UNIVERSITY OF LOUISVILLE®

SCHOOL OF MEDICINE

Department of Pharmacology & Toxicology

2013 Annual Report

UNIVERSITY OF LOUISVILLE®

TABLE OF CONTENTS

Department of Pharmacology and Toxicology-2013

MISSION

The Department of Pharmacology and Toxicology is committed to academic excellence and to the attainment of regional, national, and international recognition for the quality of its educational, research, and service activities. Guided by the University of Louisville Strategic Plan (The 2020 Plan) to continue our path to national prominence, the mission of the Department of Pharmacology and Toxicology focuses on five broad objectives:

- Provide instruction in pharmacology and toxicology of the highest quality for the education and preparation of medical, dental, nursing, and other health care professional students. Emphasis is placed on the fundamental principles necessary for life-long learning and the essential knowledge required for rational, effective, and safe use of drug therapy.

- Advance biomedical knowledge through high quality research and other scholarly activities, particularly in pharmacology and toxicology and other areas of focus within the University of Louisville 2020 Plan.

- Provide high quality research and educational experiences in pharmacology and toxicology for the education and training of future biomedical scientists who will provide and advance biomedical education, research, and service.

- Provide instruction of the highest quality in pharmacology and toxicology that is appropriate for students at the undergraduate, graduate, and postgraduate levels.

- Provide high quality service to the School of Medicine, the Health Sciences Center, the University, the people of Louisville and the surrounding region, the Commonwealth of Kentucky, professional organizations, the nation, and the world.

NEW FACULTY APPOINTMENTS (Primary appointments)

Leah J. Siskind, PhD was appointed Associate Professor of Pharmacology & Toxicology, tenure track, effective July 1, 2013. Dr. Siskind obtained her BS in neurobiology and physiology and her PhD in biology from the University of Maryland. She subsequently completed postdoctoral training at the University of Maryland and the Medical University of South Carolina. She was appointed assistant professor (research) of medicine at the Medical University of South Carolina subsequently Assistant Professor on the tenure track in the Department of Drug Discovery and Biomedical Sciences in the South Carolina College of Pharmacy at the Medical University of South Carolina. In addition, she held appointment as a Research Health Scientist in the Veterans Administration. The overall goal of her research program is to understand more precisely the role of specific sphingolipids in disease and to identify and develop novel therapeutics. Her research expertise includes lipidomics, membrane biophysics, mitochondrial bioenergetics, cellular and molecular biology, and sphingolipid biochemistry. She is the principal investigator on a large five year NIH R01 grant entitled "Role of ceramide-induced kidney cell death in acute kidney injury that transfered to the University of Louisville upon her appointment.

J. Christopher States, PhD, Professor of Pharmacology and Toxicology was appointed Associate Dean for Research in the School of Medicine effective December 1, 2013.

FACULTY TRANSFER

Geoffrey J. Clark, PhD transferred from the Department of Medicine to Associate Professor of Pharmacology & Toxicology with tenure, effective August 1, 2013. Dr. Clark received his PhD in Molecular Oncology from the University of Manchester. Following postdoctoral fellowships at the University of Southern California, the La Jolla Cancer Research Foundation, and the University of North Carolina, he was appointed Research Assistant Professor in the Department of Pharmacology at the University of North Carolina. He was then recruited to the National Cancer Institute where he served as Head of the Signaling and Oncogenesis Laboratory in the Cell and Cancer Biology Branch prior to his recruitment to the UofL's James Graham Brown Cancer Center Molecular Targets Program in 2006. He has developed a robust cancer research program and has been very successful in obtaining extramural funding support for his research program, including a prestigious NIH R01 Eureka Award.

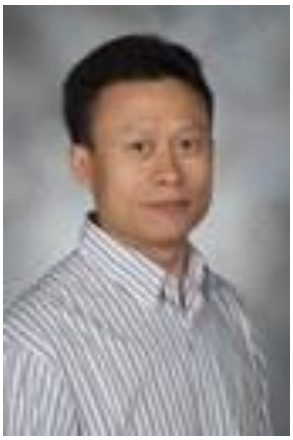
FACULTY EMERIUS APPOINTMENTS

Theresa S. Chen, PhD
Appointed Professor Emerita effective July 1, 2013

Walter M. Williams, MD, PhD
Appointed Professor Emeritus effective July 1, 2013

NEW FACULTY APPOINTMENTS (Secondary appointments)

Shesh N. Rai, PhD
Professor of Bioinformatics and Biostatistics, effective July 1, 2013



Yi Tan, PhD
Assistant Professor of Pediatrics, effective July 1, 2013

Michael L. Merchant, PhD
Associate Professor of Medicine, effective July 1, 2013

Jun Yan, MD, PhD
Professor of Medicine, effective September 1, 2013

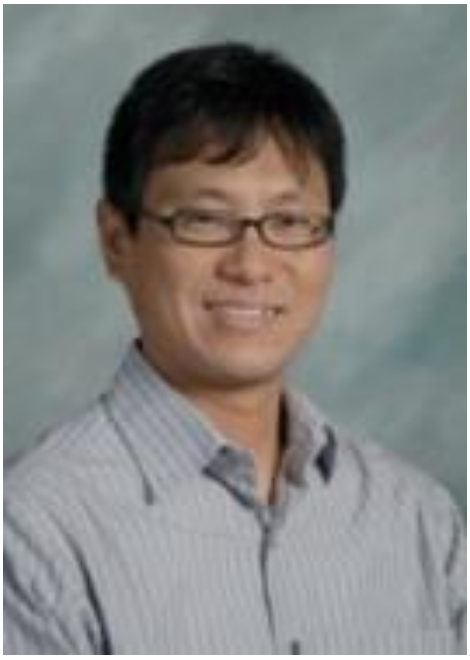
Jill M. Steinbach, PhD
Assistant Professor of Bioengineering, effective October 1, 2013

Robert C.G. Martin, MD, PhD
Professor of Surgery, effective September 1, 2013

Sanjay Srivastava, PhD
Professor of Medicine, effective November 1, 2013

Xiang Zhang, PhD
Professor of Chemistry, effective December 1, 2013

FACULTY PROMOTIONS



Nobuyuki Matoba, PhD, was promoted to Associate Professor of Pharmacology and Toxicology with tenure effective January 1, 2014.

Uma Sankar, PhD, was promoted to Associate Professor of Pharmacology and Toxicology, with tenure effective January 1, 2014.

Guy N. Brock, PhD, was promoted to Associate Professor of Bioinformatics and Biostatistics.

Lu Cai, MD, PhD, was promoted to Professor of Pediatrics.

Jason A. Chesney, MD, PhD, was promoted to Professor of Medicine effective June 1, 2013.

FACULTY RESIGNATIONS

Teresa Whei-Mei Fan, PhD professor of Chemistry resigned August 31, 2013 to accept a position as Professor of Toxicology and Cancer Biology at the University of Kentucky.

Theo Hagg, MD, PhD, professor Neurological Surgery resigned December 31, 2013 to accept the position as Chair of the Department of Biomedical Sciences at East Tennessee State University.

STAFF APPOINTMENTS

Florence Su
Administrative Assistant, effective May 3, 2013

STAFF RETIREMENTS

Sharon Carpenter
Administrative Assistant, effective May 31, 2013

Heddy Rubin-Teitel
Administrative Assistant, effective December 31, 2013

FACULTY WITH PRIMARY APPOINTMENTS

Gavin E. Arteel, **PhD**
Professor and Associate Chair for Research
Ph.D., Toxicology, University of North Carolina-Chapel Hill (1997)

Research Interests: Mechanisms of oxidative stress; mechanisms of alcohol-induced hepatitis, pancreatitis, and hepatocellular carcinoma.

Juliane I. Arteel, PhD (Juliane Beier in professional publications)
Assistant Professor of Pharmacology & Toxicology
Ph.D., Biochemistry and Molecular Biology, Heinrich-Heine-Universität (2005)

Research Interests: Interactions of diet and environmental toxins in the production of non-alcoholic fatty liver disease.

Frederick W. Benz, PhD
Professor
Ph.D., Pharmacology, University of Iowa (1970)

Research Interests: Biochemical pharmacology and toxicology; biochemical mechanisms of drug action and toxicity.

Brian P. Ceresa, PhD
Associate Professor of Pharmacology & Toxicology
PhD, Pharmacology, Vanderbilt University (1995)

Research Interests: Membrane trafficking and signaling of the epidermal growth factor receptor (EGFR); the EGFR is overexpressed and hyperactivated in many cancers; our goal is to better understand how signaling by this receptor is regulated with the goal of attenuating its signaling in cancer.

Theresa S. Chen, PhD
Professor
Ph.D., Pharmacology, University of Louisville (1971)

Research Interests: Biochemical toxicology; role of glutathione in aging toxicology; general and specific toxicity of environmental pollutants

Geoffrey J. Clark, PhD
Associate Professor of Pharmacology & Toxicology
Ph.D., Molecular Oncology, University of Manchester (1989)

Research Interests: Role of RAS oncogenes and RASSF family of tumor suppressors in cancer etiology; development of oncopig model for human cancer; and the identification and development of novel small molecules for cancer therapy.

Keith R. Davis, PhD
Professor
Ph.D., Molecular, Cellular and Developmental Biology, University of Colorado (1985)

Research Interests: Development of plant-made pharmaceuticals; activation of gene expression by oxidative stress; and the role of innate immunity in cancer initiation and progression.

Ramesh C. Gupta, PhD
Professor and Agnes Brown Duggan Chair of Oncological Research
Ph.D. Analytical/Physical Chemistry, University of Roorkee (1972)

Research Interests: Development and identification of intermediate biomarkers to investigate etiology and prevention of human cancers resulting from both environmental and endogenous exposures.

David W. Hein, PhD
Professor and Peter K. Knoefel Chair of Pharmacology and Toxicology
Ph.D., Pharmacology, University of Michigan (1982)

Research Interests: Molecular pharmacogenetics; molecular epidemiology; functional genomics; genetic predisposition to chemical carcinogenesis and drug toxicity; molecular genetics; and environmental toxicology

Harrell E. Hurst, PhD
Professor
Ph.D., Toxicology, University of Kentucky (1978)

Research Interests: Analytical toxicology and kinetics with emphasis on qualitative and quantitative techniques, including gas chromatography, high pressure liquid chromatography and GC/mass spectrometry

Y. James Kang, PhD
Professor
Ph.D., Cell Biology and Zoology, Iowa State University (1989)

Research Interests: Molecular and cardiac toxicology; transgenic and knock-out animal models to study oxidative injury and antioxident systems in the heart; biological functions and toxicological significance of metallothionein and glutathione in vivo

La Creis R. Kidd, PhD, MPH
Associate Professor and Our Highest Potential Endowed Chair in Cancer Research
Ph.D., Toxicology, Massachusetts Institute of Technology (1997)

Research Interests: Gene-gene and gene-environmental interactions; polymorphic xenobiotic metabolizing enzymes and prostate cancer susceptibility; and cancer health disparities

Igor S. Lukashevich, MD, PhD, DSci
Professor of Pharmacology & Toxicology
M.D., Minsk Medical Institute, Belaris (1973)
Ph.D., Institute of Virology, Academy of Medical Science, Moscow Russia (1976)
D.Sc., Institute of Virology, Academy of Medical Science, Moscow Russia (1987)

Research Interests: Novel vaccine technologies (virus-like-particle vectors; reassortant vaccines, infectious DNA vaccination); molecular biology and pathogenesis of viral hemorrhagic fevers

Nobuyuki Matoba, PhD
Associate Professor
Ph.D., Applied Life Sciences, Kyoto University, Japan (2001)

Research Interests: Development of vaccines and antivirals; mucosal immune response to foreign substances; and plant biotechnology for human health

Steven R. Myers, PhD
Associate Professor
Ph.D., Pharmacology, University of Kentucky (1986).

Research Interests: Drug metabolism; metabolism of xenobiotics and chemical carcinogens; use of hemoglobin as biomarker in exposure to xenobiotics

Donald E. Nerland, PhD
Professor
Ph.D., Medicinal Chemistry, University of Kansas (1974).

Research Interests: Biochemical toxicology; metabolism of drugs and environmental pollutants

Kenneth E. Palmer, PhD
Professor
Ph.D., Microbiology, University of Cape Town (1997)

Research Interests: Development of vaccines and antiviral proteins to prevent and treat viral diseases that predispose people to development of cancer

William M. Pierce Jr, PhD
Professor and Executive Vice President for Research and Innovation
Ph.D., Pharmacology and Toxicology, University of Louisville (1981).

Research Interests: Mechanisms of bone formation and resorption; design of novel drugs for management of osteoporosis; biomolecular mass spectrometry; proteomics in structural biology

Peter P. Rowell, PhD
Professor and Vice Chair for Graduate Education
Ph.D., Pharmacology and Therapeutics, University of Florida (1975).

Research Interests: Neuropharmacology; effect of drugs on brain neurotransmitters and receptors

Uma Sankar, PhD
Associate Professor
Ph.D., Molecular, Cellular, and Developmental Biology, Ohio State University (2003).

Research Interests: Role of calcium/calmodulin-dependent protein kinase signaling in hematopoetic stem cell biology and cancer

Leah J. Siskind, PhD
Associate Professor
Ph.D., Biology, University of Maryland (2003)

Research Interests: Role of sphingolipids in regulating cellular processes such as apoptosis, necrosis, proliferation, and inflammation in the context of disease states; Design of drugs to re-balance sphingolipid metabolism and improve disease outcomes

Zhao-Hui (Joe) Song, PhD
Professor
Ph.D., Pharmacology, University of Minnesota (1992).

Research Interests: Molecular pharmacology; cloning and functional characterization of novel G protein-coupled receptors; molecular mechanisms of action and structure-function relationships of cannabinoid (marijuana) receptors

J. Christopher States, PhD
Professor and Graduate Director: Recruitment and Admissions
Ph.D., Molecular Biology and Pathology, Albany Medical College/Union University (1980).

Research Interests: Molecular biology and molecular genetics of DNA damage and repair in humans; mechanisms of chemoresistance; arsenic toxicity and cell cycle disruption

Walter M. Williams, MD, PhD
Professor
Ph.D., Pharmacology, University of Louisville (1970); M.D., University of Louisville (1974).

Research Interests: Studies of drug elimination (metabolism and excretion).

FACULTY WITH SECONDARY APPOINTMENTS

George R. Aronoff, MD
Professor of Medicine
M.D., Indiana University (1975)

Research Interests: Effects of uremia on drug disposition in humans; drug nephrotoxicity and renal drug metabolism, artificial intelligence.

Shirish Barve, PhD
Professor of Medicine
Ph.D., Molecular Pathogenesis, University of Kentucky (1990)

Research Interests: Effects of alcohol on molecular mechanisms of cytokine action, gene expression and liver injury.

Levi J. Beverly, PhD
Assistant Professor of Medicine (Division of Hematology and Oncology)
Ph.D., Molecular Biology, Biochemistry, and Microbiology, University of Cincinnati (2007)

Research Interests: Regulation of anti-apoptotic proteins in cancer progression and treatment.

Aruni Bhatnagar, PhD
Professor of Medicine
Ph.D., Chemistry, University of Kanpur (1985)

Research Interests: Cardiovascular toxicology; oxidative mechanisms of cardiovascular disease; lipid peroxidation in atherosclerosis; gene expression; secondary complications of diabetes.

Haribabu Bodduluri, PhD
Professor of Microbiology & Immunology
Ph.D., Biochemistry, Indian Institute of Science (1983)

Research Interests: Signal transduction and chemoreceptors; role of leukotriene receptors in inflammation and host response.

Michael E. Brier, PhD
Professor of Medicine
Ph.D., Industrial and Physical Pharmacy, Purdue University (1986)

Research Interests: Clinical pharmacokinetics/dynamics; Drug dosing in renal failure.

Guy N. Brock, PhD
Associate Professor of Bioinformatics and Biostatistics
PhD. Statistics, University of New Mexico (2003)

Research Interests: Methodological research in statistical bioinformatics and statistical genetics, with emphasis on cluster validation, missing value imputation, and classification for high-throughput data. Main areas of clinical and collaborative research include transplantation, liver disease, community acquired pneumonia, genetic variants related to breast and prostate cancer, and the molecular determinants of developmental defects during the neural tube and secondary palate formation.

Jian Cai, PhD
Assistant Professor of Medicine
Ph.D., Pharmacology and Toxicology, University of Louisville (1999)

Research Interests: Application of mass spectrometry in biomedical research; Drug and metabolite identification and quantification; Protein identification and post-translational modification; Hemoglobin adducts as biomarkers of chemical exposure and pathogenesis.

Lu Cai, MD, PhD
Professor of Pediatrics and Radiation Oncology
Ph.D., Radiation Biology/Oncology, Norman Bethune University of Medical Sciences (1987)

Research Interests: Diabetic cardiomyopathy and nephropathy

Matthew C. Cave, MD
Assistant Professor of Medicine (Division of Gastroenterology, Hepatology, and Nutrition)
M.D., University of Kentucky (2001)

Research Interests: Steatohepatitis and liver cancer related to environmental and occupational chemical exposures; Complementary and alternative medicine in liver disease; Alcoholic and nonalcoholic fatty liver disease; Treatment of Hepatitis C.

Jason A. Chesney, MD, PhD
Professor of Medicine
Ph.D., Biomedical Sciences/Immunology, University of Minnesota (1997)
M.D., University of Minnesota (1998)

Research Interests: Novel regulators of cancer cell metabolism; identification of emerging viruses and the development of immune-based therapies against widely metastatic cancers.

Daniel J. Conklin, PhD
Associate Professor of Medicine (Cardiology)
Ph.D., University of Notre Dame (1995)

Research Interests: Environmental cardiology; cardiovascular toxicology

Albert R. Cunningham, PhD
Associate Professor of Medicine
Ph.D., Environmental and Occupational Health, University of Pittsburgh (1998)

Research Interests: Structure-Activity Relationship Modeling: Carcinogens, Chemotherapeutics, and Molecular Targets.

John W. Eaton, PhD
James Graham Brown Professor of Medicine
Ph.D., Biological Anthropology and Human Genetics, University of Michigan (1969)

Research Interests: Biological oxidation/reduction reactions with special emphasis on inflammatory diseases and neoplasia.

Paul N. Epstein, PhD
Professor of Pediatrics
Carol B. McFerran Chair in Pediatric Diabetes Research
Ph.D., Pharmacology, Baylor College of Medicine (1981)

Research Interests: Molecular mechanisms of diabetogenesis. The use of transgenic animals to study genetics and molecular mechanisms in vivo.

Wenke Feng, PhD
Assistant Professor of Medicine (Division of Gastroenterology, Hepatology, and Nutrition)
Ph.D, Biochem/Biotech, University for Bodenkultur, Vienna, Austria (1998)

Research Interests: Mechanisms of alcoholic liver disease; Mechanisms of nonalcoholic steatohepatitis; Tissue hypoxia and diabetic complications

Hermann B. Frieboes, PhD
Assistant Professor of Bioengineering
Ph.D., Biomedical Engineering, University of California, Irvine (2006)

Research Interests: 1) Develop and apply realistic, predictive biocomputational models integrated with clinical and laboratory data to study cancer growth and treatment; 2) Design of patient-specific therapies; and 3) Design of multiscale biocomputational models to describe the complex interaction between cancer treatment and the immune system.

Evelyne Gozal, PhD
Associate Professor of Pediatrics
Ph.D., Toxicology, University of Southern California (1997)

Research Interests: Signal transduction pathways involved in neuronal cell survival and neuronal cell death during hypoxia; cellular mechanisms underlying brain adaptation to chronic and intermittent hypoxia; identification of the kinases and transcription factors activated by hypoxia, leading to gene induction and to adaptation to oxygen deprivation.

Yiru Guo, MD
Associate Professor of Medicine (Division of Cardiovascular Medicine)
M.D., Xinjiang Medical University (1982)

Research Interests: Cardio-thoracic and vascular surgery, physiology, and pharmacology. Research focuses on: (i) elucidating the mechanisms of ischemic- pharmacologic- and exercise-induced preconditioning by using the ischemia/reperfusion model in genetically engineered animals, (ii) studying protection of ischemic myocardium by using gene and/or cell therapy, and (iii) elucidating adaptations to ischemia/reperfusion injury in the aging heart.

Theo Hagg, MD, PhD
Professor & Endowed Chair of Neurological Surgery
M.D., University of Leiden (1985)
Ph.D., Neurosciences, University of California-San Diego (1998)

Research Interests: Neurotrophic factor receptors and endogenous stem cells as drug targets to develop repair strategies for neurological disorders, including spinal cord injury.

Michal Hetman, MD, PhD
Associate Professor of Neurological Surgery
Endowed Professor of Molecular Signaling
M.D., Warsaw Medical School (1994)
Ph.D., Experimental and Clinical Medicine, Polish Academy of Sciences (1997)

Research Interests: Role of signaling kinases in neuronal repair and demise.

Ben Jenson, MD
Professor and Senior Scientist, James Graham Brown Cancer Center
M.D., Baylor College of Medicine (1966)

Research Interests: Translational immunology: humoral responses to prevent infection by papillomavirus.

Steven P. Jones, PhD
Associate Professor of Medicine (Division of Cardiovascular Medicine)
Ph.D., Physiology, Louisiana State University Health Sciences Center, Shreveport (2002)

Research Interests: Metabolic signaling in the cardiovascular system

Colleen B. Jonsson, PhD
Professor of Microbiology and Immunology
Ph.D., Biochemistry, Purdue University (1990)

Research Interests: Molecular virology of emerging negative-strand RNA viruses; natural history, ecology, evolution and treatment.

Swati Joshi-Barve, PhD
Assistant Professor of Medicine (Division of Gastroenterology, Hepatology, and Nutrition)
Ph.D., Biochemistry, University of Kentucky (1992)

Research Interests: Mechanisms of Steatohepatitis (nonalcoholic and alcoholic fatty liver disease); Mechanisms of Alcohol-induced Immune Dysfunction; Mechanisms of Hepatocellular Carcinoma.

Brad B. Keller, MD
Professor of Pediatricsand Bioengineering
Kosair Charities Chair and Chief, Division of Pediatric Heart Research
M.D., Pennsylvania State University (1985)

Research Interests: Cardiovascular bioengineering: Development of 3D tissues for heart repair and regeneration.

Chi Li, PhD
Assistant Professor of Medicine
Ph.D, Molecular Biology, Columbia University (1998)

Research Interests: Mechanisms of apoptotic pathways initiated from different intracellular organelles. Molecular and cellular mechanisms that affect inflammation and immunity.

Robert C. G. Martin, MD
Professor and Sam and Lolita Weakley Endowed Chair in Surgical Oncology
M.D., University of Louisville (1995)
Ph.D., Pharmacology & Toxicology, University of Louisville (2008)

Research Interests: Genetic predisposition to cancer

Craig J. McClain, MD
Professor of Medicine
M.D., University of Tennessee-Memphis (1972)

Research Interests: Role of cytokines in liver injury and other forms of hepatotoxicity, interactions with nutrition and toxicology.

Kelly M. McMasters, MD, PhD
Sam and Lolita Weakley Endowed Professor of Surgical Oncology
Ph.D., Cell and Developmental Biology, Rutgers University (1988)
M.D., University of Medicine and Dentistry of New Jersey (1989)

Research Interests: Adenoviral vector cancer gene therapy; Development of vectors that selectively replicate in cancer cells; Mechanisms of E2F-1-induced apoptosis.

Lacey R. McNally, PhD
Assistant Professor of Medicine (Division of Hematology and Oncology)
PhD, Veterinary Medical Science, Louisiana State University (2004)

Research Interests: Metastasis suppressors, such as KISS1, as a method for preventing and treating metastatic pancreatic and ovarian cancers; Mechanisms of chemotherapy resistance and alternative treatment for macro-metastasis and recurrence in ovarian and prostate cancers ; Mechanisms involved in organ specific metastasis of pancreatic, prostate, and breast cancers

Michael L. Merchant, PhD
Associate Professor of Medicine (Division of Nephrology and Hypertension)
PhD, Chemistry, University of Arkansas (1994)

Research Interests: Translational research - the discovery and understanding of biomarkers of renal disease; Basic Research - Mechanisms of renal function decline and fibrosis; Basic Research - Mechanisms for the transition from acute to chronic disease

Chin K. Ng, PhD
Associate Professor of Radiology
Ph.D., Medical Physics, University of Wisconsin (1989)

Research Interests: Development, evaluation, and kinetic studies of radiopharmaceuticals; the use of molecular imaging for biomedical research.

Timothy E. O'Toole, PhD
Assistant Professor of Medicine (Division of Cardiovascular Medicine)
Ph.D., Biological Chemistry, University of Michigan (1987)

Research Interests: Function and regulation of the endothelium in various disease states; Role of miRNA in endothelial regulation towards understanding how diabetic conditions and pollutant exposure affects endothelial miRNA content and the consequent changes in protein expression levels and cellular function.

Donald M. Miller, MD, PhD
James Graham Brown Professor of Medicine
M.D., Duke University (1973); Ph.D., Biochemistry, Duke University (1973)

Research Interests: Molecular and clinical oncology; modulation of oncogene expression; triplex DNA based gene therapy; treatment of melanoma.

M. Michele Pisano, PhD
Professor of Molecular, Cellular and Craniofacial Biology
Ph.D., Anatomy, Thomas Jefferson University (1985)

Research Interests: Molecular developmental toxicology; gene-environment interactions in normal and abnormal embryonic development; growth factor directed cellular signal transduction in embryonic cell growth and differentiation.

Shesh N. Rai, PhD
Professor of Bioinformatics and Biostatistics; Wendell Cherry Chair in Clinical Trial Research
Ph.D., Statistics, University of Waterloo (1993)

Research Interests: Clinical Trials, Survival Analysis, Bioinformatics, Mixed Effects Model, Sample Survey, Quantitative Risk Assessment

George C. Rodgers, MD, PhD
Professor of Pediatrics; Humana Chair of International Pediatrics
Ph.D., Organic Chemistry, Yale University (1964); M.D., State University of New York (1975).

Research Interests: Toxicokinetics in drug overdoses and pharmacokinetics in pediatric disease states.

Jesse Roman, MD
Professor and Chair of Medicine
M.D., University of Puerto Rico School of Medicine (1983)

Research Interests: Extracellular matrices and integrin receptors in lung development, injury, and repair; Role of nicotinic acetylcholine receptors and control of matrix expression in lung; Lung tissue remodeling in tobacco- and ethanol-related lung disorders; Control of lung carcinoma growth by extracellular matrices.

David A. Scott, PhD
Associate Professor of Oral Immunology & Infectious Diseases
Ph.D., Microbiology and Immunology, McGill University (1997)

Research Interests: Tobacco-induced alterations to microbial-associated molecular patterns of Porphyromonas gingivalis; Tobacco-induced alterations to innate-pathogen interactions; Tobacco alkaloid amplification of endogenous anti-inflammatory pathways; Identification of gingivitis- and periodontitis-specific infrared molecular signatures

Sanjay Srivastava, PhD
Professor of Medicine (Cardiology)
Ph.D., Chemistry, University of Lucknow (1993)

Research Interests: Delineating the mechanisms by which environmental pollutants cause endothelial activation, vascular inflammation, insulin resistance and atherosclerosis.

Jill M. Steinbach, PhD
Assistant Professor of Bioengineering
Ph.D., Biomedical Engineering, Arizona State University (2009)

Research Interests: Design and development of drug and gene delivery vehicles for physiologically difficult-to-deliver-to microenvironments.

Yi Tan, PhD
Assistant Professor of Pediatrics
Ph.D., Biomedical Engineering, Chongqing University (2004)

Research Interests: Signaling pathways and therapeutic strategies in diabetic complications including cardiomyopathy, cardiac insulin resistance, stem cell mobilization and ischemic angiogenesis.

David J. Tollerud, MD
Professor and Chair of Environmental and Occupational Health Sciences
M.D., Mayo Medical School (1978); M.P.H., Harvard Medical School (1990)

Research Interests: Occupational and environmental health; Occupational toxicology; molecular epidemiology.

Janice E. Sullivan, MD
Professor of Pediatrics
M.D., University of Minnesota (1988)

Research Interests: Clinical pharmacology with a focus on developmental pharmacokinetics and pharmacodynamics.

Brian (Binks) W. Wattenberg, PhD
Associate Professor of Medicine
Ph.D., Biological Chemistry, Washington University (1981)

Research Interests: Sphingosine-kinase and lipid signaling. Trafficing of tail-anchored proteins.

Jun Yan, MD, PhD
Professor of Medicine and Endowed Chair in Translational Research
M.D., Jiangsu University School of Medicine (1985)
Ph.D., Immunology, Shanghai Jiaotong University School of Medicine (1997)

Research Interests: Immunotherapy and **v**accines for treatment of cancer and infectious diseases

Hong Ye, PhD
Associate Professor of Medicine
Ph.D., Biophysics, Keele University (1998)

Research Interests: Research to understand the structure and mechanism of tumorgenesis, with focus on Notch signaling pathway and chromosome DNA damage; X-ray crystallography, in combination with other biochemical and biophysics methods to understand the function of various molecular complexes.

Walter H. Watson, PhD
Assistant Professor of Medicine (Division of Gastroenterology, Hepatology and Nutrition)
Ph.D. Toxicology, University of Kentucky (1999)

Research Interests: Oxidative stress and redox signaling; Mechanistic toxicology; Alcoholic and nonalcoholic fatty liver disease.

Wolfgang Zacharias, PhD
Professor of Medicine
Ph.D., Biochemistry, Philipps-University, Marburg, Germany (1980)

Research Interests: Ribozymes for gene therapy in rheumatoid arthritis; involvement and roles of cathepsins in oral cancers; gene expression profiling with DNA microarray chip technology.

Xiang Zhang, PhD
Professor of Chemistry
Ph.D., Bioanalytical Chemistry, Purdue University (2001)

Research Interests: Molecular systems biology, by exploiting practical and efficient high-throughput technologies for analyses of complex mixtures to facilitate the development of preventive, predictive and personalized medicine for the promotion of health and wellness.

FACULTY WITH EMERITUS APPOINTMENTS

- **Carr, Laurence A.**, Professor Emeritus; Ph.D., Michigan State University (1969).
- **Chen, Theresa,** Professor Emerita; Ph.D., University of Louisville (1971).
- **Dagirmanjian, Rose**, Professor Emerita; Ph.D., University of Rochester (1960).
- **Darby, Thomas D.**, Professor Emeritus; Ph.D., Medical College of South Carolina (1957).
- **Jarboe, Charles H.**, Professor Emeritus; Ph.D., University of Louisville (1956).
- **Waddell, William J.**, Professor and Chair Emeritus; M.D., University of North Carolina (1955).
- **Waite, Leonard C.,** Professor Emeritus, Ph.D., University of Missouri (1969).
- **Williams, W. Michael,** Professor Emeritus, Ph.D., University of Louisville (1970); M.D., University of Louisville (1974).

FACULTY WITH ADJUNCT APPOINTMENTS

- **James A. Blank,** Adjunct Associate Professor of Pharmacology and Toxicology; PhD, Pharmacology and Toxicology, University of Louisville School of Medicine (1985).

- **Adrian J. Fretland,** Adjunct Assistant Professor of Pharmacology and Toxicology; PhD, Pharmacology and Toxicology, University of Louisville School of Medicine (2000).

- **John C. Lipscomb,** Adjunct Associate Professor of Pharmacology and Toxicology; PhD, Pharmacology and Toxicology, University of Arkansas for Medical Sciences (1991).

- **Kristin J. Metry-Baldauf**, Adjunct Assistant Professor of Pharmacology and Toxicology; PhD, Pharmacology and Toxicology, University of Louisville School of Medicine (2007).

- **Eric M. Vela**, Adjunct Assistant Professor of Pharmacology and Toxicology; PhD, Virology and Gene Therapy, University of Texas Health Sciences Center at Houston (2005)

OFFICE STAFF

Carpenter, Sharon	Administrative Assistant
Greca, Edie	Unit Business Manager
McClain, Marion	Research Facilitator (Primary appointment in Department of Medicine; Part time in Department of Pharmacology and Toxicology)
Rubin-Teitel, Heddy	Administrative Assistant
Su, Florence	Administrative Assistant
Tatum, Shiloh	Unit Business Manager (Primary appointment in Department of Medicine; Part time in Pharmacology and Toxicology)

FACULTY HONORS

Arteel, Gavin:

- Received the Jewish Hospital & St. Mary's Foundation Basic Research Faculty Award at Research!Louisville
- Protégé (Massey VL), Ohio Valley Society of Toxicology annual meeting. Abstract selected for a platform presentation; 1st place student award
- Most promising basic research faculty award, 1st place, Research!Louisville
- Co-author (Ramakrishnan VM) Research!Louisville; 2nd place Medical Student Poster Award)

Arteel, Juliane Beier:

- 2013 Member of the AASLD Education Committee

Gupta, Ramesh:

- Special recognition by the University of Louisville President for issuance of Dr. Gupta's patented technology as an Option Agreement to 3P Biotechnologies, September 9, 2013
- A special Symposium titled "Technologies in Carcinogenesis and Cancer Chemoprevention" was held (May 30-31) in honor of Dr. Gupta's 65th birthday, organized by Drs. Ravi Kumar and Vadhanam. Over 20 invited speakers from the U.S., England and India were the speakers; the symposium was also accompanied by a Special Issue on the subject, published by *Cancer Letters*

Hein, David:

- Appointed Visiting Professor at Wenzhou Medical University
- Summer student (Neil Bodduluri) selected for third place poster presentation award at Research!Louisville
- Graduate student (Marcus Stepp) selected for oral research presentation at annual meeting of the Ohio Valley Society of Toxicology

Hurst, Harrell:

- Recognition for 35 years of faculty service, University of Louisville

Kidd, LaCreis:

- 2004-present: "Our Highest Potential" Endowed Chair in Cancer Research, James Graham Brown Cancer Center, University of Louisville (UofL), School of Medicine
- Student—Dominique Jones:
  2012-2015: $20,000 Southern Regional Education Board Doctoral Scholars Award
  2011-2012: Integrated Programs in Biomedical Sciences Fellowship (IPIBS), UofL
  2012: Golden Key International Honor Society for having a ≥ GPA 3.5

Lukashevich, Igor:

- University Scholar, 2011-present

McClain, Craig:

- Selected as the 2013 recipient of the Elizabeth Hurlock Beckman Award, a very prestigious national award for mentoring

Sankar, Uma:

- NIH Early Career Reviewer
- American Cancer Society Research Scholar
- ASBMR Young Investigator Travel Award for graduate student Zack Pritchard
- Pritchard Z, Cary, R, Novack D, Voor M and Sankar U. CaMKK2 Inhibition as a Novel Bone Anabolic Strategy in the Prevention of Post-Menopausal and Therapy-Induced Osteoporosis 35th Annual Meeting of the American Society for Bone and Mineral Research, October 4-7, 2013, Blatimore, MD. ***Was selected to be presented as a Plenary Poster on October 4 and 5, and graduate student Zack Pritchard won a Young Investigator Travel Award for the meeting.***

States, J. Christopher:

- Student—Douglas J. Saforo, Pfizer Undergraduate Student Travel Award

Tan, Yi:

- Received the Young Faculty Investigator Award at Research!Louisville

STUDENT HONORS

Samantha Barry (**Kelly McMasters**, mentor) received the 1st place National Cancer Institute Outstanding Cancer Research Presentation Award in the professional student category at Research!Louisville.

Srineil Bodduluri (**David Hein**, mentor) and **Cameron Campbell** (**Ramesh Gupta,** mentor) received the 3rd place National Cancer Institute Outstanding Cancer Research Presentation Award in the undergraduate student category at Research!Louisville.

Smita Ghare (**Shirish Barve,** mentor) received the 1st place Postdoctoral Fellow Research Associate Award at Research!Louisville.

Justin Huang (**Lacey McNally,** mentor) received the 1st place Master's Basic Science Graduate Student award at Research!Louisville.

Sean Shannon (**Levi Beverly,** mentor) received the 2nd place National Cancer Institute Outstanding Cancer Research Presentation Award in the professional student category at Research Louisville.

Stephen Wechman (**Kelly McMasters,** mentor) received the 3rd place Master's Basic Science Graduate Student Award at Research!Louisville.

Ray Yeager (**Daniel Conklin,** mentor) received the Public Health and Information Sciences Research & Practice in Public Health Award at Research Louisville.

OHIO VALLEY SOCIETY OF TOXICOLOGY (OVSOT) AWARDS

Melissa Skibba (**Lu Cai,** mentor) received the M.S. poster award.

Banrida Wahlange (**Matt Cave,** mentor) received the PhD Platform Presentation Award and was named the next student representative.

Veronica L. Massey (**Gavin Arteel,** mentor) received the Battelle minority/woman student award.

Natasha DeJarnett (**Aruni Bhatnagar**, mentor) received the Post-doc Poster Award.

Smita Ghare (**Shirish Barve**, mentor) was awarded the Post-doc Platform Presentation Award and was named the next post-doc representative.

KC HUANG OUTSTANDING STUDENT AWARDS

Colins O. Eno (**Chi Li,** mentor)
Dissertation: The role of endogenous Bcl-xL in regulation of apoptotic signaling pathways.

Akshata Moghe (**Shirish Barve,** mentor)
Dissertation: The role of chromatin remodeling in curcumin-mediated regulation of gene expression in hepatocellular carcinoma.

2013 GRADUATES

Graduate	Degree	Mentor	Dissertation/Thesis Title
 Pei-Hsin (Penny) Cheng	Ph.D.	Kelly M. McMasters M.D., Ph.D.	Cyclin E induction and oncolytic replication of E1B-deleted adenoviruses
 Amanda B. Lasnik	M.S.	Kenneth E. Palmer, Ph.D.	Preclinical safety assessment of griffithsin-based baginal microbicides

 Alex C. Belshoff	Ph.D.	Teresa Fan, Ph.D.	Probing the anti-cancer mechanism of selenite: a metabolic approach
 Robin H. Schmidt	Ph.D.	Gavin E. Arteel, Ph.D.	Olanzapine-induced liver injury: direct metabolic effects, exacerbation by high-fat diet, and protection with sulforaphane
 Christopher G. England	M.S.	Hermann B. Frieboes, Ph.D.	Optimization of drug uptake into solid tumors using an integrated experimental/computational modeling approach
 Glenn W. Vicary	M.S.	Jesse Roman, M.D.	The role of α7 nicotinic acetylcholine receptors in lung injury and repair

PHARMACOLOGY & TOXICOLOGY PUBLICATIONS
Faculty with Primary Appointments and Students

1. Al-Maqtari T, Sankar U. *Approaches in the treatment of Parkinson's disease: A review of the main approaches in the treatment of Parkinson's disease with a focus on stem cell-based therapies.* Lambert academic publishing house online, 2013

2. Arteel GE. Heme oxygenase and hepatic microcirculation: more than just carbon monoxide? *Digestion*. 2013, 87:100-101

3. Arteel GE. Build a better mouse model and the world will beat a path to your door. *Hepatology*, 2013,58:1526-28.

4. Beverly LJ, Howell LA, Hernandez-Corbacho MJ, Casson L, Chipuk JE, and Siskind LJ. BAK activation is necessary and sufficient to drive ceramide synthase-dependent ceramide accumulation following inhibition of BCL2-like proteins. *Biochem. J*., 2013,452(1):111-9

5. Camp JV, Chu Y-K, Chung D-H, McAllister RC, Adcock RS, Gerlach RL, Weimkin TL, Peyrami P, Ramirez JA, Summersgill JT, Jonsson CB. Phenotypic Differences in Virulence and Immune Response in Closely Related Clinical Isolates of Influenza A 2009 H1N1 Pandemic Viruses in Mice. PLoS ONE, 2013, 8(2): e56602. doi:10.1371/journal.pone.0056602

6. Cary RL, Waddell S., Novack DN, Long F, Voor MJ, Sankar U. 2013. Inhibition of CaMKK2 stimulates osteoblast differentiation and inhibits osteoclast formation. *Journal of Bone and Mineral Research*, 2013; 28(7): 1599-610, PMID: 23408651.

7. Casson L, Howell L, Mathews LA, Ferrer M, Southall N, Guha R, Keller JM, Thomas C, Siskind LJ, Beverly LJ. Inhibition of ceramide metabolism sensitizes human leukemia cells to inhibition of BCL2-like proteins. *PLoS One*. 2013, 8(1): e54525.

8. Ceresa, B.P. Spatial Regulation of Epidermal Growth Factor Receptor Signaling by Endocytosis *Int. J. Mol. Sci.*, 2013, *14*(1), 72-87; doi:10.3390/ijms14010072

9. Cheng P-H, Lian S, Zhao R, Rao X-M, McMasters KM, Zhou HS. Combination of autophagy inducer rapamycin and oncolytic adenovirus improves antitumor effect in cancer cells. Virology Journal, 2013, 10(1):293. doi:10.1186/1743-422X-10-293. Sep 23.

10. Cheng P-H, Rao X-M, McMasters KM, Zhou HS. Molecular basis for viral selective replication in cancer cells: activation of CDK2 by adenovirus-induced cyclin E. PLoS ONE, 2013, 8(2): e57340. doi:10.1371/journal.pone.0057340. Epub 2013 Feb 20.

11. Chung DH,Vastermark A, Camp JV, McAllister RC, Remold SK, Chu YK, Bruder C, Jonsson CB. (2013) *The murine model for Hantaan virus-induced lethal disease shows two distinct paths in viral evolutionary trajectory with and without ribavirin treatment.* J Virol, 2013. 87(20):10997-11007.

12. Dong DY, Wang B, Yin W, Ding XQ, Yu JJ, Kang YJ. Disturbance of copper homeostasis is a mechanism for homocysteine-induced vascular endothelial cell injury. *Plos One*, 2013, 8 (10): e76209.

13. Fu Z, Shrubsole MJ, Li G, Smalley WE, Hein DW, Cai Q, Ness RM, Zheng W: Interaction of cigarette smoking and carcinogen-metabolizing polymorphisms in the risk of colorectal polyps. *Carcinogenesis*, 2013, 34:779-786. [PMCID: PMC3616674]

14. Gibson TM, Smedby KE, Skibola CF, Hein DW, Slager SL, De Sanjose S, Vajdic CM, Zhang Y, Chiu BC, Wang SS, Hjalgrim H, Nieters A, Bracci PM, Kricker A, Zheng T, Kolar C, Cerhan JR, Darabi H, Becker N, Conde L, Holford TR, Weisenberger DD, De Roos AJ, Butterbach K, Riby J, Cozen W, Benavente Y, Palmers C, Holly EA, Sampson JN, Rothman N, Armstrong BK, Morton LM: Smoking, variation in *N*-acetyltransferase 1 (*NAT1*) and 2 (*NAT2*), and risk of non-Hodgkin lymphoma: a pooled analysis within the InterLymph consortium. *Cancer Causes and Control*, 2013, 24:125-134. [PMCID: PMC3529854]

15. Gobejishvili L, Barve S, Breitkopf-Heinlein K, Li Y, Zhang J, Avila D, Dooley S, McClain, CJ. Rolipram Attenuates Bile Duct Ligation-Induced Liver Injury in Rats; A Potential Pathogenic Role of PDE4. J Pharmacol Exp Ther, 2013, Oct;347(1):80-90. Epub 2013 Jul 25. PMID: 23887098; PMCID:PMC3781411

16. Hamorsky KT, Grooms-Williams TW, Husk AS, Bennett LJ, Palmer KE, Matoba N. Efficient single tobamovirus vector-based bioproduction of broadly neutralizing anti-HIV-1 monoclonal antibody VRC01 in *Nicotiana benthamiana* plants and utility of VRC01 in combination microbicides. *Antimicrobial Agents and Chemotherapy, 2013,* 57(5):2076-86 PMID: 23403432 PMCID in process.

17. Hamorsky KT, Kouokam JC, Bennett L, Baldauf KJ, Kajiura H, Fujiyama K, Matoba N. Rapid and Scalable Plant-based Production of a Cholera Toxin B Subunit Variant to Aid in Mass Vaccination against Cholera Outbreaks. PLoS Neglected Tropical Diseases, 2013 e2046.

18. Harrison BJ, Flight RM, Gomes C, Venkat G, Ellis, SR, Sankar U, Twiss JL, Rouchka, EC, Petruska JC. IB4-binding sensory neurons in the adult rat express a novel 3' UTR-extended isoform of CaMK4 that is associated with its localization to axons. *J Comp Neurol,* 2013, Jul 1. doi: 10.1002/cne.23398. [Epub ahead of print] PMID: 23817991.

19. He W, Kang YJ. Ischemia-induced copper loss and suppression of angiogenesis in the pathogenesis of myocardial infarction. *Cardiovas Toxicol*, 2013, 13:1-8.

20. Jiang X, **Skibba M**, Zhang C, Tan Y, Xin Y, Qu Y. 2013. The Roles of Fibroblast Growth Factors in the Testicular Development and Tumor. J. Diabetes Research 2013, 1-8.

21. Jones DZ, Ragin C, Kidd NC, Flores-Obando RE, Jackson M, McFarlane-Anderson N, Tulloch-Reid M, Kimbro KS, Kidd LR. The impact of genetic variants in inflammatory-related

genes on prostate cancer risk among men of African Descent: a case control study. Hered Cancer Clin Pract., 2013, 11(1):19

22. Kaiser JP, Arteel GE. The role of plasminogen activated inhibitor-1 in alcoholic liver disease. In: Recent advances in alcoholic liver diseases (Romani A, ed) Transworld Research Network, Kerala, India. 2013

23. Kang YJ. (2013) Regenerative Medicine Research: an open access translational medicine journal. Regenerative Medicine Research, 2013, 1:1 doi:10.1186/2050-490X-1-1

24. Kang, Y. J., Chapter 18, "Toxic responses of the heart and vascular system." In the "Casarett & Doull's TOXICOLOGY: The Basic Science of Poisons" edited by Curtis D. Klaassen, 8th edition, McGraw-Hill Companies, Inc., 2013, pp 799-838.

25. Kang YJ, Zheng LL. Rejuvenation: An integrated approach to regenerative medicine. *Regen Med Res*, 2013, 1(1):1-8.

26. Kausar H, Munagala R, Bansal S, Aqil F Vadhanam MV, Gupta RC. Cucurbitacin B potently suppresses non-small-cell lung cancer growth: identification of intracellular thiols as critical targets. *Cancer Letter*. 2013, 332: 35-45.

27. Kessans SA, Linhart MD, Matoba N, Mor TS. Biological and biochemical characterization of HIV-1 Gag/dgp41 virus-like particles expressed in Nicotiana benthamiana. Plant Biotechnol J. 2013, 11(6)681-90.

28. Kidd LR, Rogers, EN, Yeyeodu ST, Jones, DZ, Kimbro KS. Contribution of toll-like receptor signaling pathways to breast tumorigenesis: Breast Cancer and Treatment Strategies. *Breast Cancer: Targets and Therapy.* 2013, 5:43-51

29. Kirpich IA, Feng W, Wang Y, Liu Y, Beier JI, Arteel GE, Falkner KC, Barve SS, McClain CJ.
Ethanol and Dietary Unsaturated Fat (Corn Oil/Linoleic Acid Enriched) Cause Intestinal Inflammation and Impaired Intestinal Barrier Defense in Mice Chronically Fed Alcohol. *Alcohol*, 2013; 47(3):257-64. PMCID: PMC3617059

30. Korrapati MC, Howell LH, Shaner BE, Megyesi JK, Siskind LJ, Schnellmann RG. Suramin: a potential therapy for diabetic nephropathy. *PLoS One*. 2013, 8(9):e73655

31. Kotsikorou E, Navas F 3rd, Roche MJ, Gilliam AF, Thomas BF, Seltzman HH, Kumar P, Song ZH, Hurst DP, Lynch DL, Reggio PH. The Importance of Hydrogen Bonding and Aromatic Stacking to the Affinity and Efficacy of Cannabinoid Receptor CB2 Antagonist, 5-(4-chloro-3-methylphenyl)-1-[(4-methylphenyl)methyl]-N-[(1S,2S,4R)-1,3,3-trimethylbicyclo[2.2.1]hept-2-yl]-1H-pyrazole-3-carboxamide (SR144528). J Med Chem, 2013, 56(17):pp6593-6612. PMID: 23855811

32. Kumar P, Song ZH. Identification of raloxifene as a novel CB2 inverse agonist. Biochem Biophys Res Commun, 2013, 435(1):pp76-81. PMID: 23611779

33. Kumar P, Kumar A, Song ZH (2013) Structure-activity relationships of fatty acid amide ligands in activating and desensitizing G protein-coupled receptor 119, Eur J Pharmacol, 2013 Oct 30. pii: S0014-2999(13)00805-4. doi: 10.1016/j.ejphar.2013.10.044. PMID: 24184668

34. Li QF, Ding XQ, Kang YJ. Copper promotion of angiogenesis in isolated rat aortic ring: Role of vascular endothelial growth factor. *J Nutri Biochem*, 2013, 25:44-49.

35. Luís FF, Neves L, Van Rite BD, Ramesh R, Resasco DE, Harrison RG. Targeting single-walled carbon nanotubes for the treatment of breast cancer using photothermal therapy. Nanotechnology, 2013 Sep 20; 24(37):5104 doi:10.1088/0957-4484/24/37/375104

36. Lukashevich IS. The search for animal models for Lassa fever vaccine development. Expert Rev Vaccines. 2013 Jan;12(1):71-86. doi: 10.1586/erv.12.139.

37. McDonagh EM, Boukouvala S, Aklillu E, Hein DW, Altman RB, Klein TE. PharmGKB Very important pharmacogene (VIP) for N-acetyltransferase 2. Published online at https://www.pharmgkb.org/gene/PA18#tabview=tab3&subtab=32.

38. Munagala R, Aqil F, Vadhanam MV, Gupta RC. MicroRNA 'signature' during estrogen-mediated mammary carcinogenesis and its reversal by ellagic acid intervention. *Cancer Letters*, 2013, 339: 175-184.

39. Ngalame N, Micciche A, Feil M, States JC. Delayed temporal increase of hepatic Hsp70 in ApoE knockout mice after prenatal arsenic exposure. Toxicol Sci., 2013, 131: 225-233

40. Nixon B, Stefanidou M, Mesquita PM, Fakioglu E, Segarra T, Rohan L, Halford W, Palmer KE, Herold BC. Griffithsin prevents genital herpes in mice by preventing cell to cell spread. *Journal of Virology*, 2013, 87(11):6257-69. PMID: 23536670 PMCID in process

41. Palmer KE, Gleba Y (editors). *Plant Viral Vectors.* Current Topics in Microbiology and Immunology Vol. 375. Springer Verlag: Heidelberg, 194 pages. ISBN 978-3-642-40829-8, 2013

42. Rebbeck TR, Devesa SS, Chang BL, Bunker CH, Cheng I, Cooney K, Eeles R, Fernandez P, Giri VN, Gueye SM, Haiman CA, Henderson BE, Heyns CF, Hu JJ, Ingles SA, Isaacs W, Jalloh M, John EM, Kibel AS, Kidd LR, Layne P, Leach RJ, Neslund-Dudas C, Okobia MN, Ostrander EA, Park JY, Patrick AL, Phelan CM, Ragin C, Roberts RA, Rybicki BA, Stanford JL, Strom S, Thompson IM, Witte J, Xu J, Yeboah E, Hsing AW, Zeigler-Johnson CM. Global patterns of prostate cancer incidence, aggressiveness, and mortality in men of African descent. Prostate Cancer. 2013:560857.

43. Richard EM, Thiyagara T, Bunni MA, Basher F, Roddy PO, Siskind LJ, Nietert PJ, Nowling TK. Reducing FLI1 Levels in the MRL/lpr Lupus Mouse Model Impacts T Cell Function by Modulating Glycosphingolipid Metabolism. *PLoS One.*, 2013, 8(9):e75175

44. Rogers EN, Jones DZ, Kidd NC, Yeyeodu S, Brock G, Ragin C, Jackson M, McFarlane-Anderson N, Tulloch-Reid M, Sean Kimbro K, Kidd LR. Toll-like receptor-associated sequence variants and prostate cancer risk among men of African descent. Genes Immun., 2013, 14(6):347-55

45. Rush JS, Ceresa B.P. RAB7 and TSG101 are required for the constitutive recycling of unliganded EGFRs via distinct mechanisms. *Mol Cell Endocrinol*., 2013, 381(1-2):188-197.

46. Schmidt RH, Jokinen JD, Massey VM, Falkner KC, Shi X, Yin X, Zhang X, Beier JI, Arteel GE. Olanzapine Activates Hepatic Mammalian Target Of Rapamycin (Mtor): New Mechanistic Insight Into Metabolic Dysregulation With Atypical Antipsychotic Drugs. *J Pharmacol Exp Ther*. 2013; 347(1):126-35. PMCID: PMC3781405

47. Sharma RJ, Aqil F, Jeyabalan J, Gupta RC, Singh IP. Quantitative Analysis of *Eugenia jambolana* (Willd. Ex O.Berg) for Its Major Anthocyanins by Densitometry. *J. Planar Chromat., 2013, 26(4): 363–369.*

48. Shukla SD, Pruett SB, Szabo G, Arteel GE. Binge ethanol and liver: new molecular developments. *Alcoholism: Clinical and Experimental Research,* 2013, 37:550-7

49. Siskind, LJ, Beverly, LJ. Breaking through the tunnel vision: toward a unified model for the role of sphingolipids in apoptosis. ASBMB Today. 2013, 13(9): 25-26

50. Song M, Schuschke DA, Zhou Z, Chen T, Shi X, Zhang J, Zhang X, Pierce WM Jr, Johnson WT, Vos MB, McClain CJ. Modest fructose beverage intake causes liver injury and fat accumulation in marginal copper deficient rats. *Obesity (Silver Spring*). 2013 Aug;21(8):1669-75. doi: 10.1002/oby.20380. Epub 2013 May 31.

51. Sun XR, Cai JD, Fan X, Han PF, Xie YP, Chen JM, Xiao Y, Kang YJ. Decreases in electrocardiographic R-wave amplitude and QT interval predict myocardial ischemic infarction in Rhesus monkeys with left anterior descending artery ligation. *Plos One*, 2013, 8 (8): e71876.

52. Tretyakova I, Lukashevich IS, Glass P, Wang E, Weaver S, Pushko P. Novel vaccine against Venezuelan equine encephalitis combines advantages of DNA immunization and a live attenuated vaccine. Vaccine, 2013, 31:1019-1025.

53. Vuyyuri, S B, Rinkinen, J, Worden, E, Shim, H, Lee, S, Davis, K R. Ascorbic acid and a cytostatic inhibitor of glycolysis synergistically induce apoptosis in non-small cell lung cancer cells. PLoS ONE, 2013, 8(6): e67081.

54. Wahlang B, Beier JI, Clair HB, Bellis-Jones HJ, Falkner KC, McClain CJ, Cave MC. Toxicant-Associated Steatohepatitis. *Toxicol Pathol.,* 2013; 41(2):343-60. Review.

55. Wahlang, B, Falkner, KC, Gregory, B, Ansert, D, Young, D, Conklin, DJ, McClain, CJ Bhatnagar, A, Cave, M**.** Polychlorinated Biphenyl 153 Is a Diet-dependent Obesogen Which

Worsens Nonalcoholic Fatty Liver Disease In C57BL6/J Mice. J Nutr Biochem. 2013 Sep;24(9):1587-95. doi: 10.1016/j.jnutbio.2013.01.009. Epub 2013 Apr 22

56. Wang B, Dong DY, Kang YJ. Copper chaperone for superoxide dismutase-1 transfers copper to mitochondria but does not affect cytochrome c oxidase activity. *Exp Biol Med*, 2013, 238:1017-1023

57. Wecker L., Engberg ME, Philpot RM, Lambert CS, Kang CW, Antilla JC, Bickford PC, Hudson CE, Zesiewicz TA, Rowell, PP. Neuronal nicotinic receptor agonists improve gait and balance in olivocerebellar ataxia. *Neuropharm*. 2013, 73: 75-86, 2013.

58. Wei X, Shi X, Koo I, Kim S, Schmidt RH, Arteel GE, Watson WH, McClain C, Zhang X MetPP: a computational platform for comprehensive two-dimensional gas chromatography time-of-flight mass spectrometry-based metabolomics. *Bioinformatics*, 2013, 29:1786-92.

59. Xu X, Shi F, Huang WL, Kang YJ. Metallothionein gene transfection reverses the phenotype of activated human hepatic stellate cells. *J Pharmacol Exp Ther*, 2013, 346:48-53.

60. Yaddanapudi K, Putty K, Rendon BE, Lamont GJ, Faughn JD, Satoskar A, Lasnik A, Eaton JW, Mitchell RA: Control of tumor-associated macrophage alternative activation by macrophage migration inhibitory factor. *J Immunol* 2013, 190(6):2984-2993.

61. Yeyeodu ST, Kidd LR, Oprea-Ilies GM, Burns BG, Vancleave TT, Shim JY, Kimbro KS. *IRAK4* and *TLR3* Sequence Variants may Alter Breast Cancer Risk among African-American Women. *Front Immunol*. 2013, 4:338.

62. Zapata JC, Carrion R Jr, Patterson JL, Crasta O, Zhang Y, Mani S, Jett M, Poonia B, Djavani M, David M, White DM, Lukashevich IS, Salvato MS. Transcriptome Analysis of Human Peripheral Blood Mononuclear Cells Exposed to Lassa Virus and to the Reassortant ML29, a Vaccine Candidate. PLoS Negl Trop Dis, 2013, 7(9): e2406; doi:101371/journal.pntd.0002406.

63. Zapata JC, Poonia B, Bryant J, Davis H, Ateh E, George L, Crasta O, Zhang Y, Slezak T, Jaing C, Pauza CD, Goicochea M, Moshkoff D, Lukashevich IS. An attenuated Lassa vaccine in SIV-infected rhesus macaques does not persist or cause arenavirus disease but does elicit Lassa virus-specific immunity. Virology J, 2013, Feb 12;10(1):52

64. Zhang C, Zhang L, Chen S, Feng B, Lu X, Bai Y, Liang G, Tan Y, Shao M, **Skibba M**, Jin L, Li X, Chakrabarti S, Cai L. The prevention of diabetic cardiomyopathy by non-mitogenic acidic fibroblast growth factor is probably mediated by the suppression of oxidative stress and damage. PLoS One. 2013 Dec 9;8(12):e82287.

65. Zuo X, Dong DY, Sun M, Xie HQ, Kang YJ. Homocysteine restricts copper availability leading to suppression of cytochrome c oxidase activity in phenylephrine-treated cardiomyocytes. *Plos One*, 2013, 8 (6): e67549.

PHARMACOLOGY & TOXICOLOGY ABSTRACTS
Faculty with Primary Appointments and Students

Arteel, Gavin:
National/International
1. Mohammad M, Avila D, Zhang J, Barve S, Arteel G, McClain C, Joshi-Barve S (2013) Acrolein Cytotoxicity in Hepatocytes Involves Endoplasmic Reticulum Stress, Mitochondrial Dysfunction, and Oxidative Stress. *The Toxicologist* 132:139.

2. Schmidt RS, Massey VL, Jokinen J, Falkner KC, Beier JI, Arteel GE (2013) Olanzapine-induced liver injury: direct metabolic effects on liver and exacerbation by high-fat diet. *Hepatology* 58:544A.

3. Massey VL, Schmidt RH, Tan M, Watson WH, Arteel GE (2013) The prebiotic oligofructose protects against enhanced liver injury caused by arsenic in a model of NASH. *Hepatology* 58:559A.

Local/Regional
4. Massey V, Schmidt R, Tin M, Watson W and Arteel G (2013) The prebiotic oligofructose protects against enhanced liver injury caused by arsenic in a model of non-alcoholic fatty liver disease. Ohio Valley Society of Toxicology annual meeting. ***(selected for a platform presentation; 1st place student award).***

5. Poole L, Jokinen J, Massey V, Beier J, and Arteel G (2013) Sinusoidal endothelial cell-derived extracellular matrix regulates basal and stimulated macrophage activation. Ohio Valley Society of Toxicology annual meeting

6. Ramakrishnan VM, Burchell PO, Beier JI, Dale JR, Arteel GE, Hoying JB, Williams SK, and Boyd NL (2013) Adipose Stromal Vascular Fraction-Derived Vasculature Supports Implantation of Parenchymal Hepatocytes. Research!Louisville. ***(2nd place Medical Student Poster Award).***

7. Warner NL, Beier JI, Jokinen JD, Holz GE, Arteel GE (2013) Modification of epithelial monolayer integrity increases apical infectivity to lymocytic choriomeningtitis virus (LCMV) in Caco-2 cells. Research!Louisville.

8. Holz G, Beier J, Jokinen J, Warner N, Arteel G, and Lukashevich I (2013) Design of tissue culture model to study interactions between macrophages and hepatocytes in arenavirus-induced liver pathology. Research!Louisville.

9. Massey V, Schmidt R, Tin M, Watson W and Arteel G (2013) The prebiotic oligofructose protects against enhanced liver injury caused by arsenic in a model of non-alcoholic fatty liver disease. Research!Louisville.

10. Poole L, Jokinen J, Massey V, Beier J, and Arteel G (2013) Sinusoidal endothelial cell-derived extracellular matrix regulates basal and stimulated macrophage activation. Research!Louisville.

11. Arteel G, Schmidt R, Massey V, Jokinen J, Falkner KC, Shi X, Yin X, Zhang X, and Beier J (2013) Olanazapine-induced liver injury: direct metabolic effects on liver and exacerbation by high-fat diet. Research!Louisville. ***(1st place Faculty Basic Science Award).***

12. Watson W, Shi X, Vaughn A, Schmidt R, McClain C, Arteel G, and Zhang X (2013) Metabolomic analysis of the effects of chronic arsenic exposure in a mouse model of diet-induced fatty liver disease. Research!Louisville.

Arteel, Juliane Beier:

National/International

1. Warner NL, Kirpich IA, Mohammad MK, Falkner KC, Cave M, McClain CJ and **Beier JI** (2013) Vinyl Chloride And/Or Its Metabolites Induce Hepatic Necro-Inflammation In Mice And In Human Subjects With Chronic Low-Level Exposures. *Hepatology* 58:949A.

2. Kirpich IA, Liu H, Falkner KC, **Beier JI,** Joshi-Barve S, Ramsden C, McClain CJ, Cave M (2013) Occupational Vinyl Chloride Exposures Increase Plasma Lipid Peroxidation Products (Including 13-Hode) Capable Of Causing Mitochondiral Dysfunction And Endoplasmic Reticulum Stress? Novel Modes Of Action For Toxicant Associated Steatohepatitis (TASH). *Hepatology* 58:952A.

3. Wahlang B, Song M, **Beier JI**, Al-Eryani L, Clair HB, Guardiola JJ, Falkner KC, Prough RA, Cave M (2013) Aroclor 1260 Exposure Worsens Hepatic And Systemic Inflammation In An Animal Model Of Diet-Induced Obesity And Nonalcoholic Fatty Liver Disease. *Hepatology* 58:533A.

4. Schmidt RH, Massey VM, Jokinen JJ, Falkner KC, **Beier JI**, Arteel GE (2013) Olanzapineinduced liver injury: direct metabolic effects on liver and exacerbation by high-fat diet. *Hepatology* 58:544A.

Local/Regional

1. Anders LC, Douglas AN, Warner NL, Kirpich IA, Mohammad MK, Falkner KC, Cave M, McClain CJ and **Beier JI** (2013) Vinyl Chloride And/Or Its Metabolites Induce Hepatic Necro-Inflammation In Mice And In Human Subjects With Chronic Low-Level Exposures. OVSOT annual meeting, Louisville, KY.

2. Wahlang B, Song M, **Beier JI**, Al-Eryani L, Clair HB, Guardiola JJ, Falkner KC, Prough RA, Cave M (2013) Aroclor 1260 Exposure Worsens Hepatic And Systemic Inflammation In An Animal Model Of Diet-Induced Obesity And Nonalcoholic Fatty Liver Disease. OVSOT annual meeting, Louisville, KY. ***(Best graduate student presentation award).***

3. Poole LG, Jokinen JD, Massey VL, **Beier JI**, and Arteel GE (2013) Sinusoidal endothelial cellderived extracellular matrix regulates basal and stimulated macrophage activation. OVSOT annual meeting, Louisville, KY.

4. Anders LC, Douglas AN, Warner NL, Kirpich IA, Mohammad MK, Falkner KC, Cave M, McClain CJ and **Beier JI** (2013) Vinyl Chloride And/Or Its Metabolites Induce Hepatic Necro-Inflammation In Mice And In Human Subjects With Chronic Low-Level Exposures. Research!Louisville.

5. Whang PS, **Beier JI**, Jokinen JD, Martin AM, Warner NL, Arteel GE and Lukashevich IS (2013). A Novel Mechanism of Arenavirus-induced Liver Pathology. Research!Louisville.

6. Holz GE, **Beier JI**, Jokinen JD, Warner NL, Arteel GE, Lukashevich IS (2013) Design of tissue culture model to study interaction between macrophages and hepatocytes in Arenavirus-induced liver pathology. Research!Louisville.

7. Warner NL, **Beier JI**, Jokinen JD, Holz GE, Arteel GE, Lukashevich IS (2013) Modification of epithelial cell monolayer integrity increases apical infectivity to lymphocytic choriomeningitis virus (LCMV) in Caco-2 cells. Research!Louisville.

8. Poole LG, Jokinen JD, Massey VL, **Beier JI**, and Arteel GE (2013) Sinusoidal endothelial cellderived extracellular matrix regulates basal and stimulated macrophage activation. Research!Louisville.

9. Schmidt RH, Massey VM, Jokinen JJ, Falkner KC, **Beier JI**, Arteel GE (2013) Olanzapineinduced liver injury: direct metabolic effects on liver and exacerbation by high-fat diet. Research!Louisville. ***(Most Promising Basic Science Faculty Award).***

10. Kirpich IA, Liu H, Falkner KC, **Beier JI,** Joshi-Barve S, Ramsden C, McClain CJ, Cave M (2013). Occupational Vinyl Chloride Exposures Increase Plasma Lipid Peroxidation Products (Including 13-Hode) Capable Of Causing Mitochondiral Dysfunction And Endoplasmic Reticulum Stress? Novel Modes Of Action For Toxicant Associated Steatohepatitis (TASH). Research!Louisville.

11. Ramakrishnan VM, Burchell PO, **Beier JI**, Dale JR, Arteel GE, Hoying JB, Williams SK, and Boyd NL (2013) Adipose Stromal Vascular Fraction-Derived Vasculature Supports Implantation of Parenchymal Hepatocytes. Research!Louisville. ***(2nd place Medical Student Poster Award).***

Benz, Frederick:
1. Jian Cai, Harrell Hurst, Donald Nerland, Daniel Wilkey, Michael Merchant, FW Benz. Identification Of Rat Liver Protein Targets Of Acrylonitrile In Vivo Using Two-Dimensional Liquid Chromatography And Mass Spectrometry. Research! Louisville, September 24-27, 2013, Louisville, KY

Ceresa, Brian:
1. Peterson, J.L. and **Ceresa, B.P**., Analysis of EGFR ligand found in human tears reveals differences in corneal epithelial wound healing and ligand induced EGFR signaling, American Society for Cell Biology, 2013.

2. Rush, J.S. and **Ceresa, B.P**., c-Cbl as a therapeutic target for Enhanced Human Corneal Epithelial Wound Healing, American Society for Cell Biology, 2013.

3. Parks, E.E. and **Ceresa, B.P**., EGFR Signaling from the Plasma Membrane, American Society for Cell Biology, 2013.

4. Peterson, J.L. and **Ceresa, B.P**., Analysis of EGFR ligand found in human tears reveals differences in corneal epithelial wound healing and ligand induced EGFR signaling, Research!Louisville, 2013.

5. Rush, J.S. and **Ceresa, B.P**., c-Cbl as a therapeutic target for Enhanced Human Corneal Epithelial Wound Healing, Research!Louisville, 2013.

6. Parks, E.E. and **Ceresa, B.P**., EGFR Signaling from the Plasma Membrane, Research!Louisville, 2013.

7. Jackson, N. and **Ceresa, B.P**., Endogenous EGFR Ligands as Mediators of Apoptosis in Metastatic Breast Cells. Research!Louisville, 2013

8. Sangoi, T. and Ceresa, B.P., Endocytic Trafficking of Mutant Epidermal Growth Factor Receptors in Lung Cancer Research!Louisville, 2013

9. Peterson, J.L. and **Ceresa, B.P**. Analysis of EGFR ligands found in human tears reveals differences in corneal epithelial wound healing and ligand induced EGFR signaling 75th Harden Conference - Receptor Tyrosine Kinase Structure and Function in Mammalian Health and Disease, September 2013

10. **Ceresa, B.P.,** Peterson J.L., Pharmacological Analysis of Epidermal Growth Factor Receptor Ligands on Corneal Epithelial Cells, May 2013: Association for Research in Vision and Ophthalmology

Gupta, Ramesh:
1. Munagala R, Aqil F, Taylor DD & **Gupta R**. Tumor-derived circulatory exosomal miRNAs as biomarkers of recurrent lung tumors. *Proc. Am. Cancer Res.* 53: 1947, 2013.

2. Jeyabalan J, Aqil F, Munagala R & **Gupta RC**. Chemopreventive and therapeutic activity of high anthocyanin-content blueberry against estrogen-mediated breast cancer. *Proc. Am. Cancer Res.* 53: 3705, 2013.

3. Vadhanam MV, **Gupta RC** & McNally LR. Targeting IGF-1R for Inhibition of Pancreatic Cancer Metastasis by Pomegranate Fraction. *Proc. Am. Cancer Res.* 53: 3680, 2013.

4. Aqil F, Munagala R, Kausar, H, Jeyabalan J. & **Gupta RC**. Enhanced activity of chemotherapeutic drugs by blueberry anthocyanidins and withaferin A against human lung cancer cells. *Proc. Am. Cancer Res.* 53: 3678, 2013.

5. **Gupta RC**, Aqil F, Kausar H, Jeyabalan J, Vadhanam MV & Munagala R. Therapeutic Potential of Blueberry Anthos ('Color' Therapy). Berry Health Benefits Symposium, Charlotte, NC, June 18-20, 2013.

Hein, David:

1.Hein, D.W. and Kidd, L.R.: First year cohort results for the NCI R25 University of Louisville Cancer Education Program. Proceedings of the annual Experimental Biology meetings, Boston, Massachusetts, April 2013.

2. Sanford, C.E., Carlisle, S.M., Doll, M.A., States, J. S., and Hein, D.W.: The effect of arylamine N-acetyltransferase 1 specific inhibitor and curcumin or resveratrol on the proliferation of a breast cancer cell line. James Graham Brown Cancer Center Summer Internship Program, August, 2013.

3.Carlisle, S.M., Doll, M.A., States, J. S., and Hein, D.W.: The effect of arylamine N-acetyltransferase 1 specific inhibitor and curcumin or resveratrol on the proliferation of a breast cancer cell lines. Proceedings of the annul meeting of the Ohio Valley Society of Toxicology, Louisville, Kentucky, September, 2013.

4. Stepp, M.W., Doll, M.A., Sanders, M.A., and Hein, D.W.: Fisher 344 rat strains congenic at arylamine N-acetyltransferase differ in breast tumorigenesis induced by N-methynitrosourea. Proceedings of the annual meeting of the Ohio Valley Society of Toxicology, Louisville, Kentucky, September, 2013.

5. Bodduluri, S., Doll, M.A., Gonzalez, R.A.S., and Hein, D.W.: Acetylator genotype-dependent N-acetylation of isoniazid in human hepatocytes in situ. Proceedings of Research!Louisville Abstract UCE-102, Louisville, Kentucky, September, 2013.

6. Carlisle, S.M., Doll, M.A., States, J. S., and Hein, D.W.: The effect of arylamine N-acetyltransferase 1 specific inhibitor and curcumin or resveratrol on the proliferation of a breast cancer cell lines. Proceedings of Research!Louisville Abstract GRM-6, Louisville, Kentucky, September, 2013.

7. Stepp, M.W., Doll, M.A., Sanders, M.A., and Hein, D.W.: Fisher 344 rat strains congenic at arylamine N-acetyltransferase differ in breast tumorigenesis induced by N-methynitrosourea. Proceedings of Research!Louisville Abstract GRM-37, Louisville, Kentucky, September, 2013.

8. Doll, M.A., Gonzalez, R.A.S., and Hein, D.W.: Acetylator genotype-dependent N-acetylation of isoniazid in human hepatocytes in situ. Proceedings of the Sixth International Workshop on Arylamine N-acetyltransferases, Toronto, Canada, October 2013.

9. Carlisle, S.M., Doll, M.A., States, J. S., and Hein, D.W.: The effect of arylamine N-acetyltransferase 1 specific inhibitor and curcumin or resveratrol on the proliferation of a breast cancer cell lines. Proceedings of the Sixth International Workshop on Arylamine N-acetyltransferases, Toronto, Canada, October 2013.

10. Hein, D.W.: NAT2 polymorphisms and disease risk: Implications of genetic heterogeneity in the slow acetylator phenotype. Proceedings of the Sixth International Workshop on Arylamine N-acetyltransferases, Toronto, Canada, October 2013.

11. Stepp, M.W., Doll, M.A., Sanders, M.A., and Hein, D.W.: Rapid arylamine *N*-acetyltransferase congenic rats show increase of chemically induced breast tumors by 1-methyl-1-nitrosourea. Proceedings of the Sixth International Workshop on Arylamine N-acetyltransferases, Toronto, Canada, October 2013.

12. Carlisle, S.M., Doll, M.A., States, J. S., and Hein, D.W.: The effect of arylamine N-acetyltransferase 1 specific inhibitor and curcumin or resveratrol on the proliferation of a breast cancer cell lines. Proceedings of the 12th Annual James Graham Brown Cancer Center Retreat, Abstract #15, Louisville, Kentucky, October, 2013.

13. Doll, M.A., Gonzalez, R.A.S., and Hein, D.W.: Acetylator genotype-dependent N-acetylation of isoniazid in human hepatocytes in situ. Proceedings of the 12th Annual James Graham Brown Cancer Center Retreat, Abstract #22, Louisville, Kentucky, October, 2013.

14. Sanford, C.E., Carlisle, S.M., Doll, M.A., States, J. S., and Hein, D.W.: The effect of arylamine N-acetyltransferase 1 specific inhibitor and curcumin or resveratrol on the proliferation of a breast cancer cell line. Proceedings of the 12th Annual James Graham Brown Cancer Center Retreat, Abstract #23, Louisville, Kentucky, October, 2013.

15. Stepp, M.W., Doll, M.A., Sanders, M.A., and Hein, D.W.: Fisher 344 rat strains congenic at arylamine N-acetyltransferase differ in breast tumorigenesis induced by 1-methyl-1-nitrosourea. Proceedings of the 12th Annual James Graham Brown Cancer Center Retreat, Abstract #101, Louisville, Kentucky, October, 2013.

Hurst, Harrell:

1. Jian Cai, Harrell Hurst, Donald Nerland, Daniel Wilkey, Michael Merchant, FW Benz. Identification Of Rat Liver Protein Targets Of Acrylonitrile In Vivo Using Two-Dimensional Liquid Chromatography And Mass Spectrometry. Research! Louisville, September 24-27, 2013, Louisville, KY

Kidd, LaCreis:

Local Abstracts

1. Jones D.Z., Linder J., Avila D.V., Gobejishvili L., Barker D., Schmidt L., Hobbing K., Clark G., and **Kidd L.R.** TGF-beta Signaling in prostate cancer cell lines derived from Euorpean- and African-American men. Research Louisville!, Louisville, Kentucky, September 24, 2013.

2. Linder J., Jones D.Z., Avila D.V., Gobejishvili L., Barker D., Schmidt L., Hobbing K., Clark G., and **Kidd L.R.** microRNA-885-5p and its role in the TGF-beta pathway using prostate cancer cell lines derived from Euorpean- and African-American men. Research Louisville!, Louisville, Kentucky, September 24, 2013.

3. Jones D.Z., Linder J., Avila D.V., Gobejishvili L., Barker D., Schmidt L., Hobbing K., Clark G., and **Kidd L.R.** TGF-beta Signaling in prostate cancer cell lines derived from Euorpean- and African-American men. James Graham Brown Cancer Center Retreat, Louisville, Kentucky, October 25, 2013.

National Abstracts

1. Jones D.Z., Linder J., Avila D.V., Gobejishvili L., Barker D., Schmidt L., Hobbing K., Clark G., and **Kidd L.R.** micro-RNA 885-5p and its role in the TGF-β pathway using prostate cancer cell lines derived from European- and African-American men. AACR Annual Meeting, San Diego, CA, April, 2014.

2**.** Jones D.Z., Anene, D., Aloway, A., Anene, P., Avila, D., Gobejishvili L., Barve, S., McNally, L., and **Kidd L.R.** Reduced Expression of miR-342-3p in stage I, III, and IV Prostate Cancer. AACR Annual Meeting, Washington, D.C., April, 2013.

International Abstracts

1. Kimbro, K.S., Cortez, L., Yeyeodu, S.T., **Kidd, L.R.**, Oprea, G.M., Burns, B.G., VanCleave, T.T., Shim, J.Y., Rogers, E.N. *IRAK4 modulates growth and migration in breast cancer cells*. 17th European Cancer Congress 2013, Amsterdam, Netherlands. September 30, 2013.

Lukashevich, Igor:

1. **Lukashevich, I. S**., Bredenbeek, P. Recombinant YF17D-Based Vaccine Against Lassa Fever. BIT's 5th World Congress of Vaccine, Hangzhou·China, March 18-20, 2013, Program and Abstracts, p. 294.

2. Zapata, J., M.S. Salvato, **I.S. Lukashevich.** Safety and Genetic Stability of the ML29 Reassortant Vaccine for Lassa Fever as Revealed by Transcriptome Profiling of Human PBMC and by Deep Sequencing of Vaccine Sub-Population. Keystone Symposia on Molecular and Cellular Biology, Advancing Vaccines in the Genomics Era. Oct 31- Nov 4, 2013, Windsor Barra Hotel, Rio de Janeiro, Brazil. Program and Abstracts, p.58.

Matoba, Nobuyuki:

1. Baldauf K*, Kouokam JC, Jala VR, Bodduluri H, **Matoba N**. "A Plant-Produced Cholera Toxin B Subunit Prevents Acute Colitis in a Mouse Model" 2013 International Congress of Mucosal Immunology, Vancouver, Canada, July 2013.

2. Hamorsky K, Baldauf K, **Matoba N***. "Large-scale production of recombinant proteins in plants enabling mucosal delivery of biotherapeutics based on nanotechnology. KY Nanotech Symposium, Louisville, KY, August 2013.

3. Baldauf K*, Kouokam JC, Bodduluri H, **Matoba N**. "A Plant-Produced Cholera Toxin B Subunit Prevents Acute Colitis in a Mouse Model" Research!Louisville, Louisville, KY, September 2013.

4. Hamorsky KT*, Husk A, Morris MK, Hanson C, Hume S, Dubuisson J, **Matoba N**. "Engineering, characterization and anti-HIV/HCV activity of Avaren-Fc, an oligomannose-

specific lectin-fuman IgG1 Fc chimera" Brown Cancer Center Retreat, Louisville, KY, October 2013.

5. Husk A*, Hamorsky KT, **Matoba N**. "Plant-based production and characterization of a novel bispecific HIV microbicide" Brown Cancer Center Retreat, Louisville, KY, October 2013.

6. Zahin M*, Ghim S, Joh J, Hume S, Miller MC, Mason H, **Matoba N**, Jenson AB. "Plant based recombinant vaccine: Purification of HPV-16 L1 protein from tobacco leaves" Brown Cancer Center Retreat, Louisville, KY, October 2013.

7. Kouokam JC*, Husk A, Baldauf K, Hamorsky KT, **Matoba N**. "An Oligomannose-specific Lectin-Fc Chimera with Anti-HIV/HCV Activity Exhibits Excellent in vitro Safety Profiles" Brown Cancer Center Retreat, Louisville, KY, October 2013.

8. Grooms-Williams T*, Hamorsky K, Kouokam J, Morris MK, Husk A, Baldauf K, Hanson C, **Matoba N**. "Toxicological Analysis of Avaren-Fc: A potential HIV vaginal microbicide" Brown Cancer Center Retreat, Louisville, KY, October 2013.

9. Baldauf K*, Kouokam JC, Bodduluri H, **Matoba N**. "A Plant-Produced Cholera Toxin B Subunit Prevents Acute Colitis in a Mouse Model" Brown Cancer Center Retreat, Louisville, KY, October 2013.

10. Fuqua J*, Augenstein A, Riedell S, Lasnik AB, Walker J, Hamorsky K, **Matoba N**, Palmer KE. "Next-generation HPV Prophylactic Vaccines: Optimizing Construct Design and Evaluating Mucosal Immunization Routes" Brown Cancer Center Retreat, Louisville, KY, October 2013.

Nerland, Donald:
1. J. Cai, H.E. Hurst, D.E. Nerland, D.W. Wilkey, M.L. Merchant, and F.W. Benz. Identification of rat liver protein targets of acrylonitrile *in vivo* using two-dimensional liquid chromatography and mass spectrometry. Research!Louisville 2013, Louisville, KY, September 24-27, 2013.

Palmer, Kenneth:
1. Augenstein A, Fuqua J, Riedell S, Lasnik AB, Walker J, Hamorsky K, Matoba N, **Palmer KE** Preclinical evaluation of next-generation HPV prophylactic vaccines. Midwest Student Biomedical Research Forum, Omaha, Nebraska, February 2013. ***Ms. Abbe Augenstein, UofL MD student, class of 2016, won the second place prize for this presentation at the Midwest Student Biomedical Research Forum, after winning the Research!Louisville MD summer research student first prize.***

2. Férir G, **Palmer KE**, Schols D (2013) Griffithsin, in combination with all antiretroviral drugs, potently inhibits HIV cellular transmission and destruction of target CD4 T cells. *Proceedings of the 2013 Conference on Retroviruses and Opportunistic Infections.* Atlanta, GA, March 2013.

3. Fuqua J, Augenstein A, Riedell S, Lasnik AB, Walker J, Hamorsky K, Matoba N, **Palmer KE** (2013) Next-generation HPV Prophylactic Vaccines: Optimizing Construct Design and

Evaluating mucosal immunization routes. International Mucosal Immunology Conference, Vancouver BC, July 2013.

4. Barton C, **Palmer KE** (2013) Pharmacokinetic profile of the antiviral lectin Griffithsin. *Research!Louisville* September 2013.

5. Fuqua J, Augenstein A, Riedell S, Lasnik AB, Walker J, Hamorsky K, Matoba N, **Palmer KE** (2013) Next-generation HPV Prophylactic Vaccines: Optimizing Construct Design and Evaluating mucosal immunization routes. Proceedings of the James Graham Brown Cancer Center Retreat, October 2013. ***Dr. Joshua Fuqua, postdoctoral trainee in my laboratory, won the second place award in the postdoctoral trainee division for this presentation.***

Sankar, Uma:

1. Pritchard Z, Waddell S, Voor M and Sankar U. Improving Bone by Inhibition of CaMKK2: Analysis of Bone Strength and Architecture. Research! Louisville, September 2013, Louisville, KY

2. Pritchard Z, Cary, R, Novack D, Voor M and Sankar U. CaMKK2 Inhibition as a Novel Bone Anabolic Strategy in the Prevention of Post-Menopausal and Therapy-Induced Osteoporosis 35th Annual Meeting of the American Society for Bone and Mineral Research, October 4-7, 2013, Blatimore, MD. ***Was selected to be presented as a Plenary Poster on October 4 and 5, and graduate student Zack Pritchard won a Young Investigator Travel Award for the meeting.***

3. Wilkerson DC, Cates J, Thomas L, Rachel C and Sankar U. "Regulation of the Mitochondrial Fission GTPase Drp1 by the Sulfhydryl Oxidase GFER". 11th Annual Brown Cancer Center Retreat, October 25, 2013, The Olmstead, Louisville, KY.

Siskind, Leah:

National/International

Prior to University of Louisville:

1. Beverly LJ, Casson L, Metelli A, Howell L, and Siskind LJ. (2013) Targeting glycosphingolipid metabolism for the treatment of human leukemia. Poster presentation. Cancer Metabolism, Keystone Symposia, February 2013, Keystone, CO.

At University of Louisville:

1. Stathem M, Scherzer M, Casson L, Beverly LJ, and Siskind LJ. (2013) The role of sphingolipids in leukemia progression and treatment. Poster Presentation, *Mechanisms and Models in Cancer*. August 2013, Salk Institute, CA.

2. Scherzer M, Stathem M, Roddy P, Siskind LJ, and Beverly LJ. (2013) An unbiased approach to assess the role of sphingolipid metabolism in cancer biology. Poster Presentation, *Mechanisms and Models in Cancer*. August 2013, Salk Institute, CA.

3. Stathem M, Casson L, Beverly LJ, and Siskind LJ (2013) Glycosphingolipids as a target for the treatment of leukemia. Poster presentation. September 2013, *The International Ceramide Conference.* Long Island, NY.

4. Marimuthu S, Korrapati M, Howell L, Schnellmann R, and Siskind LJ. (2013) The role of glycosphingolipids in diabetic nephropathy. Poster presentation. September 2013, *The International Ceramide Conference.* Long Island, NY.

5. Marimuthu S, Korrapati MC, Blakely J, Wills L, Howell LH, Schnellmann RG, and Siskind LJ. (2013) The role of glycosphingolipids in mesangial cell hypertrophy and proximal tubule mitochondrial dysfunction during diabetic nephropathy. Poster Presentation SA-PO298, *American Society of Nephrology, Kidney week 2013, Atlanta, GA (Nov 5-10).*

6. Siskind LJ, Korrapati MC, Whitaker R, Megyesi J, Schnellmann RG. (2013) Therapeutic Potential of Suramin in Diabetic Nephropathy. Poster Presentation SA-PO297, *American Society of Nephrology, Kidney week 2013,* Atlanta, GA (Nov 5-10).

7. Richards EM, Amani Z, Zhang J, Mather A, Siskind LJ, and Nowling TK. (2013) Reducing Fli1 levels in the MRL/lpr lupus prone mouse model impacts T cell activation and cytokine production. Poster, The American Association of Immunologists, Annual Meeting.

Local/Regional

Prior to University of Louisville

1. Beverly LJ, Casson L, Metelli A, Howell L, and Siskind LJ (2013) Tumor cell glycosphingolipid metabolism as a target for the treatment of cancers. *Institute of molecular drug design and diversity*. March 2013, Poster presentation.

At University of Louisville:

1. Casson L, Stathem M, Scherzer M, Siskind LJ and Beverly LJ (2013) Tumor cell glycosphingolipid metabolism as a target for the treatment of cancers. September 2013, Talk, *Midwest Blood Club*. Cinn, OH.

2. Stathem M, Casson L, Beverly LJ, and Siskind LJ. (2013) Tumor cell glycosphingolipid metabolism as a target for the treatment of cancers. September 2013, Poster Presentation, *Research!Louisville*, Louisville, KY.

3. Marimuthu S, Korrapati MC, Blakely J, Wills L, Howell LH, Schnellmann RG, and Siskind LJ. (2013) The role of glycosphingolipids in diabetic nephropathy. September 2013, Poster Presentation, *Research!Louisville,* Louisville, KY.

4. Sundaram K, Mather D, and Siskind LJ. (2013) Neutral ceramidase knockout protects cells from necrosis. September 2013, Poster Presentation, *Research!Louisville,* Louisville, KY.

5. Stathem M, Casson L, Beverly LJ, and Siskind LJ. (2013) Tumor cell glycosphingolipid metabolism as a target for the treatment of cancers. October 2013, Poster Presentation, *James Graham Brown Cancer Center Annual Retreat,* Louisville, KY.

6. Stathem M, Casson L, Beverly LJ, and Siskind LJ. (2013) Tumor cell glycosphingolipid metabolism as a target for the treatment of leukemia. Poster Presentation, *48th Annual Southeastern Regional Lipid Conference (SERLC)*, NOVEMBER 13-15, 2013, Cashiers, NC.

7. Marimuthu S, Korrapati MC, Blakely J, Wills L, Howell LH, Schnellmann RG, and Siskind LJ. (2013) The role of glycosphingolipids in diabetic nephropathy. Talk, *48th Annual Southeastern Regional Lipid Conference (SERLC)*, NOVEMBER 13-15, 2013, Cashiers, NC.

8. Sundaram K, Mather D, and Siskind LJ. (2013) Neutral ceramidase knockout protects cells from necrosis. Talk, *48th Annual Southeastern Regional Lipid Conference (SERLC)*, NOVEMBER 13-15, 2013, Cashiers, NC.

Song, Zhao-Hui:
1. **Song ZH**, Kumar A, He, F. Molecular Chaperones in Cannabinoid Receptor Signaling, BIT's 6th Annual Protein and Peptide Conference, Suzhou, China, March 2013

2. **Song ZH**. Cannabinoid Receptors as Therapeutic Target. BIT's 6th Annual Protein and Peptide Conference, Suzhou, China, March 2013

3. Kumar P, **Song ZH.** Identification of raloxifene as a novel CB2 inverse agonist. International Cannabinoid Research Society Conference, Vancouver, Canada, June, 2013.

States, J. Christopher:
1. L Al-Eryani, B Wahlang, KC Falkner, HB Clair, JJ Guardiola, RA Prough, JC States, M Cave. Identification of Xenobiotic Receptor Agonists which could contribute to Nonalcoholic Fatty Liver Disease. Research!Louisville, University of Louisville, Louisville, KY, September 25-29, 2013.

2. SM Carlisle, MA Doll, JC States, DW Hein. The Effect of a Human Arylamine N-Acetyltransferase 1 Specific Inhibitor and Curcumin or Resveratrol on the Proliferation of Breast Cancer Cell Lines. Research!Louisville, University of Louisville, Louisville, KY, September 25-29, 2013.

3. B Wahlang, M Song, JI Beier, LA Al-Eryani, HB Clair, KC Falkner, RA Prough, JC States, M Cave . Aroclor 1260 Exposure Worsens Hepatic and Systemic Inflammation in an Animal Model of Diet-Induced Obesity and Nonalcoholic Fatty Liver Disease. Research!Louisville, University of Louisville, Louisville, KY, September 25-29, 2013.

4. NA Klimchak, BC Sils, JO Trent, JC States. Compounds Targeting the Anaphase Promoting Complex Inhibit Lung Cancer Cell Growth. Research!Louisville, University of Louisville, Louisville, KY, September 25-29, 2013.

5. D Saforo, B Sils, JC States. Candidate drugs binding the Anaphase Promoting Complex: A novel target for anticancer therapy. Research!Louisville, University of Louisville, Louisville, KY, September 25-29, 2013.

6. L Al-Eryani, B Wahlang, KC Falkner, HB Clair, JJ Guardiola, RA Prough, JC States, M Cave. Identification of Xenobiotic Receptor Agonists which could contribute to Nonalcoholic

Fatty Liver Disease. Ohio Valley Society of Toxicology, University of Louisville, Lousiville, KY, September 24, 2013.

7. B Wahlang, M Song, JI Beier, LA Al-Eryani, HB Clair, KC Falkner, RA Prough, JC States, M Cave . Aroclor 1260 Exposure Worsens Hepatic and Systemic Inflammation in an Animal Model of Diet-Induced Obesity and Nonalcoholic Fatty Liver Disease. Ohio Valley Society of Toxicology, University of Louisville, Louisville, KY, September 24, 2013.

8. NA Klimchak, BC Sils, JO Trent, JC States. Compounds Targeting the Anaphase Promoting Complex Inhibit Lung Cancer Cell Growth. Ohio Valley Society of Toxicology, University of Louisville, Louisville, KY, September 24, 2013.

9. D Saforo, B Sils, JC States, Candidate drugs binding the Anaphase Promoting Complex: A novel target for anti-cancer therapy. Brown Cancer Center Retreat, October 25, 2013

10. NA Klimchak, BC Sils, JO Trent, JC States, Compounds Targeting the Anaphase Promoting Complex Inhibit Lung Cancer Cell Growth. Brown Cancer Center Retreat, October 25, 2013

11. D Saforo, B Sils, JC States, Candidate drugs binding the Anaphase Promoting Complex: A novel target for anti-cancer therapy. Society of Toxicology, Phoenix, AZ March 10-14, 2013

ACTIVE GRANTS/CONTRACTS & OTHER RESEARCH ACTIVITIES

Faculty with Primary Appointments

Pharmacology & Toxicology
2013 Active Grants

Agency/ Number	Title	Role	PI	Project Period	Budget Award
Arteel, Gavin					
NIH T32ES011564	UofL Environmental Health Sciences Training Program	Mentor	Hein	07/01/09-06/30/14	$2,037,745
NIH U01AA021901	Novel therapies in alcoholic hepatitis University of Louisville	Co-I	McClain	10/01/12-09/31/17	$1,554,829
NIH R21ES021311	Effect of dietary fat on the hepatotoxicity of environmental arsenic	Co-I	Watson	05/25/12–04/30/14	$449,750
UofL IRIG CEG mechanism	Role of ECM and inflammatory remodeling in alcohol-induced liver and lung damage	PI	Arteel	07/01/12-06/30/13	$15,000
Arteel, Juliane Beier					
NIH K01DK096042	Enhancement of NAFLD risk by vinyl chloride: interaction of gut-liver-adipose axis	PI	Beier	04/01/13-03/31/18	$ 483,804
Benz, Fred					

DoD US Army W81XWH-10-2-0143	Biomarkers of Exposure and Mechanism of Action of Toxic Industrial Chemicals (TICs)	PI		9/27/2010 – 6/30/2013	$558,000
Ceresa, Brian					
NIH/NIGMS R01GM092874	Endocytic Regulation of EGFR Signaling	PI	Ceresa	09/01/10-08/31/14	$600,000
NIH/NEI R01EY021497	Modulation of EGFR Signaling to Promote Corneal Wound Healing	PI	Ceresa	01/01/12 – 12/31/14	$750,000
Clark, Geoffrey					
NCI/R01 CA133171-01A2	The Role of the Ras effector Nore1a in tumor suppression	PI		2010-2015	$900,000 (directs)
NIH Eureka Award/ 1R01 CA153132-01	Oncopigs as a better model for human cancer	PI		2010-2014	$800,000 (directs)
NIH COBRE Pilot Award	The development of Novel Ras antagonists to inhibit cancer	PI		2013-2015	$150,000
Davis, Keith					
Owensboro Grain	Development of Lunasin as a Chemoprevention Agent	PI	Davis	05/01/2010-12/31/2014	$ 668,080
DoD/USAMRMC W81XWH-10-2-0082- CLIN 1 and CLIN 2	Plant-Based Expression Systems for New Vaccines and Therapeutics	Co-I	Wilkerson	08/23/2010 to 10/29/2015	$3,499,000
Kentucky soybean Promotion Board	Continued Development of the Soybean-Derived Peptide Lunasin as an Anticancer Agent	PI	Davis	7/1/2011 to 6/30/2012	$78,059
Kentucky soybean Promotion Board	Continued Development of the Soybean-Derived Peptide Lunasin as an Anticancer Agent	PI	Davis	7/1/2012 to 6/30/2013	$78,559
Kentucky soybean Promotion Board	Continued Development of the Soybean-Derived Peptide Lunasin as an Anticancer Agent	PI	Davis	7/1/2013 to 6/30/2014	$50,000
Kentucky Science and Engineering Foundation	Plant-Based Expression of an Alpha-1 Antitrypsin Biosimilar	PI	Davis	7/1/2012-6/30/2013 NCE to 12/31/13	$50,000
Gupta, Ramesh					
NCI CA-118114	Breast Cancer Chemoprevention Strategies	PI	Gupta	04/07 - 03/13	$1,416.820
NCI CA-125152	Breast Cancer Chemoprevention Potential of Common Spices	PI	Gupta	07/07 - 05/14	$1,406,000

KY Lung Ca Res. Board	Activation of the Par-4 Extrinsic Pathway for Suppression of Lung Cancer	PI	Gupta	12/10 - 11/13	$150,000
U.S. Highbush Blueberry Council	Prevention of Breast Cancer by Blueberry	PI	Gupta	07/11 - 6/13	$91,431
UofL CEG	Prevention & Treatment Strategies for Lung Cancer Recurrence & Metastasis	PI	Gupta	02/12 - 01/13	$15,000
R43-CA-162417	Sustained, Target Delivery for Treatment of Cervical Pathologies	PI	Gupta Spencer	07/12 - 12/14	$300,000
U.S. Highbush Blueberry Council	Therapeutic Activity of Blueberry Against Lung Cancer	PI	Gupta	08/13 - 07/14	$74,270 (Directs)
KY Matching	This grant is a supplement to the SBIR Phase I grant	PI	Gupta	01/13-06/14	$150,000 (Directs)
Coulter Foundation	Treatment of Cervical Pathologies by Curcumin Delivered Locally by a Polymeric Device	PI	Gupta Parker O'Toole	7/13 – 6/14	$138,714 (Total)
Hein, David					
NIH, NIEHS T32-ES011564	UofL Environmental Health Science Training Program	PI	Hein	07/1/09-06/30/14	$1,999,550
R25-CA134283-01A1	University of Louisville Cancer Education Program	PI	Hein	9/14/12-08/31/16	$1,560,990
NIEHS T35 ES014559	Summer Environmental Health Sciences Training Program	Mentor	Prough	04/01/2011–03/31/2016	$175,814
Hurst, Harrell					
US Army Med Research W81XWH-10-2-0143	Biomarkers of Exposure and Mechanism of Action of Toxic Industrial Chemicals (TICs)	Co-I	Benz	09/27/2010 – 06/30/2013	$558,000
Kang, Y. James					
NIH-NIAAA, 1R01AA023190	Mechanisms of Probiotics in Alcoholic Liver Disease	Co-I	Wenke Feng	07/01/14-06/30/19	$1,500,000
Kidd, LaCreis					
NIH, NIEHS T32-ES011564	UofL Environmental Health Science Training Program	Mentor	Hein	07/1/09-06/30/14	$1,999,550
R25-CA134283-01A1	University of Louisville Cancer Education Program	Co-I, Cancer Education Coordinator,	Hein	9/14/12-08/31/16	$1,560,990

		Mentor			
Lukashevich, Igor					
NIH/R01 AI093450	Development of New Bivalent Cross-Protective Arenaviral Vaccines	PI		04/01/2011-03/31/2016	$3,964,538
NIH/R43 AI094863 (SBIR)	Novel DNA-launched Attenuated Vaccine for VEE Virus	Co-I	Pushko	03/01/2012-05/31/2014	$171,849
NIH/R43 AI094700 (SBIR)	Trivalent Arenaviral Vaccine Based on Virus-Like Particle Vectors (VLPVs)	Co-I	Pushko	04/01/2012-07/30/2013	$56,213
NIH/R03 AI094159	A Novel DNA-launched Live Attenuated Chikungunya Vaccine	Co-I	Pushko	03/01/2012 - 08/31/2014	$37,250
Matoba,					
NIH NIAID Microbicide Innovation Program V /R21/R33 AI088585	Plant-produced Actinohivin as a Candidate HIV Microbicide	PI	Matoba	06/10/10–06/30/15	$1,175,000 (total direct costs)
DoD USARMC/ W81XWH-10-2-0082 CLIN 1	Plant-Based Expression Systems for New Vaccines and Therapeutics	Subproj PI	Wilkerson	08/23/2010-08/22/2013	$390,000 (total subproj direct costs)
DoD USARMC/ W81XWH-10-2-0082 CLIN 2	Plant-Based Expression Systems for New Vaccines and Therapeutics	Subproj PI	Wilkerson	9/30/2011-10/29/2015	$1,748,000 (total direct costs)
Brown Cancer Center Helmsley Trust Program /G2142	Immunotherapeutic potential of plant-made CTB against colitis and colon cancer	PI	Matoba	07/18/11–12/31/13	$170,000 (total direct costs)
DoD USARMC/ W81XWH-09-2-022	Development of Novel Vaccines and Therapeutics Using Plant-Based Expression Systems	Member	Wilkerson	03/15/09–03/14/13	$1,680,000 (total direct costs)
Nerland, Donald					
DoD US Army W81XWH-10-2-0143	Biomarkers of Exposure and Mechanism of Action of Toxic Industrial Chemicals (TICs)	Co-I	Benz	9/27/2010 – 6/30/2013	$558,000
Palmer, Kenneth					
University of Louisville School of Medicine	Griffithsin-based microbicides for HIV prevention – Bridge Grant	PI	Palmer	03/01/2013 – 02/28/2014	$30,000

Harry and Leona Helmsley Charitable Trust	Pan-oncogenic HPV vaccine	PI	Palmer	08/01/2011-10/31/2013	$340,000
NIH/NIAID R33 AI088585	Plant-produced Actinohivin as a Candidate HIV Microbicide	Co-I	Matoba	06/01/2012-5/31/2015	$1,350,000
DoD/USAMRMC W81XWH-10-2- 0082- CLIN 1	Plant-Based Expression Systems for New Vaccines and Therapeutics	PI of sub-projec	Wilkerson	08/23/2010-08/22/2013	$1,751,000
DoD/USAMRMC W81XWH-10-2- 0082- CLIN 2	Plant-Based Expression Systems for New Vaccines and Therapeutics	PI of sub-projec	Wilkerson	9/30/2011-10/29/2015	$1,748,000
Sankar, Uma					
American Cancer Society	CaMKK2 Inhibition in Palliative Care of Advanced Prostate Cancer Patients	PI	Sankar	07/01/2013-06/30/2017	$720,000 (Total Costs)
Department of Defense CDMRP Discovery Award /PR121604	CaMKK2 Inhibition in Enhancing Bone Fracture Healing	PI	Sankar	08/15/2013-03/14/2015	$187,000 (Total Costs)
Molecular Targets Phase III CoBRE Pilot Project	CaMKK2 Inhibition as a Dual-Hit strategy in the prevention of prostate cancer growth and ADT-induced bone loss	PI	Sankar	11/13/13 – 07/01/15	$150,000 (Total Costs)
UofL Office of the Exec. VP for Research and Innovation - Competitive Enhancement Grant	Role of Calmodulin-dependent protein kinase kinases in bone remodeling	PI		09/01/12 – 08/31/13	$15,000
Brown Cancer Center/ Helmsley Trust Program	Role of Calmodulin-Dependent Protein Kinase Signaling in Hematopoiesis	PI		06/01/12-05/31/14	$120,000
IOIC100629X04 Owensboro Grain Company	Development of Lunasin as a Chemoprevention Agent	Co-I	Keith Davis	05/01/2010 to 11/01/2013	$ 316,388
DoD/USAMRMC W81XWH-10-2-0082- CLIN 1	Plant-Based Expression Systems for New Vaccines and Therapeutics Sub-Project: Ca^{2+}/Calmodulin dependent protein kinases in	Sub-Project PI	Wilkerson	08/23/10 – 08/22/13	$1,751,000 Sub-project: $389,505

	early embryonic neuronal development				
DoD/USAMRMC W81XWH-10-2-0082- CLIN 2	Plant-Based Expression Systems for New Vaccines and Therapeutics Sub-Project: Ca^{2+}/Calmodulin dependent protein kinases in vaccine-related immunogenicity	Sub-Project PI	Wilkerson	9/30/2011-10/29/2015	$1,748,000
NIH R25-CA134283	University of Louisville Cancer Education Program	Mentor	Hein	09/14/11 – 08/30/16	$1,543,610 total costs
Siskind, Leah					
R01DK093462	Targeting Ceramide-induced Kidney Cell Apoptosis and Necrosis for the Treatment of Acute Kidney Injury	PI	Siskind	09/17/2012-03/31/2017	$1,599,095
Song, Zhao-Hui					
T32ES11564	UofL Environmental Health Sciences Training Program	Faculty Mentor	David W. Hein	7/1/09 – 6/30/14	$ 2,037,745
States, J. Christopher					
KLCRP	Role of REV1 in Carcinogen Induced Lung Cancer	PI	States	12/1/11 – 5/30/13	$75,000
SoMRC	Novel Cancer Chemotherapeutics Targeting Mitosis	PI	States	12/1/11 – 5/30/13	$15,000
NIH-NIEHS / R01ES017260-04	Atherogenic Mechanisms Of Arsenic	Co-I	Srivastava	6/15/09 – 3/31/14	$1,641,792
EVPRI CEG	Differential miRNA expression & progression of arsenic induced skin cancers	PI	States	9/1/13 – 3/31/14	$15,000

RESEARCH GRANTS SUBMITTTED

Faculty with Primary Appointments

Grants Submitted
Pharmacology & Toxicology, 2013

Agency/ Number	Title	Role	PI	Project Period	Budget Award
Arteel, Gavin					
NIAAA	Prenatal alcohol exposure: impact on insulin signaling pathways	Co-I	Neal	07/01/13-06/30/18	$1,875,000
NIEHS	Developmental cigarette smoke exposure: impact on offspring gut-liver axis function	Co-I	Neal	07/01/13-	$412,500

NIEHS	Gut-liver interaction in arsenic-enhanced obesity-induced liver disease	PI	Arteel	07/01/13-03/31/18	$1,875,000
NIAAA	Prenatal Alcohol Exposure: Impact on Gut Function	Co-I	Neal	10/01/13-9/30/15	$412,500
NIEHS	Blackleaf Chemical Biorepository: Characterizing exposure and health effects	Co-I	Cave; Prough	11/01/13-10/31/15	$412,500
NIAAA	Nutrition, Gut Flora/Intestinal Dysfunction in Alcohol-Induced Organ Injury	Pilot Core Director; Proj 3 MPI	McClain	12/01/13-11/30/18	$9,000,000
NIEHS	GI microbiome in arsenic-enhanced obesity-induced liver diseases	PI	Arteel	12/01/13-11/30/16	$900,000
NIAAA	Role of ECM and inflammatory remodeling in alcohol-induced liver and lung damage	PI	Arteel	12/01/13-11/30/18	$1,875,000
NIAAA	Gestational alcohol exposure: impact of bacteria community on the neonate	Co-I	Neal	07/01/14-06/30/16	$412,500
NICHD	CSE: gut microbiome modulation of hepatic gluconeogenesis	Co-I	Neal	07/01/14-06/30/16	$412,500
NIAAA	FAS: Impact of gut microbiome on hepatic lipid function	Co-I	Neal	07/01/14-06/30/19	$1,875,000
NIDDK	Therapeutics development for hepatic fibrosis	Subcontract PI	Maitra	09/01/14-08/31/19	$504,656 (subcontract)
NIEHS	Environmental Chemicals and Liver Disease (R13 mechanism)	Co-I	Cave	2014	$15,430
Arteel, Juliane Beier					
NIEHS superfund P42	Environmental Exposure and Cardiometabolic Disease	Co-I	Srivastava	04/01/14-03/31/18	$500,666 (proj.)
Ceresa, Brian					
NIH/NIGMS R01GM092874	Endocytic Regulation of EGFR Signaling	Co-PI	Ceresa/P. Bates	04/01/14 – 03/31/19	$ 1,875,000
DoD	Modulation of EGFR Signaling to Promote Corneal Wound Healing	M-PI	Ceresa/P. Bates	07/01/14 – 12/31/17	$750,000
NIH/NIGMS R01GM092874	In vivo Analysis of Dysregulated EGFR Trafficking	PI	Ceresa	07/01/14-06/30/19	$ 1,875,000

NIH/NCI	Identification of molecular targets in pancreatic cancer for novel agents K22/K29	Co-I	McNally	04/01/14 – 03/31/19	$ 1,875,000
Clark, Geoffrey					
NIH	A porcine model of ovarian cancer	PI	Clark	2014-2019	$900,000 direct
DOD	Rechanneling Ras to destroy prostate cancer.	PI	Clark	2014-2017	$360,00 direct
KLCRP	Novel Ral inhibitors for lung cancer	PI	Clark	2014-2016	$150,000 direct
Davis, Keith					
Ky soybean Promotion Board	Continued Development of the Soybean-Derived Peptide Lunasin as an Anticancer Agent	PI	Davis	7/1/2013 - 6/30/2014	$50,000
Owensboro Grain	Development of Lunasin as a Chemoprevention Agent	PI	Davis	1/1/2014 - 12/31/2014	$171,929
NIH/NCI	Enhancing anti-tumor immunity of NK cells by lunasin for cancer immunotherapy	Co-I	Chang	7/1/2014 - 6/30/2016	$100,000 direct costs $29,159 to KRD
NIH/NCI	Targets and mechanisms of the chemopreventive soy peptide lunasin in lung cancer	PI	Davis	12/1/2013 - 11/30/2015	$275,000 direct costs
Gupta, Ramesh					
NCAAM/NCI R01-AT-07428	Inhibition of Lung Cancer by Berry Polyphenolics	PI	Gupta	4/13-3/18	$2,256,809
NIH Research Project Grant (Parent R01)	Inhibition of Cigarette Smoke-Mediated Lung Cancer by Berry Bioactives	PI	Gupta	7/14-6/19	$2,506,308
NIH Transformative Research Awards (R01)	Exosomal Drug Delivery for Prevention and Treatment of Lung Cancer	PI	Gupta	7/14-6/19	$3,528,192
DOD Breast Ca Res Prog Breakthrough Award	Prevention and Treatment of Breast Cancer by Blueberry Anthos	PI	Gupta	7/14-6/17	$1,039,962
NIH Research Project Grant (Parent R01)	Adjuvant Therapy for Breast Cancer	PI	Gupta	7/14-6/19	$2,603,242
Hein, David					
NCI R25-CA011564 (non-competing renewal)	University of Louisville Cancer Education Program	PI	Hein	09/01/2013-08/31/2014	$274,671
NIH/NIEHS T32- ES011564	UofL Environmental Health Sciences Training Program	PI	Hein	07/01/2013 – 06/30/2014	$425,838

(non-competing renewal)					
Society of Toxicology	UofL undergraduate Internship Program	PI	Hein	05/01/2013 – 04/30/2014	$11,000
NIH/NIEHS P42-ES023716	Environmental Exposure and Cardiometabolic Disease	Co-I	Srivastava	04/01/2014 – 03/31/2018	$10,457,421
Kang, Y James					
NIH-NIAAA, 1R01AA023190	Mechanisms of Probiotics in Alcoholic Liver Disease	Co-PI	Feng	07/01/14-06/30/19	$1,500,000
Kidd, LaCreis					
Uof L Basic Research Grant		PI	Kidd	6/15/2013-5/15/2013	15,000
Lukashevich, Igor					
NIH 1R01 AI111570-01	Advanced Multivalent Lassa Virus Vaccine	PI		05/1/2014-04/30/2019	$5,556,382
Matoba, Nobuyuki					
NIH NIAID/ 1R01 AI111996-01	Development of a Bispecific Entry/Fusion Inhibitor for a Topical HIV Microbicide	PI	Matoba	7/01/14–6/30/18	$2,436,233
NIH NIAID/ U19 AI103458-01	Griffithsin-based Rectal Microbicides for PREvention of Viral ENTry (PREVENT)	PK/PD Core Leader	Palmer	7/01/14 – 6/30/19	$15,500,390
Palmer, Kenneth					
NIH/NIAID R01 AI112017-01	Assessing the effects of griffithsin on the female genital tract mucosal environment	PI	Palmer	07/01/2014 – 06/30/2018	$2,665,393
NIH/NIAID U19 AI113182-01	Griffithsin-based Rectal Microbicides for PREvention of Viral ENTry (PREVENT)	PI	Palmer	07/01/2014 – 06/30/2019	$15,500,392
Sankar, Uma					
NIH/R01/NIAMS – AR063653	Role of Calmodulin dependent protein kinase kinases in bone remodeling	PI	Sankar	04/01/14-12/31/19	$ 1,909,513
Molecular Targets Phase III CoBRE Pilot Project	CaMKK2 Inhibition as a Dual-Hit strategy in the prevention of prostate cancer growth and ADT-induced bone loss	PI	Sankar	11/13/13 – 07/01/15	$150,000
NCI R21	CaMKK2 Inhibition in ADT-induced Osteoporosis and Prostate Cancer Growth	PI	Sankar	12/10/13-11/30/15	$415,343
Siskind, Leah					
NIDDK, R01	The role of the glycosphingolipid metabolic pathway in lupus nephritis	Co-I	Nowling	07/01/2014 – 06/30/2019	$1,875,000

BLR&D VA Merit Review Award	The role and regulation of lipid mediators in lupus nephritis.	Co-I	Nowling	4/1/2014-3/31/2018	$1,119,600
NIGMS, R01	BCL2-like proteins and sphingolipids coordinately regulate apoptosis	Co-I	Beverly	07/01/2014 – 06/30/19	$1,875,000
NIDDK	The role of glycosphingolipids in diabetic nephropathy	PI, 25% effort	Siskind	07/01/2014 – 06/30/19	$1,875,000
NIH, JGBCC Molecular Targets COBRE pilot project	Pentose phosphate pathway and glycosphingolipids are novel dependencies of cancer	PI	Siskind	10/1/2013-9/30/2015	$150,000
Alex's Lemonade Stand Found for Childhood Ca	Sphingolipid metabolism as a novel biomarker and target in pediatric leukemia	Co-I	Beverly	1/2/2014-1/2/2017	$371,153
NSF	Cross-talk between BCL2-like proteins and sphingolipids in apoptosis	Co-I	Beverly	4/1/2014-3/31/2019	$1,118,818
KSEF	Sphingolipid metabolism as a novel biomarker and therapeutic of pediatric leukemia	PI	PI: Siskind Co-PI: Beverly	07/01/2014-06/30/2015	$30,000
KSEF	A comprehensive resource to study the role of sphingolipid metabolism in cancer biology	Co-PI	PI: Beverly Co-PI: Siskind	07/01/2014-06/30/2015	$30,000
Song, Zhao-Hui					
R21HD080268	Discovery of Novel Ligands for GPR3	PI	ZH Song	4/1/2014-3/31/2016	$412,500
R21DA037919	Allosteric Modulators of CB2 Cannabinoid Receptor	PI	ZH Song	7/1/2014-6/30/2016	$412,500
States, J Christopher					
NIEHS / R21ES023627-01	Differential miRNA expression & progression of arsenic induced skin cancers	PI	States	12/01/2013-11/30/2015	$412,500
NIEHS / P42ES023716-01	Environmental Exposure and Cardiometabolic Disease	IAC member	Srivastava	04/01/2014 – 3/31/2019	$7,007,621
KLCRP	Targeting the anaphase promoting complex as lung cancer chemotherapy	PI	States	1/1/14 – 12/31/15	$150,000

NIEHS/ R21ES024024-01	Black Leaf Chemical Biorepository: Characterizing Exposure and Health Effects	Co-I	Cave	11/1/13-10/31/17	$412,500
BCC – CobrePilot Preproposal	Non-tubulin mitosis disrupting chemotherapeutics	PI	States	10/1/2013	$75,000

INVITED SCIENTIFIC PRESENTATIONS
Faculty with Primary Appointments

Arteel, Gavin:
1. Research seminar, 05/13 "And the hits keep coming: interactions that modify the risk of fatty liver disease," University of Louisville, Center for Obesity and Diabetes Research.

2. Research seminar, 03/13 "Hit-by-hit (by hit): new potential mechanisms in chronic liver diseases," University of Arkansas, Medical School, Little Rock, AR.

3. Seminar, 06/13 "How to get your papers published in good journals." University of Louisville, R25 Cancer Education Program, Louisville, KY.

4. Research seminar, 09/13 "And the hits keep coming: interactions that modify the risk of fatty liver disease," Kansas University Medical College, Kansas City, MO.

5. Seminar, 11/13 "Experimental design and hypothesis testing." University of Louisville School of
Medicine, Distinction in Research Program, Louisville, KY.

Arteel, Juliane Beier:
1. Research seminar, 09/11/13, Liver disease: hidden risk for viral hemorrhagic fever? University of Louisville, Center for Predictive Medicine, University of Louisville, KY.

Ceresa, Brian:
1. February 2, 2013: Department of Ophthalmology and Vision Sciences, University of Louisville "Promoting Corneal Epithelial Homeostasis by Modulating Epidermal Growth Factor Receptor Activity".

2. October 1, 2013 – University of Kentucky, Department of Biochemistry, "EGFR trafficking in the Corneal Epithelium"

Davis, Keith:
1. Anticancer effects of the soy-derived peptide lunasin. 2013. Department of Biology, IUPUI, Indianapolis, Indiana

2. Development of novel cancer chemoprevention agents from soybean. 2013. Department of Biological Sciences, Georgetown College, Georgetown, Kentucky

Gupta, Ramesh:
1. "Therapeutic Potential of Blueberry Anthos ('Color' Therapy)" at the Berry Health Benefits Symposium, June 18-20, Charlotte, North Carolina

Hein, David:
1. Use of Cryopreserved Human Hepatocytes to Investigate Genetic Variability in Drug and Xenobiotic Metabolism and Toxicity**.** Annual meeting of the Society of Toxicology, San Antonio, Texas, March 2013.

2. Cryopreserved Human Hepatocytes to Investigate Genetic Variability in Drug and Xenobiotic Metabolism and Toxicity. West China Hospital at Sichuan University, Chengdu, China, May 2013.

3. Pharmacogenomics and Molecular Epidemiology: Personalized Medicine and Environmental Health. Universite Paris Diderot, Paris, France, September 2013.

4. Acetylation Polymorphisms as Modifiers of Environmental Disease. Department of Environmental Health, University of Cincinnati School of Medicine, Cincinnati, Ohio, October 2013.

5. NAT2 Polymorphisms and Disease Risk: Implications of Genetic Heterogeneity in the Slow Acetylator Phenotype. Sixth International Workshop on the Arylamine N-acetyltransferases Toronto, Canada, October 2013.

6. Translation of Laboratory Research Findings Towards the Assessment of Tobacco-related Cancer Risk in Populations and Individuals. School of Public Health and Information Sciences, University of Louisville, Louisville, Kentucky, October 2013.

Kang, Y. James:
1. Invited Speaker, Symposium "Contemporary Approaches for Safety Assessment of the Complex Mixtures of Natural Products" at the 52rd annual meeting of the Society of Toxicology, San Antonio, TX, March 10-14, 2013. "Herbogenomics as a translational method for the safety assessment of the complex mixtures in TCM".

Lukashevich, Igor:
1. The BIT's 5th World Congress of Vaccine, Hangzhou, China, March 18-20, 2013.

2. Keystone Symposia on Molecular and Cellular Biology, Advancing Vaccines in the Genomics Era. Oct 31- Nov 4, 2013, Windsor Barra Hotel, Rio de Janeiro, Brazil.

3**.** Invited Speaker: Defense Threat Reduction Agency (DTRA), Fort Belvoir, VA. Advanced Vaccine Platforms to Control Arenaviral Hemorrhagic Fevers. August 21, 2013,

4. Invited Speaker: The Sealy Center for Vaccine Development, UTMB, Galveston, Texas. Novel Vaccine Technologies to Control Viral Emerging Infections. Dec 11, 2013.

Matoba, Nobuyuki:
1. "Molecular farming of novel antiviral biotherapeutics" Molecular Targets seminar, University of Louisville Brown Cancer Center, May 16, 2013.
2. "Development of biopharmaceuticals by molecular farming" Invited seminar, University of Tokyo Faculty of Agriculture, June 17, 2013.

3. "Molecular farming of biopharmaceuticals" Invited seminar, Iwaki Meisei University Faculty of Pharmacy, June 18, 2013.

4. "Molecular farming of biopharmaceuticals" Invited seminar, Kyoto University Graduate School of Agriculture, June 21, 2013.

5. "Using Plants to Kill Viruses" Brown Cancer Center Retreat, University of Louisville, October 25, 2013.

Sankar, Uma:
1. The Multifaceted CaMKK2: One Kinase – Multiple Possibilities. *Molecular Targets Program,* JGBCC, University of Louisville, February 21, 2013**.**

2**.** Regulation of Mitochondrial Fission/Fusion Dynamics by GFER: Implications in Stem/Progenitor Cell Survival. *Kentucky Spinal Cord Injury Research Center,* University of Louisville, February 28, 2013.

3**.** CaMKK2 in Osteoblast and Osteoclast Differentiation and Function. Bone Club, Department of Anatomy and Cell Biology, Indiana University Purdue University School of Medicine, Indianapolis, IN, August 28, 2013.

Siskind, Leah:
1. Research seminar, 10/13 "Role of glycosphingolipids in diabetic nephropathy." University of Louisville, Department of Nephrology, Research Seminar Series, Louisville, KY.

2. Invited Talk, 10/13 "Biophysics of Sphingolipids: a historical perspective." *International Ceramide Conference*, Long Island, NY.

3. Research seminar, 10/13 "Sphingolipid metabolism as a therapeutic target for disease." MD/PhD program seminar series, University of Louisville, Louisville, KY.

4. Research seminar, 09/13 "Sphingolipid metabolism as a therapeutic target for cancer." University of Louisville, Molecular Targets, James Graham Brown Cancer Center, Louisville, KY

5. Invited Talk, 07/23/13 "Role of Sphingolipids in Renal Aging." NIH Workshop: Ceramides in Aging, at the National Institutes of Aging, Bethesda, MD. The purpose of this workshop was to to bring together experts in the field of ceramides and aging to evaluate the current state of the art and to determine what are the challenges and opportunities in furthering the research in this area.

States, J. Christopher:
1. "Developmental Arsenic Exposure and Dysregulation of Liver Gene Expression", International Congress on Environmental Mutagens, Foz do Igussu, Brazil, November 3-8, 2013

INVENTIONS, DISCLOSURES, LICENSE/OPTION AGREEMENTS, PATENT AWARDS, AND BUSINESS STARTUPS
Faculty with Primary Appointments

Davis, Keith:
Business Startups
- continue to serve as the CEO of Planta BioProducts, LLC. Recent efforts have gone towards business development activities.

Gupta, Ramesh:
- U.S. Continuation-in-Part Patent Application, ser. no. 13/429,601; filed March 26, 2013. R.C. Gupta, M. Vadhanam and F. Aqil
- Milk-derived Microvesicle Compositions and Related Methods. R.C. Gupta, R. Munagala, F. Aqil and J Jeyabalan; provisional application filed in February 2013

Kidd, LaCreis:
- "Genetic Determinants of Prostate Cancer", UofL Research Disclosure ref. #11078**;** Impact of chemokine-related sequence variants and prostate cancer risk; U.S. National Phase Application of International Patent Application No. US 2013/0323734 A1; Publication date: December 5, 2013; (www.google.com/patents/US20130323734)
- "Innate Immunity Markers of Cancer", UofL Research Disclosure ref. #10012; Impact of innate immunity-related sequence variants and prostate cancer and/or breast cancer; U.S. National Phase Application of International Patent Application No. US 2013/0116139 A1; Publication date: May 9, 2013; (www.google.com/patents/US20130116139)

Matoba, Nobuyuki:
- Patent Applications:
U. S. Provisional Patent Application Serial No. 61/763.366; Title: Methods for producing antibodies

Palmer, Kenneth:
- Invention disclosure, by Palmer KE, Fuqua J, and Matoba N, which led to U. S. Provisional Patent Application Serial No. 61/846,906 Title: Compositions for Mucusal Delivery, Useful for Treating Papillomavirus Infections
- Acted as Managing Director of Intrucept Biomedicine LLC, Owensboro, Kentucky

Siskind, Leah:
- 07/2013, Provisional Patent, P1210, Attorney Docket No. 10075-019PV1, Altered glycosphingolipid metabolism in nephritis

DEPARTMENTAL COURSES

- Medical Pharmacology course to second year medical students. Drs. Mike Williams and Steve Myers served as course directors.

- Pharmacology and Dental Therapeutics course to dental students. Dr. David Hein served as course director.

- Pharmacology course to second year students in the Dental Hygiene Program. Dr. Steve Myers served as course director.

- Basic Pharmacology course for undergraduate students. Dr. Steven Myers served as course director.

- The Department team taught several courses for graduate students. The individual courses and course directors included:

    - PhTx 660 – Principles of Drug and Chemical Action (Dr. Benz)
    - PhTx 606 – Pharmacology Seminar (Dr. Nerland)
    - PhTx 661 – Molecular Toxicology (Drs. Prough and Gavin Arteel)
    - PhTx 625 – Scientific Writing (Dr. Gavin Arteel)
    - PhTx 655 – Neuropharmacology (Drs. Rowell and Song)
    - PhTx 656 – Cardiovascular and Renal Pharmacology (Drs. Benz and Williams)
    - PhTx 657 – Endocrine and Metabolic Pharmacology (Dr. Arteel)
    - PhTx 658 – Selective Toxicity and Chemotherapy (Drs. Hurst and Nerland)
    - PhTx 672 – Research Methods in Pharmacology & Toxicology I (Drs. Song and States)
    - PhTx 673 – Research Methods in Pharmacology & Toxicology II (Drs. Song and States)
    - PhTx 674 – Research Methods in Pharmacology & Toxicology III (Drs. Song and States)
    - PhTx 675 – Research Methods in Pharmacology & Toxicology IV (Drs. Song and States)
    - PhTx 618 – Biostatistics (Dr. Kidd)

STANDING COMMITTEES

Graduate Student Affairs and Curriculum Committee

Dr. Peter Rowell (Chair)
Dr. Gavin Arteel (2013)
Dr. Uma Sankar (2014)
Dr. Brian Ceresa (2015)
Student rep: Pritesh Kumar
Student rep: Veronica Massey

Graduate Student Admissions and Recruitment Committee

Dr. Chris States (Chair)
Dr. Ken Palmer (2013)
Dr. La Creis Kidd (2014)
Dr. Ramesh Gupta (2015)
Dr. Steve Myers (2016)

SIBUP/Grievance Committee

Dr. Peter Rowell (Chair)
Dr. Harrell Hurst (2013)
Dr. Ramesh Gupta (2014)
Dr. Joe Song (2015)

Teaching Evaluation Committee

Dr. Mike Williams (Chair)
Dr. Fred Benz (2013)
Dr. Don Nerland (2014)
Dr. Harrell Hurst (2015)

Seminar Committee

Dr. Don Nerland (Chair)
Dr. Fred Benz (2013)
Dr. Igor Lukashevich (2014)
Dr. Gavin Arteel (2015)

Events Committee

Dr. La Creis Kidd (Chair)
Dr. Nobuyuki Matoba (2013)
Dr. Keith Davis (2014)
Dr. Juliane Arteel (2015)
Student rep: Pritesh Kumar

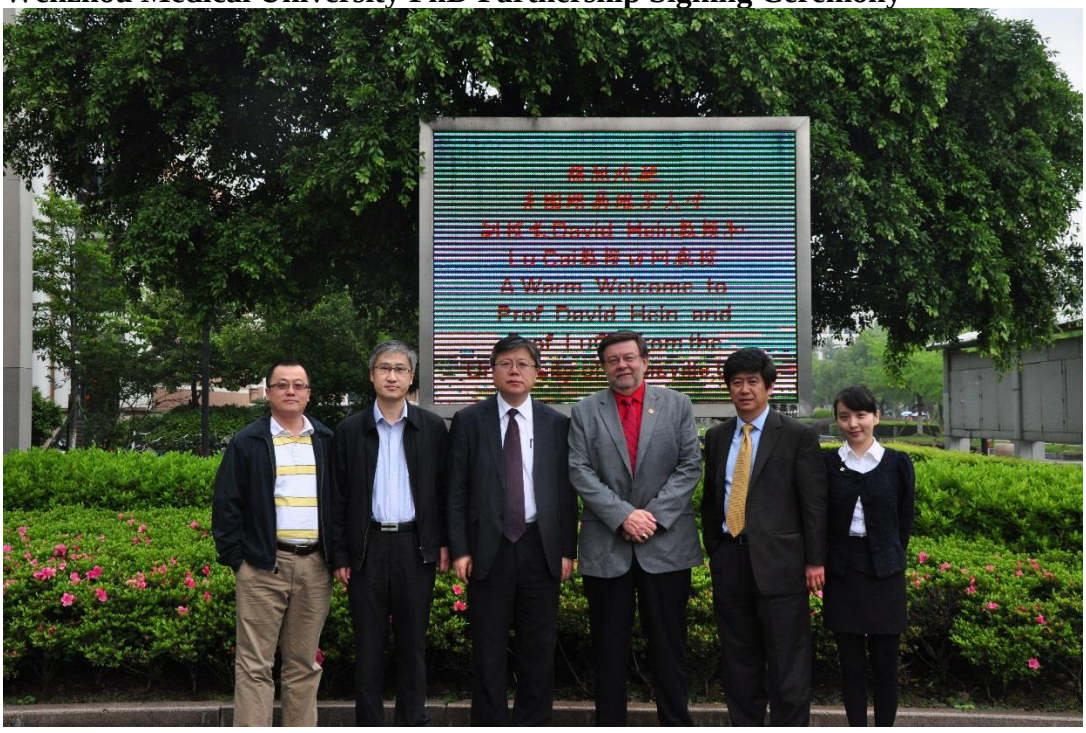
Information Technology Committee

Dr. Gavin Arteel
Dr. Fred Benz
Dr Harrell Hurst

Department Graduate Students

Adcock, Scott
Al-Eryani, Laila
Al-Maqtari, Tareq
Aloway, April
Avila, Diana
Baldauf, Keegan
Barton, Chris
Belshoff, Alex
Carlisle, Samantha
Chen, Wei Yang (Jeremy)
Cheng, Pei-Hsin (Penny)
Dupre, Tess
Donde, Hridgandh
England, Christopher
Finch, Jordan
Greenwell, Caleb
Grewal, Jaspreet
Hallgren, Justin
Holz, Gretchen
Hudson, Shanice
Jackson, Nicole
Jones, Dominique
Kurlawala, Zimple
Kumar, Pritesh
Lasnik, Amanda
Massey, Veronica
McAllister, Ryan
Neely, Aaron
Pandit, Harshulkumar
Poole, Lauren
Pritchard, Zachary
Schmidt, Robin
Shidal, Christopher
Skibba, Melissa
Stathem, Morgan
Stepp, Marcus
Vicary, Glenn
Wahlang, Banrida
Wechman, Stephen

Wenzhou Medical University PhD Partnership Signing Ceremony




热 烈 欢 迎
美国路易斯维尔大学
副校长David Hein教授和Lu Cai教授
访 问 我 校
A Warm Welcome to
Prof. David Hein and Prof. Lu Cai from
the University of Louisville, USA
Wenzhou Medical College
May 8th, 2013


热 烈 欢 迎
美国路易斯维尔大学
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A Warm Welc
Prof. David Hein and P
the University of L
Wenzhou Medi
May 8th,

UNIVERSITY OF LOUISVILLE®

Peter K. Knoefel Endowed Chair of Pharmacology & Toxicology
Professor and Chair, Department of Pharmacology & Toxicology
Associate University Provost for Strategic Planning
Distinguished University Scholar

David W. Hein, PhD
Clinical and Translational Research - Room 303
University of Louisville Health Sciences Center
505 South Hancock Street
Louisville, Kentucky 40202-1617

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Website: www.louisville.edu/faculty/dwhein01

AGREEMENT FOR PhD PARTNERSHIP IN PHARMACOLOGY AND TOXICOLOGY WENZHOU MEDICAL UNIVERSITY AND UNIVERSITY OF LOUISVILLE

The Department of Pharmacology and Toxicology of the University of Louisville and the School of Pharmacy at Wenzhou Medical University intend to enhance relations between the two universities by developing an academic and cultural exchange in teaching, research and other activities. This agreement describes a PhD partnership in which students enter and complete an MS program at Wenzhou Medical University and then transfer to the University of Louisville to complete the requirements for the PhD in pharmacology and toxicology.

Students initially will be admitted into the existing MS program in pharmacology at Wenzhou Medical University. Their course of study at Wenzhou Medical University includes coursework that will substitute for required coursework for the PhD in pharmacology and toxicology at the University of Louisville. Upon completion of the course of study at Wenzhou Medical University, top students will be recommended for transfer to the PhD program in pharmacology and toxicology at the University of Louisville. Upon transfer to the University of Louisville these students will be required to complete presentation/communication courses as well as the remaining required coursework for the PhD in pharmacology and toxicology. The students also will be required to pass applicable qualifying exams, including preparation, presentation and defense of their PhD dissertation proposal. Upon successful defense of their PhD proposal, the students will engage in research towards the preparation, presentation, and defense of their PhD dissertation. Following successful completion of all required courses at the University of Louisville and successful defense of their PhD dissertation, the student will be awarded the PhD in pharmacology and toxicology from the University of Louisville.

The projected number of students will depend upon the quality of the students interested and the capacity of University of Louisville faculty members to incorporate these students into their laboratory research programs.

Requirements for transfer of students from Wenzhou Medical University into the PhD program in pharmacology and toxicology at the University of Louisville include:

1. Letter of application from the student acknowledging that the student is responsible for all required tuition and fees including health insurance to be paid to the University of Louisville.
2. Transcript detailing coursework completed at Wenzhou Medical University.
3. Electronic copy of MS thesis submitted in partial fulfillment for the MS degree at Wenzhou Medical University (if MS thesis was completed).
4. Two recommendation letters that include assessment of applicant's competency in written and spoken English. GRE and TOEFL scores are encouraged but can be waived based on interview and recommendation letters.
5. Copy of letter from Wenzhou Medical University to the student indicating the amount and terms of financial support to the student from Wenzhou Medical University.
6. Transfer of students will be subject to compliance with entry and visa requirements of China, the United States, Wenzhou Medical University and the University of Louisville.
7. Interview with member(s) of the University of Louisville faculty.

Courses completed at Wenzhou Medical University will substitute for courses at the University of Louisville. The curricular requirements to be completed at Wenzhou Medical University that substitute for the specific courses at the University of Louisville are listed below with additional details on course objectives and faculty teaching these courses is provided as an attachment.

1. Cell Biology (48 class hrs)
2. Physiology (78 class hrs)
3. Biochemistry (54 class hrs)
4. Molecular Biology (32 class hrs)
5. Pharmacology (244 class hrs)
6. Medical Research Methods (32 class hrs)
7. Medical statistics (32 class hrs)
8. Completion of an MS degree program awarded by Wenzhou Medical University

Curricular requirements to be taken at the University of Louisville for students transferring to the PhD program in pharmacology and toxicology are shown below (steps 1-4 should be completed in the first year of residency).

1. Communication in English (3 credits)
2. Scientific Writing (2 credits)
3. Research Ethics (1 credit)
4. Seminar (1 credit)
5. Defense of dissertation proposal (Final Qualifying Exam)
6. Presentation and Defense of PhD dissertation
7. Award of the PhD in pharmacology and toxicology from the University of Louisville

All instruction and coursework, presentations, examinations and defenses are in English. Curricular requirements at the University of Louisville may be revised as program quality and effectiveness is assessed through faculty teaching and course evaluations, and through the program review process required of all graduate programs at the University of Louisville.

Member(s) of the University of Louisville or Wenzhou Medical University faculty may travel to the partner university to meet with students, faculty, and administrators to discuss curriculum, course quality, students and logistical issues. Travel costs will be borne by Wenzhou Medical University, subject to their approval regarding dates and number of faculty members each visit.

All tuition and fee costs for the PhD program at the University of Louisville, including participation in the health insurance program, is to be paid by the student. Wenzhou Medical University will provide the students funds to pay all applicable tuition and fees at the University of Louisville, including health insurance, and living expenses including travel and housing. A projection of the cost of each entering student for the 3.5 year estimated tenure in the PhD pharmacology and toxicology program at the University of Louisville is shown as an attachment.

Payment for faculty time and effort and for research expenses are the responsibility of the host university (Wenzhou Medical University during the MS program and the University of Louisville upon transfer to the PhD program). No additional support to the student or waiver of required tuition and fees will be provided by the University of Louisville.

Students transferring from Wenzhou Medical University will have access to the full complement of services available to students enrolled at the University of Louisville, including health, sports and recreation, the arts, advising, entertainment, and housing. The International Center at the University of

Louisville provides comprehensive information and serves all international students at the University of Louisville, including those transferring from Wenzhou Medical University.

This agreement shall be effective upon approval by both universities and shall remain in effect indefinitely subject to the right of either institution to withdraw from the agreement by giving no less than one (1) year written notice to the other institution. Any termination shall not affect the obligations already in progress prior to termination.

Any changes or additions to this agreement shall be agreed to in writing by both universities.

Signatures for the University of Louisville:

David W. Hein
Chair, Department of Pharmacology and Toxicology
Associate University Provost for Strategic Planning Date: December 17, 2013

Beth A. Boehm
Vice Provost for Graduate Affairs
Dean, School of Interdisciplinary and Graduate Studies Date: December 17, 2013

Mordean Taylor-Archer
Vice Provost for Diversity and International Affairs Date: December 17, 2013

Signatures for Wenzhou Medical University:

Professor Xiaokun Li
Vice President
Wenzhou Medical University Date:

Louisville provides comprehensive information and serves all international students at the University of Louisville, including those transferring from Wenzhou Medical University.

This agreement shall be effective upon approval by both universities and shall remain in effect indefinitely subject to the right of either institution to withdraw from the agreement by giving no less than one (1) year written notice to the other institution. Any termination shall not affect the obligations already in progress prior to termination.

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Vice Provost for Graduate Affairs
Dean, School of Interdisciplinary and Graduate Studies — Date: December 17, 2013

Mordean Taylor-Archer
Vice Provost for Diversity and International Affairs — Date: December 17, 2013

Signatures for Wenzhou Medical University:

Professor Xiaokun Li
Vice President
Wenzhou Medical University — Date: 2013-12-19

Tess Dupre

Home town: Lafayette, LA

B.S., Toxicology
Univ. of Louisiana at Monroe

Jordon Finch

Home town: Hillsboro, MO

M.S., Biological Sciences
Southern Illinois Univ. - Edwardsville

Jaspreet Grewal, M.D.

Home town: Brampton, Ontario

M.D., Christian Medical College, Ludhiana, India
M.P.H., Univ. of Illinois - Chicago

Shanice Hudson

Home town: Indianapolis, IN

B.S., Biology
Massachusetts Institute of Technology

Zimple Kurlawala

Home town: Mumbai, India

M.D. – Univ. of Seychelles/American Institute of Medicine

M.P.H. – Public Health Education, Western Kentucky University

Aaron Neely

Home town: Nassau, Bahamas

M.S., Biology – University of North Texas
B.S., Biology – Paul Quinn College

Lauren Poole

Home town: Louisville, KY

B.S., Biology (Genetics)
University of Louisville

Morgan Stathem

Home town: Burke, VA

B.S., Biological Sciences
University of Georgia

(entering as 2nd-year student)

University of Louisville NCI Cancer Education Program Class of 2013

Samantha N. Barry
Medical Student
University of Louisville School of Medicine
Email: snbarr02@louisville.edu
Faculty Mentor: Kelly McMasters, MD, PhD

Research Project: Identifying serum exosomal microRNA signatures in melanoma patients

Matthew S. Bienick
Undergraduate Student
Michigan State University
Email: mbienick@msu.edu
Faculty Mentor: Keith Davis, PhD

Research Project: Effects of soy peptide Lunasin on inhibition of melanoma

Harrison M. Black
Dental student
University of Louisville School of Dentistry
Email: hmblac02@louisville.edu
Faculty Mentor: David A. Scott, PhD

Research Project: Tobacco-induced dysregulation of matrix metalloproteinases in immune cells

Neil Bodduluri
Duke University Graduate
Email: neilbodduluri@gmail.com
Faculty Mentor: David W. Hein, PhD

Research Project: Effect of high fat and high fructose diets on MDA-induced carcinogenicity in Nat2 rapid acetylator rats

University of Louisville NCI Cancer Education Program Class of 2013

James A. Bradley
Medical Student
University of Louisville School of Medicine
Email: jabrad07@louisville.edu
Faculty Mentor: John W. Eaton, PhD

Research Project: Utilizing the humoral response to early-stage lung cancer as a potential biomarker for early diagnosis

Elizabeth H. Bruenderman
Medical Student
University of Louisville School of Medicine
Email: ehbrue01@louisville.edu
Faculty Mentor: Robert C. Martin, MD, PhD

Research Project: A true higher risk patient population does exist in idiopathic pancreatic adenocarcinoma

Sean T. Butterbaugh
Undergraduate Student
University of Louisville
Email: stbutt01@louisville.edu
Faculty Mentor: James Wittliff, PhD

Research Project: A genomic approach to identify clinically relevant gene signatures that underlie favorable response of ILC to aromatase inhibitors

Cameron Campbell
Undergraduate Student
Campbellsville University
Email: cmc72191@gmail.com
Faculty Mentor: Ramesh Gupta, PhD

Research Project: Role of exosomes in tumor growth and metastasis

University of Louisville NCI Cancer Education Program Class of 2013

Matthew Cook
Undergraduate student
Emory University
Email: mcook5@emory.edu
Faculty Mentor: Jesse Roman, MD
Research Project: Regulation of gene expression by tumor cell stromal interactions

Tess Dupre
University of Louisiana-Monroe Graduate
Rising graduate student University of Louisville
Email: dupretv09@gmail.com
Faculty Mentor: Lacey R. McNally, PhD
Research Project: Detection of pancreatic adenocarcinoma in vivo with S100A9 targeted liposomes

Matthew K. Forsthoefel
Medical student
University of Louisville School of Medicine
Email: mkfors01@louisville.edu
Faculty mentor: Paula Bates, PhD
Research Project: The role of p38 on AS1411 activity

Taylor Hermann
Undergraduate Student
University of Alabama
Email: tnhermann@crimson.ua.edu
Faculty Mentor: Hari Bodduluri, PhD
Research Project: Exploring the biomarkers of lung cancer metastasis

University of Louisville NCI Cancer Education Program Class of 2013

Conor Kinslow
Undergraduate Student
SUNY-Binghamton
Email: ckinslo1@binghamton.edu
Faculty Mentor: Andrew Lane, PhD

Research Project: Stable isotope resolved metabolomics in lung cancer

Jonathon R. Lindner
Medical Student
University of Louisville School of Medicine
Email: jrlind08@louisville.edu
Faculty Mentor: La Creis Kidd, PhD, MPH

Research Project: Role of micro-RNA 885-5p in prostate cancer cell lines

Danial Malik
Undergraduate Student
University of Louisville
Email: damali01@cardmail.louisville.edu
Faculty Mentor: Paula Bates, PhD

Research Project: Developing SOX9 inhibitors

Joshua M. Mitchell
Medical Student
University of Louisville School of Medicine
Email: jmmitc06@louisville.edu
Faculty Mentor: Hunter N. Moseley, PhD

Research Project: Developing computational tools for molecular comparison and metabolic placement of detectable uncharacterized metabolites

University of Louisville NCI Cancer Education Program Class of 2013

Adam Morrison
Undergraduate Student
University of Louisville
Email: ajmorr03@cardmail.louisville.edu
Faculty Mentor: Jason Chesney, MD, PhD
Research Project: Inhibition of glycolysis using a small molecule inhibitor PF158 in combination with temozolomide in melanoma cells

Jonathan A. Nitz
Medical student
University of Louisville School of Medicine
Email: janitz01@louisville.edu
Faculty Mentor: Jorge G. Gomez-Gutierrez, PhD
Research Project: Enhancement of oncolytic adenovirus therapeutic efficacy by combination with temozolomide

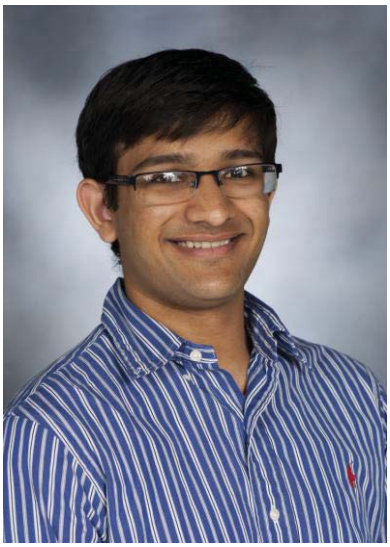
Alan North
Medical student
University of Louisville School of Medicine
Email: anorth5@gmail.com
Faculty Mentor: Robert C. Martin, MD, PhD
Research Project: Reflux related quality of life side effects in trans esophageal stenting for malignant obstruction

David D. Picklesimer
Medical Student
University of Louisville
Email: d0pick02@louisville.edu
Faculty Mentor: Lacey McNally, PhD
Research Project: Pancreatic adenocarcinoma detected with targeted liposomes

University of Louisville NCI Cancer Education Program Class of 2013

Lauren Poole
University of Louisville Graduate
Entering University of Louisville graduate student
Email: lgpool01@louisville.edu
Faculty Mentor: Gavin Arteel, PhD
Research Project: The role of sinusoidal endothelial cells in the regulation of the innate immune response

Douglas J. Saforo
University of Louisville undergrad
Entering University of Louisville Medical Student
Email: djsafo01@louisville.edu
Faculty Mentor: J. Christopher States, PhD
Research Project: Candidate drugs binding the Anaphase Promoting Complex: A novel target for anti-cancer therapy



Tejas Sangoi
Undergraduate Student
St. Louis University
Email: tsangoi@slu.edu
Faculty Mentor: Brian Ceresa, PhD
Research Project: Endocytic trafficking of mutant epidermal growth factor receptors in lung cancer

Sean P. Shannon
Medical student
University of Louisville School of Medicine
Email: spshan01@louisville.edu
Faculty Mentor: Levi J. Beverly, PhD
Research Project: Determining the role of normal and cancer-identified ubiquilin variants in altering cellular processes

University of Louisville NCI Cancer Education Program Class of 2013

Nicholas Siow
Undergraduate Student
Washington University
Email: N.SIOW@WUSTL.EDU
Faculty Mentor: John Trent, PhD
Research Project: Automated G-quadruplex generation: From sequence to structure

Amy Song
Undergraduate Student
Drexel University
Email: amy.song47@gmail.com
Faculty Mentor: Levi Beverly, PhD
Research Project: Defining the biochemical determinants of BCLxl-induced leukemogenic potency

Vanessa A. R. States
University of Louisville undergrad
Email: vastat02@louisville.edu
Faculty Mentor: Susan Galandiuk, MD
Research Project: Comparing target protein levels between non-neoplastic and sporadic CRC tissue based on dysregulated miRNAs

Benjamin T. Turner
Medical student
University of Louisville School of Medicine
Email: bentturner@gmail.com
Faculty Mentor: Susan Galandiuk, MD
Research Project: Comparing microRNA levels between non-neoplastic and colon adenoma tissue

University of Louisville NCI Cancer Education Program Class of 2013

John R. Wehry
Medical Student
University of Louisville
Email: jrwehr01@louisville.edu

Faculty Mentor: Robert C. Martin, MD, PhD
Research Project: Optimal management of metastatic neuroendocrine cancer to the liver: Concurrent therapy better than sequential management

Matthew R. Zeiderman
Medical Student
University of Louisville School of Medicine
Email: mzeid89@gmail.com

Faculty Mentor: Kelly McMasters, MD, PhD
Research Project: Novel therapies for BRAF-inhibitor resistant melanoma