



## PTX Newsletter – Fall 2016

### Support for the Annual PTX Fall Symposium provided by

- The David and Dana Loury Foundation
- NIGMS-funded Training Program in Pharmacology
- Donald M. Bers, Professor & Chair, Dept. of Pharmacology, School of Medicine
- Isaac Pessah, Professor and Associate Dean of Research, School of Veterinary Medicine

### PTX Executive Committee Members, 2015-2016 academic year

**Pam Lein, Chair**, Molecular Biosciences, SVM

**Jim Angelastro**, Molecular Biosciences, SVM

**Xinbin Chen**, Surgical and Radiological Sciences, SVM

**Kermit Carraway**, Biochemistry and Molecular Medicine, SOM

**Laura Van Winkle**, Anatomy, Physiology & Cell Biology, SVM

**Birgit Puschner**, Molecular Biosciences, SVM

**Heike Wulff**, Pharmacology, SOM

### PTX Executive Committee Members, 2016-2017 academic year

**Kermit Carraway, Chair**, Biochemistry & Molecular Sciences, SOM

**Birgit Puschner, co-Chair**, Molecular Biosciences, SVM

**Jim Angelastro**, Molecular Biosciences, SVM

**Heather Knych**, Molecular Biosciences, SVM

**Laura Van Winkle**, Anatomy, Physiology and Cell Biology, SVM

**Heike Wulff**, Pharmacology, SOM

**Aiming Yu**, Biochemistry and Molecular Medicine, SOM

### PTX Admissions Committee, 2015-2016 academic year

**Chair:** **Kermit Carraway**, Biochemistry and Molecular Medicine, SOM

**Faculty:** **Matthew Coleman**, Radiation Oncology, SOM

**Nilesh Gaikwad**, Environmental Toxicology, CAES

**Paramita Ghosh**, Biochemistry and Molecular Medicine, SOM

**Mary Horne**,

Pharmacology, SOM

**Heather Knych**, Molecular Biosciences, SVM

**Manuel Navedo**, Pharmacology, SOM  
**Kevin Xiang**, Pharmacology, SOM  
**Aiming Yu**, Biochemistry and Molecular Medicine, SOM

**Students:** **Karan Agrawal** **Emma Karey**  
**Nicholas Ellinwood** **Sophie Kiss**  
**Cameron Flayer** **Sean Kodani**  
**Samantha Francis Stuart** **Chuong Nguyen**  
**Michelle Guignet** **Samantha O'Dwyer**  
**Brianna Hamamoto** **Frances Shaffo**  
**Joseph Jilek** **Kim Truong**

**PTX Curriculum and Educational Policy (CEP) Committee. 2015-2016 academic year**

**Chair:** **Birgit Puschner**, Molecular Biosciences, SVM  
**Faculty:** **Rick Harper**, Pulmonary & Critical Care, SOM  
**Aiming Yu**, Biochemistry and Molecular Medicine, SOM  
**Students:** **Olivia Buonarati**, PhD candidate, lab of Johannes Hell  
**Kyla Walter**, PhD candidate, lab of Birgit Puschner

**PTX Membership Committee. 2015-2016 academic year**

**Chair:** **James Angelastro**, Molecular Biosciences, SVM  
**Faculty:** **Manuel Navedo**, Pharmacology, SOM  
**Andrew Whitehead**, Environmental Toxicology, CAES

**PTX Graduate Advisors. 2015-2016 academic year**

**Kermit Carraway**, Biochemistry and Molecular Medicine, SOM  
**Angie Gelli**, Pharmacology, SOM  
**Rick Harper**, Pulmonary & Critical Care, SOM  
**Paul Henderson**, Hematology and Oncology, SOM  
**Mary Horne**, Pharmacology, SOM  
**Heather Knych**, Molecular Biosciences, SVM  
**Jerry Last, Master Advisor**, Pulmonary and Critical Care, SOM,  
**Pam Lein**, Molecular Biosciences, SVM  
**Lisa Miller**, Anatomy, Physiology and Cell Biology, SVM  
**Kent Pinkerton**, Pediatrics, SOM & Anatomy/Physiology and Cell Biology, SVM  
**Birgit Puschner**, Molecular Biosciences, SVM  
**Heike Wulff**, Pharmacology, SOM

**Instructors of Record for PTX Core Courses. 2015-2016**

**PTX 201:** **Heather Knych**, Molecular Biosciences, SVM  
**Birgit Puschner**, Molecular Biosciences, SVM  
**PTX 202:** **James Angelastro**, Molecular Biosciences, SVM  
**Jason Eiserich**, Pulmonary and Critical Care, SOM  
**PTX 203:** **Robert Berman**, Neurosurgery, SOM  
**Angie Gelli**, Pharmacology, SOM

**New PTX faculty**

**Veronica Martinez-Cerdeno**, Pathology, SOM  
**Frank Sharp**, Neurology, SOM

**Tsung Chen**, Neurology, SOM  
**Luis Santana**, Physio & Membrane Bio, SOM  
**Hwai-Jong Cheng**, Center for Neuroscience, SOM  
**Amir A. Zeki**, Pulmonary Medicine, SOM

**PTX Website Team.**

**2015-2016 academic year**

**Chuong Nguyen**

**Kim Truong**

\*\*\*Accepting volunteers\*\*\* contact Kermit Carraway ([klcarraway@ucdavis.edu](mailto:klcarraway@ucdavis.edu))

**PTX Seminar Series Committee. 2015-2016 academic year**

*\*The 2015-2016 seminar series was supported by the David and Dana Loury Foundation Seminar Series*

**Students:** **Olivia Buonarati**, PhD candidate, lab of Johannes Hell  
**Sarah Carratt**, PhD candidate, lab of Laura Van Winkle  
**Cameron Flayer**, PhD candidate, lab of Angela Haczku  
**Michelle Guignet**, PhD  
candidate, lab Pam Lein  
**Michelle Kossack**, PhD candidate, lab of Bruce Draper  
**Maria Paz Prada**, PhD candidate, lab of Manuel Navedo  
**Frances Shaffo**, PhD  
candidate, lab of Pam Lein  
**Kyla Walter**, PhD candidate, lab of Birgit Puschner

**PTX Graduates in 2015-2016**

**PhD Degree Program:**

**Brandon Brown, PhD** [Major Professor: Heike Wulff, Pharmacology, SOM]  
Dissertation Title: Development of Potent and Selective K<sub>Ca</sub> Channel Activators  
for the Treatment of Cardiovascular Disease and Neurological Disorders

**Maria Cedano Prieto, PhD** [Major Professor: Colleen Sweeney, Biochemistry and  
Molecular Medicine, SOM]  
Dissertation Title: Structure-Function Analysis of the LRIG1 Tumor Suppressor

**Wilson Duarte-Ramirez, PhD** [Major Professor: Swee Teh, Anatomy, Physiology and  
Cell Biology, SVM] Dissertation Title: Investigating Fluoranthene-Photoinduced  
Adverse Effects Enhanced by Aluminum at Low pH in Japanese Medaka  
(*Oryzias latipes*) – Post Doc – Dr. Teh, Anatomy & Physiology, SVM

**Ida Flores, PhD** [Major Professor: Swee Teh, Anatomy, Physiology and Cell Biology,  
SVM]  
Dissertation Title: Developmental Effects of Fipronil on Japanese Medaka  
(*Oryzias latipes*) Embryos

**Yuqian Jiang, PhD** [Major Professor: Xinbin Chen, Surgical & Radiological Sciences, SVM]

Dissertation Title: The Role of RBM24 in the p53 Pathway and Tumorigenesis

**Seiya Kitamura, PhD** [Major Professor: Bruce Hammock, Entomology and Nematology, CAES]

Dissertation Title: Exploring Structure-Activity Relationship Approaches on Epoxide Hydrolase Inhibitors.

Current Position: Post-Doc, Dr. Wolan lab at the Scripps Research Institute, San Diego, CA

**Caroline Moore, PhD** [Major Professor: Birgit Puschner, Molecular Biosciences, SVM]

Dissertation Title: Investigation of Microcystin-LR in d Microcystin-LFNeurotoxicity Using Caenorhabditis elegans and Functional Toxicity Assays

Current Position: 3<sup>rd</sup> year DVM Student, UC Davis

**Esther Shin Patchin, PhD** [Major Professor: Kent Pinkerton, Center for Health and the Environment]

Dissertation Title: Deposition, Transport, and Biological Effects of Inhaled Quantum Dots and Silver Nanoparticles in the Rodent Nose and Brain

**Monica Pombo, PhD** [Major Professor: Fern Tablin, Anatomy, Physiology and Cell Biology, SVM]

Dissertation Title: The Human Platelet Aryl Hydrocarbon Receptor: Non-genomic Signaling and its Crosstalk with Platelet Activation Pathways

**Rui Zhang, PhD** [Major Professor: Isaac Pessah, Molecular Biosciences, SVM]

Dissertation Title: Environmental and Genetic Impacts on Skeletal Muscle Ca<sup>2+</sup> Regulation

**Yezi Zhu, PhD** [Major Professor: Allen Gao, Urology, SOM]

Dissertation Title: Molecular Mechanisms of Prostate Cancer Progression and Treatment Resistance

#### **MS Degree Program:**

**Edward Hackett, MS** [Major Professor: Mari Golub, Primate Center]

Dissertation Title: Sustained Attention in Juvenile Rhesus Macaques Treated Chronically with Fluoxetine

**Abbas Mohamed, MS** [Major Professor, Brian Johnson, Entomology & Nematology, CAES]

Dissertation Title: Forager Bees (*Apis mellifera*) Exhibit Developmentally Controlled Up-Regulation of Immune and Detoxification Genes in Tissues Associated with Nectar Processing.

Current Position: Clinical Data Management Associate at Gilead Sciences

**Denise Trans, MS** [Major Professor: Paul Henderson, Hematology & Oncology,

Medicine, SOM]

Thesis Title: Foundations for FRET Analysis of KRAS Dimerization in a Model Membrane System. Current Position: Metrologist for PPD Services at Gilead Sciences, Inc., Foster City, CA

**Stephen Vito, MS** [Major Professor: Bruce Hammock, Entomology & Nematology, CAES]

Dissertation Title: Combinatorial Treatment of Diazepam and Soluble Epoxide Hydrolase Inhibition Stops Seizures and Modulates the Neuroinflammatory Response in a Murine Model of TETS Intoxication

### **Incoming PTX Students (Fall, 2016)**

#### **Ali Alathari**

Ali received his Bachelor's Degree in Pharmacy Science from University of Baghdad, Iraq in 2003 and his Master's Degree in Pharmacology & Toxicology from Medical School, University of Babylon, Iraq, in 2013. He is interested in immunopharmacology and immunotoxicology.

#### **Jonas Calsbeek**

Jonas received his Bachelor's in Neuroscience in Psychology from Washington State University in 2016. He is interested in neuropharmacology, psychopharmacology, environmental toxicology, and drug development.

#### **Lowei Lin**

Lowei received her undergraduate degree in Biomedicine from Tunghai University in Taiwan and her Master's degree in Forensic Sciences from UC Davis.

#### **Cynthia McReynolds**

Cindy received her BS degree in Animal Science, UC Davis. She received her MS in Animal Science at Washington State University. She is interested in researching new drug therapies to treat unmet medical needs.

#### **Kelley Patten**

Kelley received her BS in Biological Sciences from UC Davis and her MPH in Biostatistics and Epidemiology from UC Berkeley. She is interested in the adverse health effects of airborne particles.

#### **Scott Tiscione**

Scott received his BS in Environmental Toxicology from UC Davis in 2014. He is interested in mechanisms of toxicity of both pharmaceuticals and environmental toxins.

#### **Bianca Yaghoobi**

Bianca received her BS in Biochemistry and Minor in Mathematics from California State University, Los Angeles. She is interested in studying cell-to-cell interactions.

### **MS Program**

#### **Janice Ott**

Janice received her BS in Biochemistry from Cal State San Marcos in 2014, and transferred to PTX from the UCD Forensics program in 2015. She is interested in pharmacologic and toxicologic mechanisms.

### **Christine Shieh**

Christine received her BS in Neuroscience (with a minor in Bioinformatics) from UCLA. She is interested in studying neuropharmacology.

### **Number of students in the PTX Program** (including incoming students)

<b>PhD</b>	52
<b>MS</b>	5
<b>Total</b>	57

### **Publications by PTX Graduate Students in 2015-2016**

**PTX students** identified in **bold black font**; **PTX faculty** identified in **bold blue font**

Walsh PF, Behrens N, Carvallo Chaigneau FR, McElligot H, **Agrawal K**, **Newman JW**, Anderson ML, Gershwin, LJ. A randomized placebo controlled trial of ibuprofen of respiratory syncytial infection in a bovine model. *PLoS One* 2016, 11(4), e0152913.

**LS Van Winkle** and **SA Carratt**. Epithelial Cell Damage and Cell Renewal in the Lung. *Comprehensive Toxicology, Third Edition*. (In Press)

GK Das, DS Anderson, CD Wallis, **SA Carratt**, IM Kennedy and **LS Van Winkle** (2016). Novel Multi-functional Europium-Doped Gadolinium Oxide Nanoparticle Aerosols Facilitate the Study of Deposition in the Developing Rat Lung. *Nanoscale* 8, 11518-11530, doi:10.1039/C6NR00897F

**SA Carratt**, D Morin, AR Buckpitt, and **LS Van Winkle** (2016). Naphthalene cytotoxicity in microsomal epoxide hydrolase deficient mice. *Toxicology Letters* 246: 35-41, doi:10.1016/j.toxlet.2016.01.019

NA Holland, DP Becak, JH Shanahan, JM Brown, **SA Carratt**, **LS Van Winkle**, KE Pinkerton, C Wang, P Munusamy, DR Baer, SJ Sumner, TR Fennell, RM Lust, and CJ Wingard (2015). Cardiac Ischemia Reperfusion Injury Following Instillation of 20nm Citrate-capped Nanosilver. *J Nanomed Nanotechnol* S6: 006. doi:10.4172/2157-7439.S6-006

**Deng P**, Anderson JD, Yu AS, Annett G, Fink KD, Nolta JA. Engineered BDNF producing cells as a potential treatment for neurologic disease. *Expert Opin. Biol. Ther.* (May 9, 2016). doi: 10.1080/14712598.2016.1183641.

Fink KD, **Deng P**, Gutierrez J, Anderson JS, Torrest A, Komarla A, Kalomoiris S, Cary W, Anderson JD, Gruenloh W, Duffy A, Tempkin T, Annett G, Wheelock V, **Segal DJ**, Nolta JA. Allele-Specific Reduction of the Mutant Huntingtin Allele Using Transcription Activator-Like Effectors in Human Huntington's Disease Fibroblasts. *Cell Transplant* 25: 677–86, 2016.

Fink KD, **Deng P**, Torrest A, Stewart H, Pollock K, Gruenloh W, Annett G, Tempkin T, Wheelock V, Nolta JA. Developing stem cell therapies for juvenile and adult-onset Huntington's disease. *Regen Med* 10: 623–46, 2015.

Pollock K, Dahlenburg H, Nelson H, Fink KD, Cary W, Hendrix K, Annett G, Torrest A,

- Deng P**, Gutierrez J, Nacey C, Pepper K, Kalomoiris S, D Anderson J, McGee J, Gruenloh W, Fury B, Bauer G, Duffy A, Tempkin T, Wheelock V, Nolta JA. Human Mesenchymal Stem Cells Genetically Engineered to Overexpress Brain-derived Neurotrophic Factor Improve Outcomes in Huntington's Disease Mouse Models. *Mol. Ther.* (January 14, 2016). doi: 10.1038/mt.2016.12.
- Deng P**, Torrest A, Pollock K, Dahlenburg H, Annett G, Nolta JA, Fink KD. Clinical trial perspective for adult and juvenile Huntington's disease using genetically engineered mesenchymal stem cells. *Neural Regener Res* 11:5, 2016.
- D Lac, **S Feng**, et al. Covalent chemical ligation strategy for monoclonal and polyclonal immunoglobulins at the nucleotide binding sites. *Bioconjugate Chemistry*. December 2nd, 2015. Pending Patent: Site-specific covalent chemical ligation to monoclonal and polyclonal immunoglobulin. UC Ref.: 2015-138- UC Davis Ref: 76916-934792-214700US. Inventors: D Lac, **K Lam**, **S Feng**, G Bhardwaj Ge MQ, Kokalari B, **Flayer CH**, Killingbeck SS, Redai IG, MacFarlane AW 4th, Hwang JW, Kolupoti A, Kemeny DM, Campbell KS, **Haczku A**. Cutting Edge: Role of NK Cells and Surfactant Protein D in Dendritic Cell Lymph Node Homing: Effects of Ozone Exposure. *J Immunol*. 2016 Apr 1;196(7):3212.
- Kitamura, S.**; Hvorecny, KL.; Niu, J.; **Hammock, BD.**; Madden, DR.; Morisseau, C.; Rational design of potent and selective inhibitors of an epoxide hydrolase virulence factor from *Pseudomonas aeruginosa*. *Journal of Medicinal Chemistry* **2016**, 59 (10), 4790-4799.
- Yu, A.-M.**, Tian, Y., Tu, M.-J., Ho, P.Y., **Jilek, J.L.** (2015). MicroRNA pharmacoepigenetics: Posttranslational regulation mechanisms behind variable drug disposition and strategy to develop more effective therapy. *Drug Metab Dispos*, **44**: 308-319.
- Ghosh D, Syed AU, **Prada MP**, Nystoriak MA, Nieves-Cintron, and **Navedo MF**. Calcium channels is vascular smooth muscle. *Advances in Pharmacology*. In press.
- Bal-Price A, **Lein PJ**, Keil KP, **Sethi S**, Shafer T, Barenys M, Fritsche E, Sachana M, Meek ME (2016) Developing and applying the adverse outcome pathway concept for understanding and predicting neurotoxicity. *Neurotoxicology*. PMID: 27212452
- La Merrill M**, **Sethi S**, Benard L, Moshier E, Haraldsson B, Pessah IN, Buettner C (2016) Perinatal DDT exposure of mice induces hypertension and cardiac hypertrophy in adulthood. *Environmental Health Perspectives*. PMID: 27325568
- Courter LA, **Shaffo FC**, Ghogha A, Parrish DJ, Lorentz CU, Habecker BA, Lein PJ (2015) BMP7-induced dendritic growth in sympathetic neurons requires p75NTR signaling. *Dev Neurobiol* 76(9):1003-13.
- Fan Yang\*, **Simon Vu\***, Vladimir Yarov-Yarovoy, **Jie Zheng**. Rational design and validation of a vanilloid-sensitive TRPV2 ion channel. **Proceedings of the National Academy of Sciences**. June 2016. \*These authors contributed equally to this work.
- Trans DJ**, Bai R, Addison JB, Liu R, Hamel E, Coleman MA, **Henderson PT** (2016) Synthesis of two fluorescent GTP $\gamma$ S molecules and their biological relevance. *Nucleos Nucleot Nucl* (In press).

### **PTX graduate student honors in 2015-2016**

**Karan Agrawal** [John W. Newman]



- Fellowship support from the NGIMS-NIH Training Program in Biomolecular Technology (T32-GM008799)

**Samantha Feng** [Kit Lam]

- Recipient of ACT North American Graduate Fellowship
- Recipient of SOT Biotechnology SS Student Achievement Award
- Second Place Winner at Big Bang! Business Competition  
(<http://gsm.ucdavis.edu/news/2016BigBangWinners>)

**Cameron Flayer** [Angela Haczku]

- 2016 American Thoracic Society Abstract Scholarship

**Sarah Carratt** [Laura Van Winkle]

- GSA Travel Award – 2016
- Robert Emrie Smith Memorial Research Fellowship – 2016-2017
- NIEHS T32 Pre-doctoral Fellowship – 2014-2016
- UC Davis & Humanities Graduate Research Award – 2015-2016

**Peter Deng** [David Segal]

- Pharmacology T32 Awardee
- Hot Topics in Society for Neuroscience
- Featured in American Academy of Neurology

**Hyun Tae Hwang** [Anne Knowlton]

- Schwall Dissertation Year Fellowship

**Joseph Jilek** [Aiming Yu]

- Second Place, Division for Drug Metabolism Poster Competition, 2016 ASPET Annual Meeting at Experimental Biology
- NIGMS Pharmacology T32 Fellowship, 2016-2017

**Skye Kelty** [Laura Van Winkle]

- UC Davis Floyd and Mary Schwall Fellowship in Medical Research

**Kossack, Michelle** [Bruce Draper]

- NIEHS T32 Fellowship

**Maria Paz Prada** [Manuel Navedo]

- T32 Pharmacology Fellowship 2014-2016

**Frances Shaffo** [Pamela Lein]

- CCRBM NHBLI T32 Predoctoral Fellowship, 2015-2016

**Simon Vu** [Jie Zhang]

- American Heart Association Fellowship (2015-2017)

**PTX Student Involvement in Service Activities in 2015-2016**

**Karan Agrawal** [John W. Newman]

- Member of the Admissions Committee for 2015-16

**Sarah Carratt** [Laura Van Winkle]

- Society of Toxicology Inhalation and Respiratory Specialty Section Student Representative
- Society of Toxicology Graduate Student Leadership Committee
- PTX Seminar Series Committee

**Peter Deng** [David Segal]

- CIRM Spark Lab Mentor



- CIRM Stem Cell Awareness Day Representative at Woodland High School
- Guest Lecturer/Science Fair Judge at Woodland High School
- ESTEME Member
- K-12 Outreach Program Summer Series at UCD Stem Cell Program
- Nolta Lab Representative at NorCal HDSA Annual Symposium
- Nolta Lab Representative at Help4HD International Annual Conference

**Cameron Flayer** [Angela Haczku]

- PTX Seminar Series Committee

**Skye Kelty** [Laura Van Winkle]

- Relay For Life Committee Member and Team Captain
- UC Davis Picnic Day Booth for ETX Department
- STEM For Girls Team Leader

**Sophie Kiss** [Paramita Ghosh]

- PTX Admission Committee (PTX program)
- International Program Committee (UC Davis)

**Michelle Kossack** (Bruce Draper)

- PTX Seminar Series Committee
- PTX Event Committee
- STEM 4 Girls Committee

**Maria Paz Prada** (Manuel Nevado)

- PTX seminar series committee 2014-2016

**Frances Shaffo** (Pamela Lein)

- Seminar series committee, event committee

**PTX Faculty Awards**

**Manuel F. Navedo, PhD**, Associate Professor of Pharmacology (SOM), was selected as a permanent member of the Vascular, Cellular and Molecular Biology (VCMB) Study Section in the Center for Scientific Review. This represents a major recognition of Dr. Navedo's scientific accomplishments and standing in the field. Members are selected on the basis of their demonstrated competence and achievements in their scientific discipline as evidenced by the quality of research accomplishments, publication in scientific journals and other significant scientific activities, accomplishments and honors. His contributions to VCMB and Center for Scientific Review will be of great value to medical and allied research in the country.

**Pamela J. Lein, PhD**, Professor of Molecular and Biosciences (SVM) was awarded the 2015 Zoetis Award for Veterinary Research Excellence, UC Davis School of Veterinary Medicine.

**News from PTX Alumni**

**Donald Anderson, PhD**, Post Doc in Dr. Andrej Holian's Lab University of Montana Missoula and recipient of NIH

**Heather Bolstad, PhD**, OEHHA, Oakland, CA

**William Fry, PhD**, employed at Antibodies, Inc., Davis, CA

**Marian Glynn, PhD, DABT**, Toxicologist and Nonclinical Regulatory Strategist I Tox Clarity, LLC | [www.toxclarity.com](http://www.toxclarity.com), Napa, CA

**Rinti Mukherjee, PhD**, Post doc in the Clay Gustafson Lab at University of California, San Francisco

**Shelley Newman-DuTeaux, PhD MPH**, Branch Chief for Human Health Assessment in the Department of Pesticide Regulation, Sacramento.

**Gary D. Novack, (PhD, 1977)** continues his connection with UCD as a Visiting Professor in Pharmacology and Ophthalmology in the School of Medicine. He enjoys advising graduate students on careers and entrepreneurship, and teaching residents about drug development and research methods. His recent publications include “Time to take your medicines, seriously” (Ocul Surf) and “What determines what your patients pays for their medication (Am J Ophthalmol). He continues as a drug development consultant at PharmaLogic, specializing in ophthalmology.

**Marianna Stamou, PhD**, postdoc in the lab of Shana Sturla at the Swiss National Institute of Technology (ETH) Zurich, in Zurich, Switzerland, carrying out research on chemical-induced non-alcoholic fatty liver disease.

### **2016 PTX Poster Titles**

**Olivia Buonarati** [Johannes Hell] - Proteolytic Processing of the L-type Ca<sup>2+</sup> Channel  $\alpha_1$ 1.2 Subunit in Neurons

**Steffen Docken** (Colleen Clancy) Effects of Na-channel blockers on cardiac cell excitability: A comparison of two binding schemes

**Mona El-Badawi** (Oliver Feihn) Metabolomic and Lipidomic Analyses of Inhaled Statins Reveal that Inhalation of Statins Affects Pulmonary and Systemic Metabolism in the Rhesus Macaque Non-Human Primate Model

**Samantha Faber** [Michael Denison] – Characterization of Ligand-selective Activation of the Human and Mouse Aryl Hydrocarbon Receptors

**Samantha Francis Stuart** [Chrystal Ripplinger] - Marimastat Attenuates Transient Denervation Following Myocardial Infarction But Not Electrophysiological Remodeling

**Peter Henderson** [Johannes Hell] -  $\alpha$ -Actinin Promotes Surface Localization and Ion Conducting Activity of the Ca<sup>2+</sup> Channel Ca<sub>v</sub>1.2 by Binding to the IQ Region of the  $\alpha_1$  Subunit

**Hyun Tae Hwang** [Anne Knowlton] - The Role of Endothelial Senescence in Vascular Dysfunction and Inflammation in Aging

**Joseph Jilek** [Aiming Yu] - Single-mouse approach to evaluate the pharmacokinetics of a five-substrate cytochrome P450 probe cocktail

**Sophie Kiss** [Paramita Ghosh] - Elucidating the role of BHLHE40/DEC1/SHARP2/STRA13 in prostate cancer

**Michelle Kossack** [Bruce Draper] - wnt4a is expressed in the early gonad and is required for female sex determination

**Bo Hyun Lee** [Jie Zheng] - Anomalous mole fraction effect (AMFE) measurements indicate that TRPV1 has a flexible pore

- Sean Kodani** [Bruce Hammock] - Development and Biological Evaluation of Dual inhibitors that Target Both Soluble Epoxide Hydrolase and Fatty Acid Amide Hydrolase
- Monica Maier** [Ronald Tjeerdema] - Azithromycin aerobic and anaerobic soil biodegradation in representative California freshwater conditions
- Jeffrey Miller** [Andrew Whitehead] - Miller, JT, Pilcher, W., Champlin, D., Proestou, D., Nacci, D., Whitehead, A.W. (2012). Genomic responses to PAHs in 2 pollution tolerant populations of *Fundulus heteroclitus*.
- Chuong Nguyen** [Rivkah Isserkoff] - Serotonin as a Potential Therapeutic Target for Mesenchymal Stem Cell- Mediated Improvement of Wound Healing
- Maria Paz Prada** [Manuel Navedo] - Extracellular nucleotide signaling stimulates L-type  $Ca^{2+}$  channel activity and vasoconstriction during diabetic hyperglycemia
- Sunjay Sethi** [Pamela J. Lein] - 3,3'-Dichlorobiphenyl (PCB 11) and Its Metabolites Increase Dendritic Arborization in Primary Rat Cortical and Hippocampal Neurons
- Frances Shaffo** [Pamela J. Lein] - The Organophosphorus Pesticide Chlorpyrifos Induces Airway Hyperreactivity in Rats