



September 27, 2012

**PTX Executive Committee Members, 2012-2013 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, Cancer Center Basic Science**Angie Gelli**, Pharmacology, SoM**Ron Tjeerdema**, Environmental Toxicology, CAES**Heike Wulff**, Pharmacology, SoM**PTX Graduate Advisors, 2012-2013 Academic Year****Alan Buckpitt**, Molecular Biosciences, SVM**Kermit Carraway**, Biochemistry and Molecular Medicine, SoM, Cancer Center Basic Science**Angie Gelli**, Pharmacology, SoM**Rick Harper**, UCDHS: Pulmonary & Critical Care, SoM**Mary Horne**, Pharmacology, SoM**Jerry Last**, Pulmonary and Critical Care, SoM**Pam Lein**, Molecular Biosciences, SVM**Kent Pinkerton**, Pediatrics, School of Medicine & Anatomy/Physiology and Cell Biology, SVM**Birgit Puschner**, Molecular Bioscience, SVM**Matt Wood**, Environmental Toxicology, CAES**Admissions Committee, 2012-2013 Academic Year****Kermit Carraway, Chair**, Biochemistry and Molecular Medicine, SoM**Curriculum and Educational Policy Committee, 2012-2013 Academic Year****Xinbin Chen, Chair**, Surgical and Radiological Sciences, SVM**Birgit Puschner**, Molecular Biosciences, SVM**Membership Committee, 2012-2013 Academic Year****Jim Angelastro, Chair**, Molecular Biosciences, SVM**New PTX faculty****Paul Henderson** (Hematology & Oncology, SOM)**Manuel Navedo** (Pharmacology, SOM)**Nam Tran** (Pathology and Laboratory Medicine, SOM)**Andrew Whitehead** (Environmental Toxicology, CAES)**Kevin Xiang** (Pharmacology, SOM)**Instructors of Record for PTX Core Courses****PTX 201:** **Alan Buckpitt**, 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

## Incoming PTX students

### PhD Program:

**Olivia Buonarati:** Olivia received her BS with honors in environmental science from Seattle University in 2012, and is interested in biochemical mechanisms underlying toxicant action.

**Mona El-Badawi:** Mona received her BS in animal science from UCD in 2003, and has worked as a natural products chemist at AgraQuest, a biopesticide company in Davis. She is specifically interested in the effects of environmental toxins on pulmonary and cardiac development and disease.

**Emma Karey:** Emma received her BS magna cum laude in biochemistry in 2010 from Chatham University in Pittsburgh, and is interested the whole organism impact of drugs and toxicants.

**Sean Kodani:** Sean received his BS in both environmental sciences and molecular toxicology from UC Berkeley in 2012, and did a summer internship at UCD in respiratory pharmacology and toxicology. He is interested in biochemical targets of environmental toxicants.

**Bo Hyun Lee:** Bo Hyun received her BS in biological and environmental toxicology in 2008 and MS in food technology in 2010, both from Seoul Women's University, Korea. She is interested in biochemical and cellular aspects of pharmacology.

**Jeffrey Miller;** Jeffrey is transferring to the PTX program from the environmental toxicology PhD program at Louisiana State University. He received his BA in biology from Minnesota State, Moorhead, and received his MS in Cell and Molecular Biology from St. Cloud State in 2011. He will continue his work with Dr. Andrew Whitehead in aquatic toxicology.

**Chuong Nguyen:** Chuong received his BS in biotechnology from University of New Haven in 2010 and his MS in stem cell biology from Cal State Sacramento in 2012, and is interested in clinical pharmacology.

**Jorge Sanchez:** Jorge received his BS in chemistry from San Jose State in 2012, and will be part of the UCD IMSD program his first year at UCD. He is interested in mechanisms of human disease and the development of novel therapeutic agents.

**Denise Trans:** Denise received her BS in biotechnology from UCD in 2008 and has been working at Epitomics, a Bay Area biotechnology company, since her graduation. She is interested in genetic and developmental aspects of pharm/tox.

**Kim Truong:** Kim graduated from UCD in 2009 with a dual major in English and biotechnology, and has been working as a technician at UCD since her graduation. She is interested in neuropharmacology and toxicology.

**Monica Vermillion:** Monica received her BS in biological sciences from Cal State Chico in 2008, and received an MS in forensic science from Oklahoma State Center for Health Sciences in 2011. She is interested in mechanisms and metabolism of toxins.

**Frances Wilburn:** Frances received her BS in Biochemistry from Tufts University in 2012, and is interested in toxicity mechanisms of environmental contaminants.

## Incoming PTX students

### MS STUDENTS

**Katherine Dang:** Katherine received her BS in environmental toxicology in 2010 from UCD, and is interested in clinical pharmacology and toxicology.

**Samantha Faber:** Samantha received her BS in environmental toxicology from UCD in 2011, and is interested in environmental toxicants and neurotoxicity.

**Edward Hackett:** Edward received his BS in animal biology from UCD in 2012, and is interested in neurotox.

**Heidi Kucera:** Heidi received her BS in nutrition from UCD in 2011, and is interested in neuropharmacology.

### PTX Graduates in 2011-2012

#### PhD

**Heather Bolstad** (mentor: Matthew Wood, Environmental Toxicology, CAES)

Thesis title: *Proteomic Analysis of Protein Interactions within Sulfur Trafficking Systems of E. coli*

Postgraduate position: Health Scientist at ChemRisk, San Francisco

**Susanne Brander** (mentor: Gary Cherr, Environmental Toxicology, CAES)

Thesis title: *From "Omics to Otoliths: Establishing Menidia Species as Bioindicators of Estrogenic and Androgenic Endocrine Disruption*

Postgraduate position: Research Assistant Professor at the University of North Carolina, Wilmington (UNCW) in the Dept. of Biology and Marine Biology.

**Christopher Carosino** (mentor: Kent Pinkerton, Pediatrics, SOM)

Thesis title: *The Effects of Particulate Matter Exposure during Allergic Sensitization in an Acute Murine Model of Allergic Airway Inflammation*

Postgraduate position: Senior Fellow, Department of Environmental and Occupational Health Sciences, University of Washington, Seattle

**Robert Cattolica** (mentor: Isaac Pessah, Molecular Biosciences, SVM)

Thesis title: *Investigations of Ryanodine Receptor Regulation, Neurotoxicity and Motor Performance Employing Gene Targeted Mutations*

**Danica DeGroot** (mentor: Michael Denison, Environmental Toxicology, CAES)

Thesis title: *Are All Aryl Hydrocarbon Receptor Agonists Created Equal? Analysis of Ligand Specificity in Aryl Hydrocarbon Receptor DNA Binding*

Postgraduate position: Postdoctoral Fellow, Dept of Env. & Occupational Health, University of Colorado, Anschutz Medical Campus, Aurora, CO

**Kristin Grimsrud, DVM** (mentor: Alan Buckpitt, Molecular Biosciences, SVM)

Thesis title: *Pharmacokinetics and Pharmacodynamics of Alpha2 Adrenergic Agonists in the Horse*

Postgraduate position: Residency in Lab Animal Medicine, UC Davis

**Thomas Hill** (mentor: Robert Rice, Environmental Toxicology, CAES)

Thesis title: *A Tale of Two Epithelium": A Genetic Exploration into the Versatility and Functional Diversity of Dual-Oxygenase 1 & 2 in Homo Sapiens*

Postgraduate position: Postdoctoral Fellow, Department of Environmental & Occupational Health, University of Colorado, Anschutz Medical Campus, Aurora, CO

## PTX Graduates in 2011-2012

### PhD

**Laura Lam Hoang** (mentor: Kent Pinkerton, Pediatrics, SOM)

Thesis title: *The Role of Transforming Growth Factor B1 (TGF-B1) in Tobacco-Smoke-Induced Lung Injury*

Postgraduate position: Postdoctoral Fellow, Biocare Medical in Concord, CA

**Claire Koenig** (mentor: Rob Berman, Neurosurgery, SOM)

Thesis title: *Environmental Factors and Their Role in Developmental Disorders*

Postgraduate position: Clinical Researcher, Mount Sinai Rehabilitation Hospital, Mandell Center for Multiple Sclerosis in Hartford, CT.

**Neelima Mehta** (mentor: Michael DeGregorio, Hematology Oncology, SOM)

Thesis title: *L-PLP25 Vaccine plus Letrozole Induces a Th1 Immune Response and has Additive Antitumor Activity in MUC-1 Expressing Mammary Tumors in Mice*

Postgraduate position: Cal EPA

**Nathalie Pham** (mentor: Alan Buckpitt, Molecular Biosciences, SVM)

Thesis title: *Characterization of urinary protein/peptide adducts as markers of reactive naphthalene metabolite formation*

Postgraduate position: Cal EPA

**Pimtip Sanvarinda** (mentor: Reen Wu, Pulmonary and Critical Care, SOM)

Thesis title: *Characterization of Pathways Affecting Airway Epithelial Cell and Definitive Endoderm Lineage Differentiation from Mouse Embryonic Stem Cells*

Postgraduate position: Lecturer in Dept of Pharmacology, Faculty of Science, Mahidol Univeristy, Thailand

**Karen Wagner** (mentor: Bruce D. Hammock, Entomology, CAES)

Thesis title: *Inhibition of the Soluble Epoxide Hydrolase Enzyme and Nociception*

Postgraduate position: Postdoctoral Fellow, UC Davis, Department of Entomology (Professor Bruce Hammock)

**Keisha Williams** (mentor: Jerry Last, Pulmonary and Critical Care, SOM)

Thesis title: *Investigation of cytotoxicity, oxidative stress and inflammation associated with air pollution particles*

Postgraduate position: Postdoctoral Fellow, Michigan State University, Department of Pathology and Diagnostic Investigation, College of Veterinary Medicine (Professor Ning Li)

### MS

**Tamara Kadir** (mentor: Jason Eiserich, Pulmonary and Critical Care, SOM)

Thesis title: *Method Development for Quantitation of Cyanide in Cystic Fibrosis Sputum and Its Capacity to Inhibit Neutrophil Myeloperoxidase*

**Kristen Siao** (mentor: Bruno Pypendop, Surgical and Radiological Sciences, SVM)

Thesis title: *Analgesia In Cats: Effect of Amantadine on Oxymorphone-Induced Thermal Antinociception in Cats*

## Publications by PTX Graduate Students in 2011-2012 Academic Year

- Balmus G, Zhu M, **Mukherjee S**, Lyndaker AM, Hume KR, Lee J, Riccio ML, Reeves AP, Sutter NB, Noden DM, Peters RM, Weiss RS (2012) Disease severity in a mouse model of ataxia telangiectasia is modulated by the DNA damage checkpoint gene Hus1. *Hum Mol Genet*, **21**(15): 3408-20.
- Chan JK**, Fanucchi MV, **Anderson DS**, Abid AD, Wallis CD, Dickinson DA, Kumfer BM, Kennedy IM, Wexler AS, Van Winkle LS (2011) Susceptibility to inhaled flame-generated ultrafine soot in neonatal and adult rat lungs. *Toxicological Sciences*, **124**(2):472-86.
- Chan JKW**, **Kodani SD**, Charrier JG, Morin D, Edwards PC, **Anderson DS**, Anastasio C, Van Winkle LS (2012) Age-specific effects on rat lung glutathione and antioxidant enzymes after inhaling ultrafine soot. *Am J Resp Cell Mol Biol*, in press.
- Cherednichenko G, **Zhang R**, Bannister RA, Timofeyev V, Li N, **Fritsch EB**, Feng W, Barrientos GC, Schebb NH, Hammock BD, Beam KG, Chiamvimonvat N, Pessah IN. (2012) Triclosan impairs excitation-contraction coupling and Ca<sup>2+</sup> dynamics in striated muscle. *Proc Natl Acad Sci U S A*. 2012 Aug 13. [Epub ahead of print]
- Franzi LM, Bratt JM, **Williams KM**, Last JA. (2011) Why is particulate matter produced by wildfires toxic to lung macrophages? *Toxicology and Applied Pharmacology*, **257**: 182-188.
- Gao T, Blanchette C, **He W**, Bourguet F, Ly S, Katzen F, Kudlicki W, Henderson PT, Laurence T, Huser T, Coleman MA (2011) Characterizing diffusion dynamics of a membrane protein associated with nanolipoproteins using fluorescence correlation spectroscopy. *Protein Science*. **20**:437-47.
- Gao T, Petrlova J, **He W**, Huser T, Kudlicki W, Voss J, Coleman MA (2012) Characterization of *de novo* synthesized GPCRs supported in nanolipoprotein discs. *PlosOne* (In press).
- Guedes A, Morisseau C, Sole A, Soares JHN, **Ulu A**, Dong H, Hammock BD (2012) Use of a soluble epoxide hydrolase inhibitor as adjunctive analgesic in a laminitic horse. *Veterinary Anesthesia and Analgesia*, in press.
- Inceoglu B, **Wagner K**, Schebb NH, Morisseau C, Jinks SL, **Ulu A**, Hegedus C, Rose T, Brosnan R, Hammock BD (2011) Analgesia mediated by soluble epoxide hydrolase inhibitors is dependent on cAMP. *Proc Natl Acad Sci U S A*, **108**(12):5093-7.
- Kania-Korwel I, **Barnhart CD**, **Stamou M**, Truong KM, El-Komy MHME, Lein PJ, Veng-Pedersen P, Lehmler H-J (2012) 2,2',3,5',6-Pentachlorobiphenyl (PCB 95) and its hydroxylated metabolites are enantiomerically enriched in female mice. *Environ Sci Tech*, in press.
- Koeners MP\*, Wesseling S\*, **Ulu A\***, Sepúlveda RL, Morisseau C, Braam B, Hammock BD, Joles JA (2011) Soluble epoxide hydrolase (Ephx2) in the generation and maintenance of high blood pressure in spontaneously hypertensive rats. *Am J Physiol Endocrinol Metab*, **300**(4):E691-8. \*Shared first authorship.
- Knych HK, **Corado CR**, McKemie DS, Steffey EP (2012) Pharmacokinetics and selected pharmacodynamic effects of tramadol following intravenous administration to the horse. *Equine Veterinary Journal*, In Press.
- Knych HK, **Corado CR**, McKemie DS, Scholtz E (2012) Pharmacokinetics and pharmacodynamics of tramadol in horses following oral administration. *Journal of Veterinary Pharmacology and Therapeutics*, In Press.
- Liu JY, Qiu H, Morisseau C, Hwang SH, Tsai HJ, **Ulu A**, Chiamvimonvat N, Hammock BD (2011) Inhibition of soluble epoxide hydrolase contributes to the anti-inflammatory effect of antimicrobial triclocarban in a murine model. *Toxicol Appl Pharmacol*, **255**(2):200-6.

- Moore CE**, Puschner B (2012) Chapter 44: Cyanobacteria. *In: Small Animal Toxicology*, 3<sup>rd</sup> edition. Edited by M. Peterson and P. Talcott. Philadelphia: Saunders, Philadelphia, *in press*.
- Morisseau C, Schebb NH, Dong H, **Ulu A**, Aronov PA, Hammock BD (2012) Role of soluble epoxide hydrolase phosphatase activity in the metabolism of lysophosphatidic acids. *Biochem Biophys Res Commun*, 419(4):796-800.
- Murphy SR**, Schelegle ES, Edwards PC, Miller LA, Hyde DM, Van Winkle LS (2012) Postnatal Exposure History and Airways: Oxidant stress responses in airway explants. *American Journal of Respiratory Cell and Molecular Biology*, *in press*.
- Pham NT**, Jewell WT, Morin D, Buckpitt AR (2012). Analysis of naphthalene adduct binding sites in model proteins by tandem mass spectrometry. *Chem Biol Interact*, *in press*.
- Pham NT**, Jewell WT, Morin D, Buckpitt AR (2012). Characterization of model peptide adducts with reactive metabolites of naphthalene by mass spectrometry. *Plos One*, *in press*.
- Roegner A**, Puschner B (2012) Cyanobacterial (Blue-green algae) toxins. *In: Veterinary Toxicology: Basic and Clinical Principles*, Edited by Gupta R. San Diego: Elsevier, Inc, pp. 953-968.
- Roegner A**, Puschner B (2011). Blue green algae (Cyanobacteria). *In: Blackwell's Five-Minute Veterinary Consult: Small Animal Toxicology*, Edited by Osweiler G, Hovda L, Brutlag A, Aimes LG. Iowa: Blackwell Publishing, Ltd, pp. 687-695.
- Roegner A**, Chandra S, Rejmankova E (2011) Cyanotoxin Analysis of Lake Atitlan Waters November 2009 through August 2010, non-peer reviewed report submitted to Amigos Del Lago.
- Sutherland KM**, Edwards PC, Combs TJ, Van Winkle LS (2012) Sex differences in the development of airway epithelial tolerance to naphthalene. *American Journal of Physiology: Lung Cellular and Molecular Physiology*, 302(1):L68-81.
- Ulu A**, Appt SE, Morisseau C, Hwang SH, Rose TE, Jones PD, Dong H, Miyabe C, Lango J, Yang J, Tsai HJ, Fortenbach C, Adams MR, Hammock BD (2012) Pharmacokinetics, and *in vivo* potency of urea soluble epoxide hydrolase inhibitors in cynomolgus monkeys. *Br J Pharmacol*, 165 (5):1401-12.

### **PTX graduate student honors in 2011-2012**

**Donald Anderson** [Laura Van Winkle]

- Superfund Basic Sciences Research Fellowship, 2011-2013
- White Family Graduate Student Award of the John Muir Institute of the Environment

**Christopher Barnhart** [Pam Lein]

- NIEHS T32 Fellowship, 2010-2012
- ARCS (Achievement Rewards for Scientists) Scholar, 2010-2013
- Superfund Basic Sciences Research Fellowship, 2012-2013
- Chancellor's Ambassador 2012-2013

**Brandon Brown** [Heike Wulff]

- Superfund Basic Sciences Research Fellowship, 2012-2013

**Jackie Chan** [Laura Van Winkle]

- NIEHS T32 Fellowship, 2010-2012

**Hao Chen** [Pam Lein]

- Superfund Basic Sciences Research Fellowship, 2011-2013
- NIEHS T32 Fellowship, 2012-2013

**Carley Corrado** [Heather Kynch]

- Best Young Scientist award at the International Conference for Racing Analysts and Veterinarians, Sept 2012 for her "Genotyping and Preliminary Phenotyping of Cytochrome P450, 2D50, in the Horse"

**Erika Fritsch** [Isaac Pessah]

- Superfund Basic Sciences Research Fellowship, 2012-2013
- Marion Miller Memorial Endowment Scholarship, 2012-2013
- 3rd place, Best Student Platform Presentation, 2011 Society of Environmental Toxicology and Chemistry (SETAC) Annual Meeting, Boston, MA

**Peter Henderson** [Johannes Hell]

- NIGMS Pharmacology T32 Fellowship, 2012-2014

**Hyun Tae Hwang** [Anne Knowlton]

- HHMI-IMBS Fellowship, 2012-2013

**Carly Moore** [Birgit Puschner]

- EPA STAR graduate fellowship, 2011-2014
- ARCS (Achievement Rewards for Scientists) Scholar, 2012-2013

**Sucheta Rinti Mukherjee** [Wolf-Dietrich Heyer]

- Honorable Mention, Interdisciplinary Graduate and Professional Student Symposium Poster Session, 2012
- Tobacco Related Drug Research Program Dissertation Fellowship, 2011-2013

**Shannon Murphy** [Laura Van Winkle]

- US EPA STAR Fellowship Renewal
- NorCal SOT Young Investigator Award, 2011
- Invited Speaker - UCD Interdisciplinary and Professional Graduate Student Symposium, 2012

**Yassaman Niknam** [Isaac Pessah]

- Superfund Basic Sciences Research Fellowship, 2011
- NIH T32 Fellowship in Neuroscience, 2012-2013

**Amber Roegner** [Birgit Puschner]

- EPA STAR graduate fellowship, 2010-2013
- SOT CVSS and TEPSS Roger O McClellan Award, March 2012
- Fulbright Academic Student Fellowship, 2011

**Sunil Sadheo** [Gino Cortopassi]

- NIGMS Pharmacology T32 Fellowship, 2012-2014
- Burroughs Wellcome Travel Award, United Mitochondrial Disease Foundation, 2012

**Marianna Stamou** [Pam Lein]

- NorCal SOT Best Abstract Award, 2011

**Arzu Ulu** [Bruce Hammock]

- Superfund Basic Sciences Research Fellowship, 2011-2012

**Steve Vito** [Bruce Hammock]

- NIGMS Pharmacology T32 Fellowship, 2012-2014

**Karen Wagner** [Bruce Hammock]

- NIH T32 Fellowship in Neuroscience

**Keisha Williams** [Jerry Last]

- Floyd and Mary Schwall Dissertation Year Fellowship (2011-2012)

**Ray Zhang** [Isaac Pessah]

- T32 Training Program in Basic and Translational Cardiovascular Science (2010-2012)

## **PTX Student Involvement in Community Service/Educational Outreach Activities in 2011-2012**

### **Brandon Brown** [Heike Wulff]

- PTX website redesign and maintenance

### **Carly Moore** [Birgit Puschner]

- PTX website redesign and maintenance

### **Sucheta Mukherjee** [Wolf Heyer]

- PTX website redesign and maintenance

### **Amber Roegner** [Birgit Puschner]

- UC Davis/ Universidad de la Republica, Montevideo Workshop Coordination & Implementation, Landivar University, Guatemala City, Guatemala, 2011
- Toxicology & public health educator/mentor, Unidos por Un Lago Atitlán Vivo, Lake Atitlán, Guatemala, 2010-2012

### **Marianna Stamou** [Pam Lein]

- NorCal SOT, Graduate student representative for UC Davis, 2012-2013
- SOT, NorCal SOT regional chapter student representative, 2012-2013
- SOT Graduate Student Leadership Committee, Secretary of the Professional Development Subcommittee
- PTX website redesign and maintenance

### **Arzu Ulu** [Bruce Hammock]

- Ad hoc reviewer for Hypertension (2010-2012) and Turkish Journal of Hematology (2012)

### **Steven Vito** [Bruce Hammock]

- PTX website redesign and maintenance

### **Keisha Williams** [Jerry Last]

- Graduate Initiative in Volunteerism and Education (GIVE) – weekly tutoring at Oliver Wendell Holmes Junior High School, Davis, CA

### **Ray Zhang** [Isaac Pessah]

- PTX website redesign and maintenance
- Speaker, 2012 ATSDR-SRP Meeting (A Dialogue between Agency for Toxic Substances and Disease Registry and the NIEHS Superfund Research Program)

## **News from PTX Alumni**

**Myung-Haing Cho** [former graduate student of Dr. Alan Buckpitt] will serve as a president of Asian Society of Toxicology (ASOT) from 2012-2015. ASOT will host an annual meeting at Jeju Island, June 23-26, 2015. All of PTX alumni are welcomed to participate the ASOT meeting