicine

Sunday, April 19
3:30 - 6:30 PM

Membrane Proteins as Drug Targets
(Organized by ASBMB and co-sponsored by ASPET)
Chair: W.A. Henderson
Convention Center, Room 352

Crystal structure of SGLT reveals mechanisms of Na+/sugar co-transport (Abstract 92.1)
J. Abramson, UCLA

Filling the gap: a streamlined approach for monitoring expression and purification of membrane proteins with a periplasmic C-terminus via GFP fluorescence (Abstract 698.4)
J.M. Hsieh, G.C. Mercado, H-Q. Bui, J. Abramson, UCLA

Pharmacological probes for AMPA receptors (Abstract 92.2)
Monday, April 20
8:30 - 9:20 AM

**JULIUS AXELROD LECTURE**
Convention Center, Room 206
Introduction: Susan G. Amara

Miscarriage at the Synapse: Brain Disorder-associated Deficits in Membrane Transport
Randy D. Blakely, Vanderbilt University

Monday, April 20
9:30 - 12:00 PM

**JULIUS AXELROD SYMPOSIUM:** The Neurotransmitter End Game: Structure, Function and Regulation of Neurotransmitter Transport
Chairs: Randy D. Blakely and Maureen K. Hahn
Convention Center, Room 206
Preceded by the Julius Axelrod Lecture

The end of cannabinoids as we know it: Molecular control of anandamide inactivation.
Eric L. Barker, Purdue School of Pharmacy
Cocaine (target) trafficking: Dopamine transporters.
Haley E. Melikian, University of Massachusetts Medical School
Hugging Prozac: How serotonin transporters recognize antidepressants.
L. Keith Henry, University of North Dakota School of Medicine and Health Sciences
Reading the labels: How phosphorylation modifies serotonin transport.
Sammanda Ramamoorthy, Medical University of South Carolina
Nothing sweeter than DAT: How insulin controls the dopamine transporter.
Aurelio Galli, Vanderbilt University

**Regenerative Pharmacology: The New Pharmacology**
Sponsored by the Divisions for Pharmacology Education and Systems & Integrative Pharmacology; Drug Discovery, Drug Development & Regulatory Affairs)
Chairs: George J. Christ and Jack W. Strandhoy
Convention Center, Room 209

Introduction: State of regenerative pharmacology.
George J. Christ, Wake Forest University Baptist Medical Center
Drug delivery technologies for regenerative pharmacology.
Grace Lim, Kyungpook National University, Korea
Bio-inductive scaffolds and regenerative nanomaterials for tissue engineering.

Mark A. Van Dyke, Wake Forest University Baptist Medical Center
Tubular cardiovascular engineering: Developmental pharmacology of muscle, vessel and valves.

Richard L. Goodwin, University of South Carolina
Regeneration of a complete urinary bladder with an autologous neo-bladder replacement construct - structural, functional and pharmacological characterization.

Tim Bertram, Tengion, Inc.

MicroRNAs as Biological Effectors and as Pharmacological Targets in the Cardiovascular System
(Sponsored by the Divisions for Molecular Pharmacology; Clinical Pharmacology, Pharmacogenomics & Translational Medicine; Cardiovascular Pharmacology; Drug Discovery, Drug Development & Regulatory Affairs; Systems & Integrative Pharmacology; and ASBMB)
Chair: J. David Port
Convention Center, Room 207

Role of miR-208 in regulating the expression of myosin heavy chain genes.
Eva van Rooij, University of Texas Southwestern Medical Center
Correlation between miRNA and mRNA expression in heart failure.
J. David Port, University of Colorado Health Science Center
miRNA regulation of angiotensin receptor expression.

Terry Elton, The Ohio State University
miR and mRNA profiles in clinical and experimental heart disease

Gerald W. Dorn II, Washington University

The Role of Nuclear Receptors in Lipid Homeostasis
(Sponsored by the Divisions for Toxicology; Clinical Pharmacology, Pharmacogenomics & Translational Medicine; Cardiovascular Pharmacology; and Drug Metabolism)
Chair: Jean-Marc Pascussi and Curt J. Omiecinski
Convention Center, Room 208

Nuclear receptor regulation of bile acid homeostasis.
John Chiang, Northeastern Ohio Universities College of Medicine
Farnesoid X receptor modulates renal lipid metabolism, fibrosis, and diabetic nephropathy.

Moshe Levi, University of Colorado Health Sciences Center
The nuclear receptor CAR and its role in energy homeostasis.

Jodi Maglich, Pfizer Global R & D
Crosstalk of CAR and PXR activation as an effector of lipid metabolism and glucose homeostasis.

Jean-Marc Pascussi, INSERM U632, Montpellier, France

The Role of Insulin and Leptin in Drug Addiction and Mood
(Sponsored by the Divisions for Behavioral Pharmacology; Neuropharmacology; and Systems & Integrative Pharmacology)
Chairs: Charles P. France and Lynette C. Daws
Convention Center, Room 210

Insulin, leptin, and food reward.
Dianne P. Figlewicz Lattemann, University of Washington Health Science Center
The role of leptin signaling in emotional behavior.

Xin-Yun Lu, University of Texas Health Science Center at San Antonio
DAT depends on what you eat: Neurochemical and behavioral effects of amphetamine are dependent on insulin status.

Lynette C. Daws, University of Texas Health Science Center at San Antonio
The role of leptin on human body weight regulation, endocrine function, and neurobehavioral outcomes.

Gilberto Paz-Filho, University of Miami School of Medicine

Monday, April 20
9:55 - 12:30 PM

Tyrosine Kinases in Cancer
(Organized by ASBMB and co-sponsored by ASPET)
Chair: M.A. Lemmon
Convention Center, Room 357

Tyrosine kinase mechanisms and pathways (Abstract 198.1)

P. Cole, Johns Hopkins University
Significance of activation loop phosphorylation in protein kinase A studied by H/D exchange and X-ray crystallography (Abstract 709.9)

Negative cooperativity in the EGF receptor (Abstract 198.2)

L.J. Pike, Washington University School of Medicine
Rotation/twist model for the EGF/Erb receptor family activation (Abstract 884.3)

I.N. Maruyama, Okinawa Institute of Science and Technology
Erbb/HER2/Neu resembles an autoinhibited invertebrate EGF receptor (Abstract 884.3)

D. Alvarado, D.E. Klein, M.A. Lemmon, University of Pennsylvania School of Medicine
Structural aspects of extracellular ECFR signaling (Abstract 198.3)

Monday, April 20
2:30 - 5:30 PM

Cardiovascular Pharmacology Division Junior Scientists’ Competition and Benedict R. Lucchesi Distinguished Award Lecture in Cardiac Pharmacology

Chairs: Brandon T. Larsen, Erin R. Harleton, and Biny K. Joseph
Convention Center, Room 210

Introduction and recognition of applicants

Brandon T. Larsen, Medical College of Wisconsin
Graduate Student Presentations
Antiarrhythmic drug induced internalization of the atrial specific K⁺ channel, Kv1.5

S.M. Schumacher, University of Michigan (Advisor: J.R. Martens)
Cardiac myocyte-specific caveolin-3 overexpression modulates ANP production and attenuates cardiac hypertrophy in vivo

Y. Horikawa, UCSD (Advisor: D.M. Roth)
Thromboxane synthase inhibition blunts the development of pulmonary hypertension and vascular remodeling in hypoxic neonatal piglets

D.K. Hirenallur-S., University of Arkansas for Medical Science (Advisor: N.J. Rusch)
Insulin inhibits low pO2-induced ATP release from human erythrocytes (RBCs): Implications for vascular control in pre-diabetes

M. Hanson, St. Louis University (Advisor: R. Sprague)
Postdoctoral Scientist Presentations
Intracellular calcium silences L-type CA2+ channels in rat small mesenteric veins

K. Thakali, University of Arkansas for Medical Science (Mentor: N.J. Rusch)
GPR30 activation in salt-sensitive mRen2.Lewis females induces beneficial effects independent of alterations in blood pressure

S.H. Lindsey, Wake Forest University School of Medicine (Mentor: M.C. Chappell)
Graduate Student Runner-up Posters
Posters will be displayed by the three primary runners-up selected on Sunday, April 19 at the Graduate Student-Postdoc Best Abstract Competition

Postdoctoral Scientist Runner-up Poster
Engineered HGF/SF variants promote angiogenesis
   S. Roy, Harvard-MIT Division of Health Science and Technology (Mentor: S. Sengupta)

Benedict R. Lucchesi Distinguished Award Lecture in Cardiac Pharmacology: Regulation of cardiac hypertrophy and heart failure through Gq, calcium & CaM kinase II
   Joan Heller Brown, UCSD
   4:30 - 5:30 pm

Monday, April 20
3:00 - 5:30 PM

Behavioral Pharmacology Division Symposium: Pharmacological Imaging in Behavioral Pharmacology and Drug Development
Chairs: Leonard L. Howell and Mike A. Nader
Convention Center, Room 207

Pharmacological MRI in awake rats: application for drug discovery and development.
   Chih-Liang Chin, Abbott Laboratories
Pharmacological MRI studies of the dopaminergic system in rhesus monkeys.
   Zhiming Zhang, University of Kentucky
Functional neuroimaging and cocaine medication development in nonhuman primates.
   Leonard L. Howell, Emory University
PET studies of stimulant drugs in humans.
   Joanna S. Fowler, Brookhaven National Laboratories

Drug Discovery, Development and Regulatory Affairs Division Symposium: New Insights into Pain Signaling Pathways
Chairs: Anindya Bhattacharya and Mike F. Jarvis
Convention Center, Room 208

Cannabinoid receptor signaling.
   Kenneth Mackie, Indiana University;
Nav1.7 sodium channels: role in pain mechanisms and targeting by neurotoxins.
   Theodore R. Cummins, Indiana University-Purdue University School of Medicine;
Neuro-glial interactions in pain states: opportunities for novel drug targets.
   Joyce A. Deleo, Dartmouth Medical School;
Calcitonin gene-related peptide (CGRP) receptor antagonists for migraine - challenges and promises.
   Christopher Salvatore, Merck Research Laboratories
GTP cyclohydrolase, tetrahydrobiopterin and pain.
   Michael L. Costigan, Harvard Medical School

Molecular Pharmacology Division Postdoctoral Award Finalists
Chair: Michel Bouvier
Convention Center, Room 206

Protein kinase A and Epac are pro- and anti-apoptotic mediators, respectively, in chronic lymphocytic leukemia
   F. Murray, UCSD (Advisor: P. Insel)
   Regulation of AGS3 and G_{ia}1 interaction in living cells.
S.S. Oner, Medical University of South Carolina (Advisor: S. Lanier)
PKCα regulation of TRPM2 channel activation of Ca^{2+} entry in endothelial cells.

C. Hecquet, University of Illinois at Chicago (Advisor: A. Malik)
Keynote Lecture: Ligand-biased signaling: Exploring the molecular determinants of the multiple dimensions of drug efficacy

Michel M. Bouvier, University of Montréal

**Toxicology Division Symposium: The Nrf2-Keap1 System: An Emerging Key Regulator in the Defense Against Oxidative Stress, Chemical Toxicity and Disease**
Chair: Qiang Ma and Masayuki Yamamoto
Convention Center, Room 209

Nrf2: Key to defense against oxidants, electrophiles, radiation and inflammation.
Paul Talalay, Johns Hopkins School of Medicine
Environmental lung disease and the role of Nrf2.
Steven R. Kleeberger, NIEHS, NIH, Research Triangle Park, NC
Defense against toxic metals and hyperglycemia by Nrf2.
Qiang Ma, NIOSH, CDC
Nrf1 and Nrf2 interplay in regulation of stress response.
Jefferson Y. Chan, University of California-Irvine, School of Medicine
Keynote Address: Molecular basis for the Nrf2-Keap1 system function.
Masayuki Yamamoto, Tohoku University School of Medicine, Sendai, Japan

**Tuesday, April 21**
**8:00 - 10:00 AM**

ASPET’s Women in Pharmacology Committee and APS’ Women in Physiology Committee Workshop: Pathways to Leadership: Developing Critical Skills
Chairs: Andria Lee del Tredici, Holly Brevig, Barbara Alexander
Convention Center, Room 346

Opportunity knocks...(Should I answer?)
Kimberly E. Vanover, Intra-Cellular Therapeutics, Inc.
Surviving hurricane Katrina and embracing new challenges.
Patricia Molina, LSU Health Science Center, New Orleans
Pleasures and perils of joint appointments
Alice M. Young, Texas Tech University Health Science Center
The long and winding road of career development
Lois D. Lehman-McKeeman, Bristol-Myers Squibb

**Tuesday, April 21**
**8:30 - 9:20 AM**

TORALD SOLLMANN LECTURE
Convention Center, Room 206
Introduction: Joe A. Beavo

**Mentors, Methods and Manuscripts**
S. J. Enna, University of Kansas Medical Center
Tuesday, April 21
9:30 - 12:00 PM

All Presidents' Symposium on Integrative Pharmacology
(Sponsored by all ASPET Divisions)
Chair: Dennis C. Marshall and Bill W. Fleming
Convention Center, Room 206

From integrative to molecular pharmacology and back.
  **Elaine Sanders-Bush**, *Vanderbilt University Medical Center*
  Integrative pharmacology: The validation of biochemical and molecular findings.
  **Sam J. Enna**, *University of Kansas Medical Center*
  Experimental basis of integrative pharmacology.
  **David B. Bylund**, *University of Nebraska Medical Center*
  Integrative pharmacological models in understanding neuroplasticity.
  **James E. Barrett**, *Drexel University College of Medicine*
  Integrative pharmacology: Oxidative stress, gender and aging.
  **Sue P. Duckles**, *University of California-Irvine, College of Medicine*

Exposure to Environmental Agent Alters Epigenetic Homeostasis
(Sponsored by the Divisions for Toxicology and Drug Metabolism)
Chairs: Max Costa and Mary E. Vore
Convention Center, Room 208

Chromatin remodeling by chromium.
  **Alvaro Puga**, *University of Cincinnati*
  Differentiation of ES cells induced by epigenetic regulation of Pax6.
  **Luo Lu**, *UCLA*
  Epigenetic effects of nickel exposure.
  **Max Costa**, *New York University School of Medicine*
  Identifying genome-wide DNA methylation patterns and histone modifications in response to benzo[a]pyrene exposure.
  **David I. Rodenhiser**, *University of Western Ontario*
  Programming ontogenic expression of P450 genes in mouse liver development by epigenetic mechanisms.
  **Xiao-Boo Zhang**, *University of Kansas Medical Center*

Discovery and Development of Oligonucleotide Therapeutics
(Sponsored by the Divisions for Drug Discovery, Drug Development & Regulatory Affairs and Molecular Pharmacology)
Chair: Tom J. Parry
Convention Center, Room 207

Oligonucleotide therapeutics: Past, present and future.
  **James D. Thompson**, *Quark Pharmaceuticals, Inc.*
  Special issues in the discovery and development of RNAi therapeutics.
  **Pamela A. Pavco**, *RXi Pharmaceuticals, Inc., Worcester, MA*
  Progress in developing siRNAs as drugs. **Christina Gamba-Vitalo**, *Alnylam Pharmaceuticals*
  Pharmacokinetics of oligonucleotide therapeutics.
  **Patrick L. Iversen**, *AVI BioPharma, Inc., Corvallis, OR*
Targeting Drug Metabolizing Enzymes for Effective Chemopreventive Approaches
(Sponsored by the Divisions for Drug Metabolism; Clinical Pharmacology, Pharmacogenomics & Translational Medicine; Drug Discovery, Drug Development & Regulatory Affairs; Systems & Integrative Pharmacology; and Toxicology)
Chairs: Hollie Swanson and Emily E. Scott
Convention Center, Room 209

Inhibitors of cytochrome P45017 alpha as agents for prostate cancer therapy.
  **Vincent C. Njar**, University of Maryland School of Medicine
Chemoprevention of PAH-dependent transplacental cancer in a mouse model: Role of Cyp1b1
  **David Williams**, Oregon State University
Targeting Nrf2, phase I and phase II metabolizing enzymes for effective chemoprevention strategies.
  **Ah-Ng Tony Kong**, Rutgers University School of Pharmacy
Cytochrome P450 prodrugs in cancer therapy - Targeting tumor cells and tumor-associated endothelial cells.
  **David J. Waxman**, Boston University

Receptor Signaling and Regulation in Neuropsychiatric Research
(Sponsored by the Divisions for Neuropharmacology; Behavioral Pharmacology; Molecular Pharmacology; and ASBMB)
Chair: Laura M. Bohn
Convention Center, Room 210

Fine tuning receptor responsiveness.
  **Marc G. Caron**, Duke University Medical Center
When two receptors become three.
  **Lakshmi Devi**, Mount Sinai School of Medicine
Serotonin receptor signaling via β-arrestins.
  **Laura M. Bohn**, The Scripps Research Institute, Jupiter, FL
Dopamine receptor signaling via β-arrestins.
  **Martin Beaulieu**, University of Laval
Characterization of sorting nexin-25, a D1 and D2 dopamine receptor interacting protein that regulates receptor expression and trafficking in HEK293 cells.

Tuesday, April 21
2:00 - 5:30 PM

**Drug Metabolism Division** Early Career Achievement Award Lecture and Platform Session: Biotransformation and Drug Transport
Chairs: Thomas Kocarek and Jeffrey Stevens
Convention Center, Room 209

**Early Career Achievement Award Lecture:** Nuclear receptors in drug metabolism: A decade of orphan brother actions.
  **Xie Wen**, University of Pittsburgh

Contribution of the N-glucuronidation pathway to the overall in vitro metabolic clearance of midazolam in humans (Abstract 372.1)
Kinetics and molecular interactions in the rapid disulfation of raloxifene by human sulfotransferase 1E1
A cytochrome P450-derived epoxygenated metabolite of anandamide is a potent, cannabinoid receptor 2 selective agonist (Abstract 749.4)

Functional interactions between CYP1A2 and CYP2B4 require other enzymes to reside in the same phospholipid vesicle (Abstract 749.3)

Association of breast cancer resistance protein/ABCG2 phenotypes and novel promoter and intron 12 single nucleotide polymorphisms (Abstract 372.7)

Characterization of AS(GS)3 and (GS2AsSe) transport by the human multidrug resistance portein 2 (MRP2/ABCC2) (Abstract 747.1)

Role of the Toll-like receptor adaptor protein, TIRAP in the regulation of gene expression of hepatic drug metabolizing enzymes (Abstract 752.1)

Dynamic DNA and histone methylation influences the ontogeny of xenobiotic metabolizing genes during postnatal mouse liver maturation (Abstract 752.4)

Clinical neurobiology of marijuana addiction

K. Bolla, Johns Hopkins University
Transcriptional responses to reinforcing effects of cocaine in the hippocampus and cortex.  
Irina N. Krasnova, NIDA, NIH
Biochemical and molecular consequences of repeated injections of methamphetamine.  
Jean Lud Cadet, NIDA, NIH
Role of microglial activation in drug-induced neurodegeneration.  
Donald M. Kuhn, Wayne State University
Opiates, psychostimulants and adult hippocampal neurogenesis: Insight for addiction.  
Amelia Eisch, University of Texas Southwestern Medical Center

Clinical Pharmacology, Pharmacogenomics and Translational Pharmacology Division Symposium: Translational Clinical Pharmacology Research: Emerging Frontiers

Chair: Richard Kim
Convention Center, Room 207

In vivo probe drugs for assessing drug interaction potential for drugs in development.  
Joseph W. Polli, GlaxoSmithKline
Monitoring the anti-cancer effects and chemosensitizing abilities of novel cyclotides from *Psychotria Leptothyrsa* (Abstract 756.10)

**S.L. Gerlach, U. Göransson, D. Mondal,** Tulane University and Uppsala University, Sweden

Drug uptake transporters and cancer therapy: Bench to bedside.

**Richard H. Ho,** Vanderbilt University

Phosphodiesterase 7 (PDE7) and PDE4/7 inhibitors kill chronic lymphocytic leukemia cells via a cAMP-mitochondrial-dependent pathway (Abstract 761.10)


Delivery of Personalized Medicine: Examples from the University of Western Ontario.

**Richard B. Kim,** University of Western Ontario

**Neuropharmacology Division Postdoctoral Scientist Award Finalists**

Chair: Christian C. Felder
Convention Center, Room 206

**Keynote Address:** Perspectives on the postdoctoral experience in the pharmaceutical industry

**Christian C. Felder,** Eli Lilly and Co.

**Postdoctoral Scientist Award Presentations**

Caveats of proteomics approaches in identifying novel spinophilin interacting proteins (Abstract 581.9)

**A.J. Baucum II, A-J.L. Ham, R.J. Colbran,** Vanderbilt University

Reduced microscopic GABAR sensitivity in rat hippocampal CA1 neurons during benzodiazepine withdrawal is reversed by CaMKII inhibition (Abstract 760.13)

**P. Das, L.J. Greenfield, Jr., E.I. Tietz,** University of Toledo College of Medicine

The cannabinoid CB1 receptor system modulates behavioral phenomena predictive of relapse during extinction of self-administration in mice (Abstract 58837)

**S.J. Ward, M. Rosenberg, L. Dykstra, E. Walker,** Temple University School of Medicine and University of North Carolina at Chapel Hill

Ex vivo and in vivo changes in function of the serotonin 2C receptor due to RNA editing (Abstract 842.2)

**C.E. Canal, E. Watt, E. Sanders-Bush,** Vanderbilt University

Beyond Prozac: generation and characterization of SSRI insensitive transgenic mice (Abstract 942.7)


**Systems and Integrative Pharmacology Division Young Investigator Platform**

Chairs: David B. Bylund and Dennis C. Marshall
Convention Center, Room 208

Studies of tissue regeneration in a rat bladder model in vivo (Abstract 939.1)

**D. Burmeister, T. Aboushwareb, K-E. Andersson, G.J. Christ,** Wake Forest University School of Medicine

Does Caveolin-1 knockout affect matrix metalloproteinase-2 activity and contractile function in the isolated working mouse heart? (Abstract 812.3)

**A.K. Chow, E. Daniel, R. Schultz,** University of Alberta

Molecular evidence for the involvement of calcium sensitization in serotonin-induced cerebrovascular constriction (Abstract 931.1)

**A. El-Uazbi, R.P. Johnson, K. Takeya, E.J. Walsh, M.P. Walsh, W.C. Cole,** University of Calgary

Hypothalamic disinhibition stimulates retrotrapezoid nucleus chemosensitive neurons in vivo (Abstract 946.2)

**M.G. Fortuna, R.L. Stornetta, G.H. West, P.G. Guyenet,** University of Virginia

Distruption of the phosphodiesterase 8B gene alters the hypothalamic-pituitary-adrenal axis
CD38 prevents morphine-tolerance development in mouse distal colon (Abstract 590.6)

G. Ross, W. Dewey, H. Akbarali, Virginia Commonwealth University
COX mediates impaired estrogen-induced relaxation in resistance arteries from postpartum rats (Abstract 932.3)

C.R. Royal and R.E. Whtie, Medical College of Georgia

Tuesday, April 21
3:30 - 6:00 PM

Transmembrane Signaling by GPCR
(Organized by ASBMB and co-sponsored by ASPET)
Chair: Heidi E. Hamm
Convention Center, Room 357

How do GPCRs catalyze G protein activation? (Abstract 330.1)
H.E. Hamm, Vanderbilt University
Structure of an activated G protein-coupled receptor kinase reveals its receptor-docking domain (Abstract 879.10)
J.J.G. Tesmer, P. Singh, C-c. Huang, University of Michigan
Two crystal structures of the beta2-adrenergic receptor (Abstract 330.2)
W.I. Weiss, Stanford University
Biased agonism reveals new G protein-independent AT 1a receptor signals (Abstract 880.2)
R.T. Kendall, M-H. Lee, H.M. El-Shewy, M.G. Janceh, D.K. Luttrell, L.M. Luttrell, Medical University of South Carolina and
Ralph H. Johnson VA Medical Center
GIV is a non-receptor GEF for Gαi with a unique motif that regulates Akt signaling (Abstract 879.1)
M. Garcia-marcos, P. Ghosh, J. Ear, M.G. Farquhar, UCSD
G protein coupled receptor heterodimerization leads to distinct signaling (Abstract 330.3)
L.A. Devi, Mount Sinai School of Medicine

Wednesday, April 22
8:00 - 10:30 AM

Virally-encoded G Protein Coupled Receptors as New Drug Targets?
(Sponsored by the Division for Molecular Pharmacology)
Chairs: Rob Leurs and Sergio Lira
Convention Center, Room 210

Viral mimicry of G protein coupled receptor signaling.
Rob Leurs, Vrije University, The Netherlands
HHV-8 encoded GPCR ORF74 and its role in viral oncogenesis.
J. Silvio Gutkind, NIDCR, NIH
HCMV-encoded GPCR US28 as oncomodulating GPCR
Maritne J. Smit, Vrije University, The Netherlands
Transgenic mouse models to dissect the role of viral GPCRs in pathogenesis.
Sergio A. Lira, Mount Sinai School of Medicine
Functional analysis of HCMV-encoded GPCRs using mutant CMV viruses.
William E. Miller, University of Cincinnati College of Medicine
Therapeutics in Autoimmunity: Treatment Successes and Side Effects as a Tool of Elucidating Pathogenic Pathways
(Sponsored by the Committee on Women in Pharmacology and the Divisions for Clinical Pharmacology, Pharmacogenomics & Translational Medicine; Drug Discovery, Drug Development & Regulatory Affairs; an Systems and Integrative Pharmacology)
Chairs: Carol A. Paronis and Cornelia M. Weyand
Convention Center, Room 207

The making and breaking of the immune system in rheumatoid arthritis - going beyond anti-inflammatory therapy.

Cornelia M. Weyand, Emory University School of Medicine

Bruce N. Cronstein, New York University School of Medicine
Treating autoimmune arthritis through selective tyrosine kinase inhibition.

William H. Robinson, Stanford University
Pharmacogenomics in rheumatoid arthritis - deciphering disease pathways through better understanding of intended and unintended drug effects.

S. Lou Bridges, University of Alabama at Birmingham

Endothelial Progenitor Cells and Cardiovascular Disease - From Bench to Bedside
(Sponsored by the Divisions for Systems & Integrative Pharmacology; Cardiovascular Pharmacology; Drug Discovery, Drug Development & Regulatory Affairs; and Molecular Pharmacology)
Chair: Alex Chen
Convention Center, Room 208

Oxidative stress and EPC dysfunction in salt-sensitive hypertension
Alex F. Chen, University of Pittsburgh
Role of osteopontin in EPC dysfunction in diabetes mellitus.

Timothy O’Brien, National University of Ireland
EPC and vascular injury.

Zvonimir S. Katusic, Mayo Clinic and Foundation
EPC therapies for cardiovascular disease – current perspective.

Douglas W. Losordo, Northwestern University

Gases as Neuromodulators in Sensing: From Nitric Oxide to Hydrogen Sulfide
(Sponsored by the Divisions for Neuropharmacology; Cardiovascular Pharmacology; Molecular Pharmacology; Systems & Integrative Pharmacology; and Toxicology)
Chair: Atsufumi Kawabata and Philip K. Moore
Convention Center, Room 206

Neuronal roles for gasotransmitters.

Phillip K. Moore, King’s College London
Roles for nitric oxide in itching and the development of herpetic and postherpetic neuralgia.

Yasushi Kuraishi, University of Toyama
Hydrogen sulfide as a neuromodulator in the colon.

Michael Schemann, Technical University Munich
Hydrogen sulfide and pain

Atsufumi Kawabata, Kinki University of Pharmacy, Higashi-Osaka
Exposure to nitrous oxide increases levels of nitric oxide metabolites and ß-endorphin in ventricular cisternally-perfused rats. (Abstract 742.3)

L.M. Zelinski, Y. Ohgami, R.M. Quock, Washington State University
Nitroxyll (HNO) exerts antioxidant actions in carotid arteries of mice (Abstract 936.5)
Hepatic sterol metabolism: Regulation of human hepatic hydroxysteroid sulfotransferase (SULT2A1) by nuclear receptor networks.

Melissa Runge-Morris, Wayne State University
Genetic polymorphisms in human xenobiotic metabolizing enzymes and cancer risk in steroidogenic tissues.

Susan A. Nowell Kadlubar, University of Arkansas for Medical Sciences
Genetic polymorphisms affecting xenobiotic metabolism and regulation: Implications for drug therapy and drug-drug interactions in humans.

Erin G. Schuetz, St. Jude Children’s Research Hospital
Induction of sulfotransferase (SULT2B1b) expression in cystic fibrosis liver disease.  
Charles N. Falany, University of Alabama at Birmingham

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Division Sessions

Sunday, April 19
3:00 - 5:30 PM

Pharmacology Education Division Workshop: Using Human Patient Simulators to Enhance Pharmacology Education Throughout the Undergraduate Medical Curriculum
Chair: John L. Szarek
Hilton Hotel, Melrose Room

Simulation has been a mainstay in graduate medical education, but only recently has it become more common in undergraduate medical education. This workshop will help pharmacology faculty learn how simulation using patient simulators can be used as part of their repertoire of learning modalities for medical students in the first two years and beyond. The workshop will include didactic and hands-on activities on simulation modalities, the rationale for the use of simulation, simulation as a complement to the basic science curriculum, and scenario construction and debriefing.

Hands on experience using a human patient simulator.
Facilitators: John L. Szarek, AT Still University and Robert J. Theobald, Jr., AT Still University, Kirksville, MO
The rationale for the use of simulation as a complement to the basic science curriculum.
John L. Szarek, AT Still University
Scenario construction and debriefing.
Susan Pasquale, University of Massachusetts Medical School
Adoption and implementation strategies (and coping strategies for dealing with barriers) that could be used to support using simulation for teaching pharmacology throughout the undergraduate curriculum.
William B. Jeffries, Creighton University School of Medicine

Monday, April 20
2:30 - 5:30 PM

Cardiovascular Pharmacology Division Junior Scientists’ Competition and Benedict R. Lucchesi Distinguished Award Lecture in Cardiac Pharmacology

Chairs: Brandon T. Larsen, Erin R. Harleton, and Biny K. Joseph
Convention Center, Room 210

Introduction and recognition of applicants
Brandon T. Larsen, Medical College of Wisconsin
Graduate Student Presentations
Antiarrhythmic drug induced internalization of the atrial specific K⁺ channel, Kv1.5
S.M. Schumacher, University of Michigan (Advisor: J.R. Martens)
Cardiac myocyte-specific caveolin-3 overexpression modulates ANP production and attenuates cardiac hypertrophy in vivo
Y. Horikawa, UCSD (Advisor: D.M. Roth)
Thromboxane synthase inhibition blunts the development of pulmonary hypertension and vascular remodeling in hypoxic neonatal piglets
D.K. Hirenallur-S., University of Arkansas for Medical Science (Advisor: N.J. Rusch)
Insulin inhibits low pO₂-induced ATP release from human erythrocytes (RBCs): Implications for vascular control in pre-diabetes
M. Hanson, St. Louis University (Advisor: R. Sprague)
Postdoctoral Scientist Presentations
Intracellular calcium silences L-type CA2+ channels in rat small mesenteric veins
K. Thakali, University of Arkansas for Medical Science (Mentor: N.J. Rusch)
GPR30 activation in salt-sensitistive mRen2.Lewis females induces beneficial effects independent of alterations in blood pressure
S.H. Lindsey, Wake Forest University School of Medicine (Mentor: M.C. Chappell)
Graduate Student Runner-up Posters
Posters will be displayed by the three primary runners-up selected on Sunday, April 19 at the Graduate Student-Postdoc Best Abstract Competition
Postdoctoral Scientist Runner-up Poster
Engineered HGF/SF variants promote angiogenesis
S. Roy, Harvard-MIT Division of Health Science and Technology (Mentor: S. Sengupta)

Benedict R. Lucchesi Distinguished Award Lecture in Cardiac Pharmacology: Regulation of cardiac hypertrophy and heart failure through Gq, calcium & CaM kinase II
Joan Heller Brown, UCSD
Monday, April 20
3:00 - 5:30 PM

**Molecular Pharmacology Division Postdoctoral Award Finalists**
Chair: Michel Bouvier
Convention Center, Room 206

Protein kinase A and Epac are pro- and anti-apoptotic mediators, respectively, in chronic lymphocytic leukemia

- **F. Murray,** UCSD (Advisor: P. Insel)
  Regulation of AGS3 and G\textsubscript{ia} 1 interaction in living cells.

- **S.S. Oner,** Medical University of South Carolina (Advisor: S. Lanier)
  PKC\(\alpha\) regulation of TRPM2 channel activation of Ca\(^{2+}\) entry in endothelial cells.

- **C. Hecquet,** University of Illinois at Chicago (Advisor: A. Malik)

**Keynote Lecture:** Ligand-biased signaling: Exploring the molecular determinants of the multiple dimensions of drug efficacy

- **Michel M. Bouvier,** University of Montréal

**Drug Discovery, Development and Regulatory Affairs Division Symposium:** New Insights into Pain Signaling Pathways
Chairs: Anindya Bhattacharya and Mike F. Jarvis
Convention Center, Room 208

Cannabinoid receptor signaling.

- **Kenneth Mackie,** Indiana University;
  Nav1.7 sodium channels: role in pain mechanisms and targeting by neurotoxins.

- **Theodore R. Cummins,** Indiana University-Purdue University School of Medicine;
  Neuro-glial interactions in pain states: opportunities for novel drug targets.

- **Joyce A. Deleo,** Dartmouth Medical School;
  Calcitonin gene-related peptide (CGRP) receptor antagonists for migraine - challenges and promises.

- **Stefanie A. Kane,** Merck Research Laboratories
  GTP cyclohydrolase, tetrahydrobiopterin and pain.

- **Michael L. Costigan,** Harvard Medical School

**Toxicology Division Symposium:** The Nrf2-Keap1 System: An Emerging Key Regulator in the Defense Against Oxidative Stress, Chemical Toxicity and Disease
Chair: Qiang Ma
Convention Center, Room 209

Nrf2: Key to defense against oxidants, electrophiles, radiation and inflammation.

- **Paul Talalay,** Johns Hopkins School of Medicine
  Environmental lung disease and the role of Nrf2.

- **Steven R. Kleeberger,** NIEHS, NIH, Research Triangle Park, NC
  Defense against toxic metals and hyperglycemia by Nrf2.

- **Qiang Ma,** NIOSH, CDC
  Nrf1 and Nrf2 interplay in regulation of stress response.

- **Jefferson Y. Chan,** University of California-Irvine, School of Medicine

**Keynote Address:** Molecular basis for the Nrf2-Keap1 system function.

- **Masayuki Yamamoto,** Tohoku University School of Medicine, Sendai, Japan
Behavioral Pharmacology Division Symposium: Pharmacological Imaging in Behavioral Pharmacology and Drug Development
Chairs: Leonard L. Howell and Mike A. Nader
Convention Center, Room 207

Pharmacological MRI in awake rats: application for drug discovery and development.
   Chih-Liang Chin, Abbott Laboratories
Pharmacological MRI studies of the dopaminergic system in rhesus monkeys.
   Zhiming Zhang, University of Kentucky
Functional neuroimaging and cocaine medication development in nonhuman primates.
   Leonard L. Howell, Emory University
PET studies of stimulant drugs in humans.
   Joanna S. Fowler, Brookhaven National Laboratories

Tuesday, April 21
2:00 - 5:30 PM

Drug Metabolism Division Early Career Achievement Award Lecture and Platform Session: Biotransformation and Drug Transport
Chairs: Thomas Kocarek and Jeffrey Stevens
Convention Center, Room 209

Early Career Achievement Award Lecture: Nuclear receptors in drug metabolism: A decade of orphan brother actions.
   Xie Wen, University of Pittsburgh

Contribution of the N-glucuronidation pathway to the overall in vitro metabolic clearance of midazolam in humans (Abstract 372.1)
Kinetics and molecular interactions in the rapid disulfation of raloxifene by human sulfotransferase 1E1 (Abstract 750.8)
   I.T. Cook, S.N. Kadlubar, C.N. Falany, University of Alabama at Birmingham and University of Arkansas for Medical Science
A cytochrome P450-derived epoxygenated metabolite of anandamide is a potent, cannabinoid receptor 2 selective agonist (Abstract 749.4)
   N.T. Snider, J.A. Nast, P.F. Hollenberg, University of Michigan
Functional interactions between CYP1A2 and CYP2B4 require other enzymes to reside in the same phospholipid vesicle (Abstract 749.3)
   J.R. Reed, W.L. Backes, LSU Health Science Center, New Orleans
Association of breast cancer resistance protein/ABCG2 phenotypes and novel promoter and intron 12 single nucleotide polymorphisms (Abstract 372.7)
   B. Poonkuzhali, J. Lamba, S. Strom, S. Sparreboom, K. Thummel, PI Watkins, E. Schuetz, St. Jude Children's Research Hospital, University of Pittsburgh, University of Washington and University of North Carolina at Chapel Hill
Characterization of AS(GS)3 and (GS2AsSe) transport by the human multidrug resistance portein 2 (MRP2/ABCC2) (Abstract 747.1)
   M.W. Carew, E.M. Leslie, University of Alberta
Role of the Toll-like receptor adaptor protein, TIRAP in the regulation of gene expression of hepatic drug metabolizing enzymes (Abstract 752.1)
   R. Ghose, T. Guo, University of Houston
Dynamic DNA and histone methylation influences the ontogeny of xenobiotic metabolizing genes during
postnatal mouse liver maturation (Abstract 752.4)
S.N. Hart, Y. Li, Y. Cui, C. Klaasen, X-b. Zhong, University of Kansas Medical Center

Tuesday, April 21
3:00 - 5:30 PM

Clinical Pharmacology, Pharmacogenomics and Translational Pharmacology Division Symposium: Translational Clinical Pharmacology Research: Emerging Frontiers
Chair: Richard Kim
Convention Center, Room 207

In vivo probe drugs for assessing drug interaction potential for drugs in development.
Joseph W. Polli, GlaxoSmithKline
Monitoring the anti-cancer effects and chemosensitizing abilities of novel cyclotides from Psychotria Leptothyrsa (Abstract 756.10)
S.L. Gerlach, U. Göransson, D. Mondal, Tulane University and Uppsala University, Sweden
Drug uptake transporters and cancer therapy: Bench to bedside.
Richard H. Ho, Vanderbilt University
Phosphodiesterase 7 (PDE7) and PDE4/7 inhibitors kill chronic lymphocytic leukemia cells via a cAMP-mitochondrial-dependent pathway (Abstract 761.10)
Delivery of Personalized Medicine: Examples from the University of Western Ontario.
Richard B. Kim, University of Western Ontario

Systems and Integrative Pharmacology Division Young Investigator Platform
Chairs: David B. Bylund and Dennis C. Marshall
Convention Center, Room 208

Studies of tissue regeneration in a rat bladder model in vivo (Abstract 939.1)
D. Burmeister, T. Aboushwareb, K-E. Andersson, G.J. Christ, Wake Forest University School of Medicine
Does Caveolin-1 knockout affect matrix metalloproteinase-2 activity and contractile function in the isolated working mouse heart? (Abstract 812.3)
A.K. Chow, E. Daniel, R. Schultz, University of Alberta
Molecular evidence for the involvement of calcium sensitization in serotonin-induced cerebrovascular constriction (Abstract931.1)
Hypothalamic disinhibition stimulates retrotrapezoid nucleus chemosensitive neurons in vivo (Abstract 946.2)
M.G. Fortuna, R.L. Stornetta, G.H. West, P.G. Guynenet, University of Virginia
Distruption of the phosphodiesterase 8B gene alters the hypothalamic-pituitary-adrenal axis (Abstract582.4)
L-C.L. Tsai, M. Shimizu-Albergine, J.A. Beavo, University of Washington
CD38 prevents morphine-tolerance development in mouse distal colon (Abstract 590.6)
G. Ross, W. Dewey, H. Akbarali, Virginia Commonwealth University

Keynote Presentation: iPharm: The key role of integrative pharmacology in 21st century drug discovery
Michael Williams Cephalon, Inc.
Neuropharmacology Division Postdoctoral Scientist Award Finalists
Chair: Christian C. Felder
Convention Center, Room 206

Keynote Address: Perspectives on the postdoctoral experience in the pharmaceutical industry
Christian C. Felder, Eli Lilly and Co.

Postdoctoral Scientist Award Presentations
Caveats of proteomics approaches in identifying novel spinophilin interacting proteins (Abstract 581.9)
A.J. Baucum II, A-J.L. Ham, R.J. Colbran, Vanderbilt University
Reduced microscopic GABAR sensitivity in rat hippocampal CA1 neurons during benzodiazepine withdrawal is reversed by CaMKII inhibition (Abstract 760.13)
P. Das, L.J. Greenfield, Jr., E.I. Tietz, University of Toledo College of Medicine
The cannabinoid CB1 receptor system modulates behavioral phenomena predictive of relapse during extinction of self-administration in mice (Abstract 58837)
S.J. Ward, M. Rosenberg, L. Dykstra, E. Walker, Temple University School of Medicine and University of North Carolina at Chapel Hill
Ex vivo and in vivo changes in function of the serotonin 2C receptor due to RNA editing (Abstract 842.2)
C.E. Canal, E. E. Watt, E. Sanders-Bush, Vanderbilt University
Beyond Prozac: generation and characterization of SSRI insensitive transgenic mice (Abstract 942.7)

Lectures

Sunday, April 19
8:30 - 9:20 AM

RAY FULLER LECTURE IN THE NEUROSCIENCES
Convention Center, Room 206

Lecturer: Henry A. Lester, Caltech
Changes in the Brain During Chronic Exposure to Nicotine
Sunday, April 19
2:00 - 2:50 PM

IUPHAR LECTURE
Convention Center, Room 206

Lecturer: Robert Lefkowitz, Duke University
Seven Transmembrane Receptors

Monday, April 20
8:30 - 9:20 AM

JULIUS AXELROD AWARD LECTURE
Convention Center, Room 206

Lecturer: Randy D. Blakely, Vanderbilt University
Miscarriage at the Synapse: Brain Disorder-associated Deficits in Membrane Transport

Monday, April 20
4:30 - 5:30 PM

BENEDICT R. LUCCHESI DISTINGUISHED AWARD LECTURE IN CARDIAC PHARMACOLOGY
Convention Center, Room 210

Lecturer: Joan Heller Brown, University of California, San Diego
Regulation of Cardiac Hypertrophy and Heart Failure through Gq, Calcium and CaM Kinase II
Tuesday, April 21
8:30 - 9:20 AM

TORALD SOLMANN AWARD LECTURE
Convention Center, Room 206

Lecturer: Sam J. Enna, University of Kansas Medical Center
Mentors, Methods and Manuscripts

Tuesday, April 21
2:00 - 2:50 PM

DRUG METABOLISM EARLY CAREER ACHIEVEMENT AWARD LECTURE
Convention Center, Room 209

Lecturer: Wen Xie, University of Pittsburgh
Nuclear Receptors in Drug Metabolism: A Decade of Orphan Brother Actions
Special Sessions

Saturday, April 18

12:30 - 3:00 PM

2009 Teaching Institute: Threading New Concepts into Existing Curriculum: Experiences with Genomics
Chair: George A. Dunaway
Convention Center, Room 207

Curricular threads in medical school curricula.

Phillip R. Musich, East Tennessee State University
Experience with introduction of genomics into medical biochemistry.

Phillip R. Musich, East Tennessee State University
Experience with introduction of genomics into medical pharmacology.

George A. Dunaway, Southern Illinois University
Development and use of clinical scenarios to introduce pharmacogenomics.

George A. Dunaway, Southern Illinois University
Resources for learning and curricular integration of genomics.

Phillip R. Musich, East Tennessee State University

Diversity Committee Symposium: ASPET Travel Fellows: Lessons Learned Along the Way:
Career Choices from Past Travel Awardees
Chairs: Gonzalo E. Torres and Dolores Shockley
Convention Center, Room 208

The goal of this symposium is to present and discuss career options taken by past fellows and travel awardees. The stories are of scientists who made the decision to either stay in academia or leave academic research and forged paths to alternative career options related to science. These stories will focus on how these scientists got to where they are today and what they have learned along the way. After the talks, there will be an open session with questions and discussion from the audience.

Career options in science.

Gonzalo E. Torres, University of Pittsburgh
A career path outside the bench as a medical science liaison.

Shola Adewale, Eisia Inc.
Scientific regulatory and policy writing in the government: Desktop, an alternative to Benchtop.

Michelle D. Walker, Drug Enforcement Administration
Career opportunities in biomedical research: The academic perspective.

Chantal A. Rivera, Louisiana State University Health Sciences Center

Closing remarks

Dolores C. Shockley, Meharry Medical College

3:15 - 5:45 PM

Graduate Student-Postdoctoral Colloquium: Mentoring: It Goes Both Ways

Chair: Sarah H. Lindsey
Convention Center, Room 209

The success of graduate or post-graduate research experiences depends largely on a positive relationship between the trainee and mentor. This colloquium, based on a program developed by Chris Pfund at the Wisconsin Program for Scientific Teaching, is focused on helping participants improve the efficiency and effectiveness of their current mentor/mentee relationship and learn how to become effective research mentors themselves. Discussions will focus on different mentoring styles and strategies for developing confidence and independence, establishing expectations and improving communication skills.

Entering mentoring: Learning to become an effective research mentor.

Chris E. Pfund, University of Wisconsin Program for Scientific Teaching
Session 1: Learning to communicate
Session 2: Goals and expectations
Session 3: The elements of good mentoring
Pulling it all together: Pharmacologists helping pharmacologists.

Stephanie Watts, Michigan State University

Tuesday, April 21
8:00 - 10:00 AM

ASPET’s Women in Pharmacology Committee and APS’ Women in Physiology Committee Workshop: Pathways to Leadership: Developing Critical Skills

Chairs: Andria Lee del Tredici, Holly Brevig, Barbara Alexander
Convention Center, Room 346

Opportunity knocks... (Should I answer?)

Kimberly E. Vanover, Intra-Cellular Therapeutics, Inc.
Surviving hurricane Katrina and embracing new challenges.

Patricia Molina, LSU Health Science Center, New Orleans
Pleasures and perils of joint appointments

Alice M. Young, Texas Tech University Health Science Center
The long and winding road of career development

Lois D. Lehman-McKeeman, Bristol-Myers Squibb
Satellite Meetings

FRIDAY & SATURDAY, April 17-18

G-Protein Targets Colloquium
Room: Convention Center 204 A/B/C
(Separate, Advance Registration Required)
Chairs: Alan V. Smrcka and Theresa Filtz

SATURDAY, April 18

Behavioral Pharmacology Society Meeting
Room: Convention Center 201
(Separate, Advance Registration Required)
Contact Nancy Ator: ator@jhmi.edu or 410-550-2773

Public Affairs Session

EB 2008 Public Affairs Session
Monday, April 20
5:00 - 6:30 pm

Evolution of Creationism
(Co-Sponsors: ASPET, ASBMB and APS)
Convention Center, La Louisiane Ballroom

Speakers
Chair, Greg Petsko, Brandeis University
Barbara Forrest, Southeastern Louisiana University, author of Creationism’s Trojan Horse
Judge John E. Jones, Federal Judge who presided at the Kitzmiller v. Dover trial in 2005
Ken Miller, Brown University, author of Finding Darwin’s God and other books on the battle over teaching evolution
Eugenie Scott, Executive Director of the National Center for Science Education, Oakland, California, and author of Evolution versus Creationism (a second edition of which is soon to be published)

Public Affairs Symposium
Monday, April 20
5:45 - 7:15 pm
Improving NIH Peer Review: Maintaining the National Strategic Value of Peer Review
Sponsored by APS, AAA, ASPET
Convention Center, Room 255/256/257

Chair: V.M. Miller
Speaker: Tony Scarpa, CSR, NIH