TABLE OF CONTENTS

DEPARTMENT PHOTO - 3
MISSION - 4
NEW FACULTY APPOINTMENTS AND TRANSERS – 5
FACULTY PROMOTIONS – 11
FACULTY RESIGNATIONS – 13
STAFF APPOINTMENTS AND RETIREMENTS - 14
FACULTY WITH PRIMARY APPOINTMENTS -15
FACULTY WITH SECONDARY APPOINTMENTS -19
FACULTY WITH EMERITUS AND ADJUNCT APPOINTMENTS - 28
OFFICE STAFF -29
FACULTY HONORS – 29
STUDENT HONORS - 31
GRADUATES– 32
PUBLICATIONS - 34
ABSTRACTS - 40
RESEARCH GRANTS ACTIVE - 51
RESEARCH GRANTS SUBMITTED - 56
INVITED SCIENTIFIC PRESENTATIONS - 61
INTELLECTUAL PROPERTY ACTIONS – 64
DEPARTMENTAL COURSES - 65
STANDING COMMITTEES – 65
DEPARTMENT GRADUATE STUDENTS – 67
PHD PARTNERSHIP WITH WENZHOU MEDICAL UNIVERSITY-67
NEW GRADUATE STUDENTS
NCI CANCER EDUCATION PROGRAM STUDENTS
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.
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 antioxidant 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 hematopoietic 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 Pediatrics and 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)
Ph.D, 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 vaccines 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, Baltimore, 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**

<table>
<thead>
<tr>
<th>Graduate</th>
<th>Degree</th>
<th>Mentor</th>
<th>Dissertation/Thesis Title</th>
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<tbody>
<tr>
<td>Pei-Hsin (Penny) Cheng</td>
<td>Ph.D.</td>
<td>Kelly M. McMasters M.D., Ph.D.</td>
<td>Cyclin E induction and oncolytic replication of E1B-deleted adenoviruses</td>
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<td>Amanda B. Lasnik</td>
<td>M.S.</td>
<td>Kenneth E. Palmer, Ph.D.</td>
<td>Preclinical safety assessment of griffithsin-based baginal microbicides</td>
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<tr>
<td>Alex C. Belshoff</td>
<td>Ph.D.</td>
<td>Teresa Fan, Ph.D.</td>
<td>Probing the anti-cancer mechanism of selenite: a metabolic approach</td>
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<tr>
<td>Robin H. Schmidt</td>
<td>Ph.D.</td>
<td>Gavin E. Arteel, Ph.D.</td>
<td>Olanzapine-induced liver injury: direct metabolic effects, exacerbation by high-fat diet, and protection with sulforaphane</td>
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<td>Christopher G. England</td>
<td>M.S.</td>
<td>Hermann B. Frieboes, Ph.D.</td>
<td>Optimization of drug uptake into solid tumors using an integrated experimental/computational modeling approach</td>
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<td>Glenn W. Vicary</td>
<td>M.S.</td>
<td>Jesse Roman, M.D.</td>
<td>The role of α7 nicotinic acetylcholine receptors in lung injury and repair</td>
</tr>
</tbody>
</table>
PHARMACOLOGY & TOXICOLOGY PUBLICATIONS
Faculty with Primary Appointments and Students


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.


37. McDonagh EM, Boukouvala S, Akllillu 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.


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


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.


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


Arteel, Gavin:
National/International


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


Arteel, Juliane Beier:
National/International


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.


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.


**Benz, Frederick:**


**Ceresa, Brian:**


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


Gupta, Ramesh:


**Hein, David:**


**Hurst, Harrell:**

**Kidd, LaCreis:**
**Local Abstracts**


National Abstracts


International Abstracts

Lukashevich, Igor:


Matoba, Nobuyuki:


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


Nerland, Donald:

Palmer, Kenneth:


**Sankar, Uma:**


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:**


**At University of Louisville:**


Local/Regional
Prior to University of Louisville

At University of Louisville:


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


States, J. Christopher:


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, Louisville, KY, September 24, 2013.


ACTIVE GRANTS/CONTRACTS & OTHER RESEARCH ACTIVITIES

Faculty with Primary Appointments

Pharmacology & Toxicology

2013 Active Grants

<table>
<thead>
<tr>
<th>Agency/Number</th>
<th>Title</th>
<th>Role</th>
<th>PI</th>
<th>Project Period</th>
<th>Budget Award</th>
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<tr>
<td><strong>Arteel, Gavin</strong></td>
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<tr>
<td>NIH T32ES011564</td>
<td>UofL Environmental Health Sciences Training Program</td>
<td>Mentor</td>
<td>Hein</td>
<td>07/01/09-06/30/14</td>
<td>$2,037,745</td>
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<td>NIH U01AA021901</td>
<td>Novel therapies in alcoholic hepatitis University of Louisville</td>
<td>Co-I</td>
<td>McClain</td>
<td>10/01/12-09/31/17</td>
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<td>NIH R21ES021311</td>
<td>Effect of dietary fat on the hepatotoxicity of environmental arsenic</td>
<td>Co-I</td>
<td>Watson</td>
<td>05/25/12-04/30/14</td>
<td>$449,750</td>
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<tr>
<td>UofL IRIG</td>
<td>Role of ECM and inflammatory remodeling in alcohol-induced liver and lung damage</td>
<td>PI</td>
<td>Arteel</td>
<td>07/01/12-06/30/13</td>
<td>$15,000</td>
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<td><strong>Arteel, Juliane Beier</strong></td>
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<td>NIH K01DK096042</td>
<td>Enhancement of NAFLD risk by vinyl chloride: interaction of gut-liver-adipose axis</td>
<td>PI</td>
<td>Beier</td>
<td>04/01/13-03/31/18</td>
<td>$ 483,804</td>
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Benz, Fred
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<tr>
<th>Institution</th>
<th>Project Title</th>
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<th>Start Date</th>
<th>End Date</th>
<th>Amount</th>
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<tr>
<td>DoD US Army W81XWH-10-2-0143</td>
<td>Biomarkers of Exposure and Mechanism of Action of Toxic Industrial Chemicals (TICs)</td>
<td>PI</td>
<td>9/27/2010 – 6/30/2013</td>
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<td>NIH/NIGMS R01GM092874</td>
<td>Endocytic Regulation of EGFR Signaling</td>
<td>PI</td>
<td>09/01/10-08/31/14</td>
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<td>NIH/NEI R01EY021497</td>
<td>Modulation of EGFR Signaling to Promote Corneal Wound Healing</td>
<td>PI</td>
<td>01/01/12 – 12/31/14</td>
<td>$750,000</td>
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<td>Clark, Geoffrey</td>
<td>The Role of the Ras effector Nore1a in tumor suppression</td>
<td>PI</td>
<td>2010-2015</td>
<td>$900,000  (directs)</td>
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<td>NCI/R01 CA133171-01A2</td>
<td>Oncopigs as a better model for human cancer</td>
<td>PI</td>
<td>2010-2014</td>
<td>$800,000  (directs)</td>
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<td>NIH COBRE Pilot Award</td>
<td>The development of Novel Ras antagonists to inhibit cancer</td>
<td>PI</td>
<td>2013-2015</td>
<td>$150,000</td>
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<td>Davis, Keith</td>
<td>Development of Lunasin as a Chemoprevention Agent</td>
<td>PI</td>
<td>05/01/2010-12/31/2014</td>
<td>$668,080</td>
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<td>DoD/USAMR MC W81XWH-10-2-0082- CLIN 1 and CLIN 2</td>
<td>Plant-Based Expression Systems for New Vaccines and Therapeutics</td>
<td>Co-I Wilkers on</td>
<td>08/23/2010 to 10/29/2015</td>
<td>$3,499,000</td>
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<td>Kentucky soybean Promotion Board</td>
<td>Continued Development of the Soybean-Derived Peptide Lunasin as an Anticancer Agent</td>
<td>PI</td>
<td>7/1/2011 to 6/30/2012</td>
<td>$78,059</td>
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<td>Kentucky soybean Promotion Board</td>
<td>Continued Development of the Soybean-Derived Peptide Lunasin as an Anticancer Agent</td>
<td>PI</td>
<td>7/1/2012 to 6/30/2013</td>
<td>$78,559</td>
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<td>Kentucky soybean Promotion Board</td>
<td>Continued Development of the Soybean-Derived Peptide Lunasin as an Anticancer Agent</td>
<td>PI</td>
<td>7/1/2013 to 6/30/2014</td>
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<td>Kentucky Science and Engineering Foundation</td>
<td>Plant-Based Expression of an Alpha-1 Antitrypsin Biosimilar</td>
<td>PI</td>
<td>7/1/2012-6/30/2013 NCE to 12/31/13</td>
<td>$50,000</td>
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<td>Gupta, Ramesh</td>
<td>Breast Cancer Chemoprevention Strategies</td>
<td>PI</td>
<td>04/07 - 03/13</td>
<td>$1,416,820</td>
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<td>NCI CA-125152</td>
<td>Breast Cancer Chemoprevention Potential of Common Spices</td>
<td>PI</td>
<td>07/07-05/14</td>
<td>$1,406,000</td>
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<td>PI Institution</td>
<td>Duration</td>
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<td>KY Lung Ca Res. Board</td>
<td>Activation of the Par-4 Extrinsic Pathway for Suppression of Lung Cancer</td>
<td>PI Gupta</td>
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<td>12/10 - 11/13</td>
<td>$150,000</td>
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<td>UofL CEG</td>
<td>Prevention &amp; Treatment Strategies for Lung Cancer Recurrence &amp; Metastasis</td>
<td>PI Gupta</td>
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<td>02/12 - 01/13</td>
<td>$15,000</td>
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<td>R43-CA-162417</td>
<td>Sustained, Target Delivery for Treatment of Cervical Pathologies</td>
<td>PI Gupta</td>
<td></td>
<td>07/12 - 12/14</td>
<td>$300,000</td>
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<td>U.S. Highbush Blueberry Council</td>
<td>Therapeutic Activity of Blueberry Against Lung Cancer</td>
<td>PI Gupta</td>
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<td>08/13 - 07/14</td>
<td>$74,270 (Directs)</td>
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<td>KY Matching</td>
<td>This grant is a supplement to the SBIR Phase I grant</td>
<td>PI Gupta</td>
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<td>01/13-06/14</td>
<td>$150,000 (Directs)</td>
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<td>Coulter Foundation</td>
<td>Treatment of Cervical Pathologies by Curcumin Delivered Locally by a Polymeric Device</td>
<td>PI Gupta Parker O'Toole</td>
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<td>7/13 – 6/14</td>
<td>$138,714 (Total)</td>
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<td>UofL Environmental Health Science Training Program</td>
<td>PI Hein</td>
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<td>07/1/09-06/30/14</td>
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<td>NIH, NIEHS T32-ES011564</td>
<td>University of Louisville Cancer Education Program</td>
<td>PI Hein</td>
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<td>9/14/12-08/31/16</td>
<td>$1,560,990</td>
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<td>NIEHS T35 ES014559</td>
<td>Summer Environmental Health Sciences Training Program</td>
<td>Mentor Prough</td>
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<td>04/01/2011-03/31/2016</td>
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<td>Hurst, Harrell</td>
<td>Biomarkers of Exposure and Mechanism of Action of Toxic Industrial Chemicals (TICs)</td>
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<td>09/27/2010-06/30/2013</td>
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<td>Kang, Y. James</td>
<td>Mechanisms of Probiotics in Alcoholic Liver Disease</td>
<td>Co-I Wenke Feng</td>
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<td>07/01/14-06/30/19</td>
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<td>NIH, NIEHS T32-ES011564</td>
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<td>R25-CA134283-01A1</td>
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<td>Co-I</td>
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<td>Lukashevich, Igor</td>
<td>Development of New Bivalent Cross-Protective Arenaviral Vaccines</td>
<td>PI</td>
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<td>04/01/2011</td>
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<td>Novel DNA-launched Attenuated Vaccine for VEE Virus</td>
<td>Co-I</td>
<td>Pushko</td>
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<td>Trivalent Arenaviral Vaccine Based on Virus-Like Particle Vectors (VLPVs)</td>
<td>Co-I</td>
<td>Pushko</td>
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<td>Matoba</td>
<td>A Novel DNA-launched Live Attenuated Chikungunya Vaccine</td>
<td>Co-I</td>
<td>Pushko</td>
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<td>Matoba,</td>
<td>Plant-produced Actinohivin as a Candidate HIV Microbicide</td>
<td>PI</td>
<td>Matoba</td>
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<td>06/10/10– 06/30/15</td>
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<td>DoD US ARMC/ W81XWH-10-2-0082 CLIN 1</td>
<td>Plant-Based Expression Systems for New Vaccines and Therapeutics</td>
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<td>08/23/2010– 08/22/2013</td>
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<td>DoD US ARMC/ W81XWH-10-2-0082 CLIN 2</td>
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<td>Subproj</td>
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<td>Brown Cancer Center Helmsley Trust Program /G2142</td>
<td>Immunotherapeutic potential of plant-made CTB against colitis and colon cancer</td>
<td>PI</td>
<td>Matoba</td>
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<td>07/18/11– 12/31/13</td>
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<td>DoD US ARMC/ W81XWH-09-2-022</td>
<td>Development of Novel Vaccines and Therapeutics Using Plant-Based Expression Systems</td>
<td>Member</td>
<td>Wilkers</td>
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<td>03/15/09– 03/14/13</td>
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<td>Nerland, Donald</td>
<td>Biomarkers of Exposure and Mechanism of Action of Toxic Industrial Chemicals (TICs)</td>
<td>PI</td>
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<td>9/27/2010– 6/30/2013</td>
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<td>Palmer, Kenneth</td>
<td>Griffithsin-based microbicides for HIV prevention – Bridge Grant</td>
<td>PI</td>
<td>Palmer</td>
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<td>03/01/2013</td>
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<td>Harry and Leona Helmsley Charitable Trust</td>
<td>Pan-oncogenic HPV vaccine</td>
<td>PI</td>
<td>Palmer</td>
<td>08/01/2011-10/31/2013</td>
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<td>NIH/NIAID R33 AI088585</td>
<td>Plant-produced Actinohivin as a Candidate HIV Microbicide</td>
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<td>06/01/2012-5/31/2015</td>
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<td><strong>Sankar, Uma</strong></td>
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<td>American Cancer Society</td>
<td>CaMKK2 Inhibition in Palliative Care of Advanced Prostate Cancer Patients</td>
<td>PI</td>
<td>Sankar</td>
<td>07/01/2013-06/30/2017</td>
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<td>Department of Defense CDMRP Discovery Award /PR121604</td>
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<td>Molecular Targets Phase III CoBRE Pilot Project</td>
<td>CaMKK2 Inhibition as a Dual-Hit strategy in the prevention of prostate cancer growth and ADT-induced bone loss</td>
<td>PI</td>
<td>Sankar</td>
<td>11/13/13 – 07/01/15</td>
<td>$150,000 (Total Costs)</td>
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<tr>
<td>UofL Office of the Exec. VP for Research and Innovation - Competitive Enhancement Grant</td>
<td>Role of Calmodulin-dependent protein kinase kinases in bone remodeling</td>
<td>PI</td>
<td></td>
<td>09/01/12 – 08/31/13</td>
<td>$15,000</td>
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<td>Brown Cancer Center/ Helmsley Trust Program</td>
<td>Role of Calmodulin-Dependent Protein Kinase Signaling in Hematopoiesis</td>
<td>PI</td>
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<td>06/01/12-05/31/14</td>
<td>$120,000</td>
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<td>IOIC100629X0 4 Owensboro Grain Company</td>
<td>Development of Lunasin as a Chemoprevention Agent</td>
<td>Co-I</td>
<td>Keith Davis</td>
<td>05/01/2010 to 11/01/2013</td>
<td>$316,388</td>
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<tr>
<td>DoD/USAMR MC W81XWH-10-2-0082-CLIN 1</td>
<td>Plant-Based Expression Systems for New Vaccines and Therapeutics Sub-Project: Ca^{2+}/Calmodulin dependent protein kinases in</td>
<td>Sub-Project PI</td>
<td>Wilkers</td>
<td>08/23/10 – 08/22/13</td>
<td>$1,751,000 Sub-project: $389,505</td>
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early embryonic neuronal development

DoD/USAMR MC W81XWH-10-2-0082- CLIN 2
Plant-Based Expression Systems for New Vaccines and Therapeutics
Sub-Project: Ca\textsuperscript{2+}/Calmodulin dependent protein kinases in vaccine-related immunogenicity
Sub-Project PI Wilkers on 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 SUBMITTED

Faculty with Primary Appointments
Grants Submitted
Pharmacology & Toxicology, 2013

<table>
<thead>
<tr>
<th>Agency/Number</th>
<th>Title</th>
<th>Role</th>
<th>PI</th>
<th>Project Period</th>
<th>Budget Award</th>
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<tbody>
<tr>
<td>Arteel, Gavin</td>
<td>NIAAA</td>
<td>Prenatal alcohol exposure: impact on insulin signaling pathways</td>
<td>Co-I</td>
<td>Neal</td>
<td>07/01/13-06/30/18</td>
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<tr>
<td></td>
<td>NIEHS</td>
<td>Developmental cigarette smoke exposure: impact on offspring gut-liver axis function</td>
<td>Co-I</td>
<td>Neal</td>
<td>07/01/13-</td>
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<tr>
<td>Agency</td>
<td>Project Title</td>
<td>Type</td>
<td>PI/Co-I</td>
<td>Start Date/End Date</td>
<td>Funding Amount</td>
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<td>NIEHS</td>
<td>Gut-liver interaction in arsenic-enhanced obesity-induced liver disease</td>
<td>PI</td>
<td>Arteel</td>
<td>07/01/13-03/31/18</td>
<td>$1,875,000</td>
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<tr>
<td>NIAAA</td>
<td>Prenatal Alcohol Exposure: Impact on Gut Function</td>
<td>Co-I</td>
<td>Neal</td>
<td>10/01/13-09/30/15</td>
<td>$412,500</td>
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<tr>
<td>NIEHS</td>
<td>Blackleaf Chemical Biorepository: Characterizing exposure and health effects</td>
<td>Co-I</td>
<td>Cave; Prough</td>
<td>11/01/13-10/31/15</td>
<td>$412,500</td>
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<td>NIAAA</td>
<td>Nutrition, Gut Flora/Intestinal Dysfunction in Alcohol-Induced Organ Injury</td>
<td>Pilot PI/Co-I</td>
<td>McClain</td>
<td>12/01/13-11/30/18</td>
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<td>NIEHS</td>
<td>GI microbiome in arsenic-enhanced obesity-induced liver diseases</td>
<td>PI</td>
<td>Arteel</td>
<td>12/01/13-11/30/16</td>
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<td>NIAAA</td>
<td>Role of ECM and inflammatory remodeling in alcohol-induced liver and lung damage</td>
<td>PI</td>
<td>Arteel</td>
<td>12/01/13-11/30/18</td>
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<tr>
<td>NIAAA</td>
<td>Gestational alcohol exposure: impact of bacteria community on the neonate</td>
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<td>Neal</td>
<td>07/01/14-06/30/16</td>
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<tr>
<td>NICHD</td>
<td>CSE: gut microbiome modulation of hepatic gluconeogenesis</td>
<td>Co-I</td>
<td>Neal</td>
<td>07/01/14-06/30/16</td>
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<td>NIAAA</td>
<td>FAS: Impact of gut microbiome on hepatic lipid function</td>
<td>Co-I</td>
<td>Neal</td>
<td>07/01/14-06/30/19</td>
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<tr>
<td>NIDDK</td>
<td>Therapeutics development for hepatic fibrosis</td>
<td>Subcontract PI</td>
<td>Maitr a</td>
<td>09/01/14-08/31/19</td>
<td>$504,656 (subcontract)</td>
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<tr>
<td>NIEHS</td>
<td>Environmental Chemicals and Liver Disease (R13 mechanism)</td>
<td>Co-I</td>
<td>Cave</td>
<td>2014</td>
<td>$15,430</td>
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**Arteel, Juliane Beier**

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<tr>
<th>Agency</th>
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<th>Type</th>
<th>PI/Co-I</th>
<th>Start Date/End Date</th>
<th>Funding Amount</th>
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<tr>
<td>NIEHS</td>
<td>Environmental Exposure and Cardiometabolic Disease</td>
<td>Co-I</td>
<td>Srivastava</td>
<td>04/01/14-03/31/18</td>
<td>$500,666 (proj.)</td>
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**Ceresa, Brian**

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<tr>
<th>Agency</th>
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<tr>
<td>NIH/NIGMS</td>
<td>Endocytic Regulation of EGFR Signaling</td>
<td>Co-PI</td>
<td>Ceresa/P. Bates</td>
<td>04/01/14 – 03/31/19</td>
<td>$ 1,875,000</td>
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<tr>
<td>DoD</td>
<td>Modulation of EGFR Signaling to Promote Corneal Wound Healing</td>
<td>M-PI</td>
<td>Ceresa/P. Bates</td>
<td>07/01/14 – 12/31/17</td>
<td>$750,000</td>
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<td>NIH/NIGMS</td>
<td>In vivo Analysis of Dysregulated EGFR Trafficking</td>
<td>PI</td>
<td>Ceresa</td>
<td>07/01/14-06/30/19</td>
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<td>Agency</td>
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<tr>
<td>NIH/NCI</td>
<td>Identification of molecular targets in pancreatic cancer for novel agents K22/K29</td>
<td>Co-I</td>
<td>McNally 04/01/14 – 03/31/19</td>
<td>$1,875,000</td>
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<tr>
<td>Clark, Geoffrey</td>
<td>A porcine model of ovarian cancer</td>
<td>PI</td>
<td>Clark 2014-2019</td>
<td>$900,000 direct</td>
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<tr>
<td>DOD</td>
<td>Rechanneling Ras to destroy prostate cancer.</td>
<td>PI</td>
<td>Clark 2014-2017</td>
<td>$360,000 direct</td>
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<td>KLCRP</td>
<td>Novel Ral inhibitors for lung cancer</td>
<td>PI</td>
<td>Clark 2014-2016</td>
<td>$150,000 direct</td>
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<td>Davis, Keith</td>
<td>Continued Development of the Soybean-Derived Peptide Lunasin as an Anticancer Agent</td>
<td>PI</td>
<td>Davis 7/1/2013 - 6/30/2014</td>
<td>$50,000</td>
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<tr>
<td>Owensboro Grain</td>
<td>Development of Lunasin as a Chemoprevention Agent</td>
<td>PI</td>
<td>Davis 1/1/2014 - 12/31/2014</td>
<td>$171,929</td>
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<tr>
<td>NIH/NCI</td>
<td>Enhancing anti-tumor immunity of NK cells by lunasin for cancer immunotherapy</td>
<td>Co-I</td>
<td>Chang 7/1/2014 - 6/30/2016</td>
<td>$100,000 direct costs $29,159 to KRD</td>
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<tr>
<td>NIH/NCI</td>
<td>Targets and mechanisms of the chemopreventive soy peptide lunasin in lung cancer</td>
<td>PI</td>
<td>Davis 12/1/2013 - 11/30/2015</td>
<td>$275,000 direct costs</td>
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<tr>
<td>Gupta, Ramesh</td>
<td>Inhibition of Lung Cancer by Berry Polyphenolics</td>
<td>PI</td>
<td>Gupta 4/13-3/18</td>
<td>$2,256,809</td>
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<td>NCAAM/NCI R01-AT-07428</td>
<td>Inhibition of Cigarette Smoke-Mediated Lung Cancer by Berry Bioactives</td>
<td>PI</td>
<td>Gupta 7/14-6/19</td>
<td>$2,506,308</td>
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<tr>
<td>NIH R01</td>
<td>Exosomal Drug Delivery for Prevention and Treatment of Lung Cancer</td>
<td>PI</td>
<td>Gupta 7/14-6/19</td>
<td>$3,528,192</td>
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<td>DOD Breast Ca</td>
<td>Prevention and Treatment of Breast Cancer by Blueberry Anthos</td>
<td>PI</td>
<td>Gupta 7/14-6/17</td>
<td>$1,039,962</td>
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<tr>
<td>Res Prog</td>
<td>Adjuvant Therapy for Breast Cancer</td>
<td>PI</td>
<td>Gupta 7/14-6/19</td>
<td>$2,603,242</td>
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<tr>
<td>NIH/NIEHS T32-ES011564</td>
<td>University of Louisville Cancer Education Program</td>
<td>PI</td>
<td>Hein 09/01/2013-08/31/2014</td>
<td>$274,671</td>
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<tr>
<td>Hein, David</td>
<td>UoFL Environmental Health Sciences Training Program</td>
<td>PI</td>
<td>Hein 07/01/2013 - 06/30/2014</td>
<td>$425,838</td>
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<td>(non-competing renewal)</td>
<td>Society of Toxicology</td>
<td>UofL undergraduate Internship Program</td>
<td>PI</td>
<td>Hein</td>
<td>05/01/2013 – 04/30/2014</td>
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<td>NIH/NIEHS P42-ES023716</td>
<td>Environmental Exposure and Cardiometabolic Disease</td>
<td>Co-I</td>
<td>Srivastava</td>
<td>04/01/2014 – 03/31/2018</td>
<td>$10,457,421</td>
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<tr>
<td>Kang, Y James</td>
<td>NIH-NIAAA, 1R01AA023190</td>
<td>Mechanisms of Probiotics in Alcoholic Liver Disease</td>
<td>Co-PI</td>
<td>Feng</td>
<td>07/01/14-06/30/19</td>
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<td>Kidd, LaCreis</td>
<td>Uof L Basic Research Grant</td>
<td>PI</td>
<td>Kidd</td>
<td>6/15/2013-5/15/2013</td>
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<tr>
<td>Lukashevich, Igor</td>
<td>NIH 1R01 AI111570-01</td>
<td>Advanced Multivalent Lassa Virus Vaccine</td>
<td>PI</td>
<td>05/1/2014-04/30/2019</td>
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<tr>
<td>Matoba, Nobuyuki</td>
<td>NIH NIAID/ 1R01 AI111996-01</td>
<td>Development of a Bispecific Entry/Fusion Inhibitor for a Topical HIV Microbicide</td>
<td>PI</td>
<td>Matoba</td>
<td>7/01/14–6/30/18</td>
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<td>NIH NIAID/ U19 AI103458-01</td>
<td>Griffithsin-based Rectal Microbicides for PREvention of Viral ENTry (PREVENT)</td>
<td>PK/PD Core Leader</td>
<td>Palmer</td>
<td>7/01/14 – 6/30/19</td>
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<tr>
<td>Palmer, Kenneth</td>
<td>NIH/NIAID R01 AI112017-01</td>
<td>Assessing the effects of griffithsin on the female genital tract mucosal environment</td>
<td>PI</td>
<td>Palmer</td>
<td>07/01/2014 − 06/30/2018</td>
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<td>NIH/NIAID U19 AI113182-01</td>
<td>Griffithsin-based Rectal Microbicides for PREvention of Viral ENTry (PREVENT)</td>
<td>PI</td>
<td>Palmer</td>
<td>07/01/2014 − 06/30/2019</td>
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<tr>
<td>Sankar, Uma</td>
<td>NIH/R01/NIAMS S – AR063653</td>
<td>Role of Calmodulin dependent protein kinase kinases in bone remodeling</td>
<td>PI</td>
<td>Sankar</td>
<td>04/01/14-12/31/19</td>
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<tr>
<td>Molecular Targets Phase III CoBRE Pilot Project</td>
<td>CaMKK2 Inhibition as a Dual-Hit strategy in the prevention of prostate cancer growth and ADT-induced bone loss</td>
<td>PI</td>
<td>Sankar</td>
<td>11/13/13 – 07/01/15</td>
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<td>NCI R21</td>
<td>CaMKK2 Inhibition in ADT-induced Osteoporosis and Prostate Cancer Growth</td>
<td>PI</td>
<td>Sankar</td>
<td>12/10/13–11/30/15</td>
<td>$415,343</td>
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<td>Siskind, Leah</td>
<td>NIDDK, R01</td>
<td>The role of the glycosphingolipid metabolic pathway in lupus nephritis</td>
<td>Co-I</td>
<td>Nowling</td>
<td>07/01/2014 – 06/30/2019</td>
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<tr>
<td>BLR&amp;D VA Merit Review Award</td>
<td>The role and regulation of lipid mediators in lupus nephritis.</td>
<td>Co-I</td>
<td>Nowling</td>
<td>4/1/2014-3/31/2018</td>
<td>$1,119,600</td>
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<td>NIGMS, R01 BCL2-like proteins and sphingolipids coordinately regulate apoptosis</td>
<td>Co-I</td>
<td>Beverley</td>
<td>07/01/2014 – 06/30/19</td>
<td>$1,875,000</td>
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<td>NIDDK</td>
<td>The role of glycosphingolipids in diabetic nephropathy</td>
<td>PI, 25% effort</td>
<td>Siskind</td>
<td>07/01/2014 – 06/30/19</td>
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<td>NIH, JGBCC Molecular Targets COBRE pilot project</td>
<td>Pentose phosphate pathway and glycosphingolipids are novel dependencies of cancer</td>
<td>PI</td>
<td>Siskind</td>
<td>10/1/2013-9/30/2015</td>
<td>$150,000</td>
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<td>Alex’s Lemonade Stand Found for Childhood Ca</td>
<td>Sphingolipid metabolism as a novel biomarker and target in pediatric leukemia</td>
<td>Co-I</td>
<td>Beverley</td>
<td>1/2/2014-1/2/2017</td>
<td>$371,153</td>
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<td>Cross-talk between BCL2-like proteins and sphingolipids in apoptosis</td>
<td>Co-I</td>
<td>Beverley</td>
<td>4/1/2014-3/31/2019</td>
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<td>Sphingolipid metabolism as a novel biomarker and therapeutic of pediatric leukemia</td>
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<td>PI: Siskind Co-PI: Beverley</td>
<td>07/01/2014-06/30/2015</td>
<td>$30,000</td>
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<td>KSEF</td>
<td>A comprehensive resource to study the role of sphingolipid metabolism in cancer biology</td>
<td>Co-PI</td>
<td>PI: Beverley Co-PI: Siskind</td>
<td>07/01/2014-06/30/2015</td>
<td>$30,000</td>
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<td><strong>Song, Zhao-Hui</strong></td>
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<td>R21HD080268</td>
<td>Discovery of Novel Ligands for GPR3</td>
<td>PI</td>
<td>ZH Song</td>
<td>4/1/2014-3/31/2016</td>
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<td>R21DA037919</td>
<td>Allosteric Modulators of CB2 Cannabinoid Receptor</td>
<td>PI</td>
<td>ZH Song</td>
<td>7/1/2014-6/30/2016</td>
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<td><strong>States, J Christopher</strong></td>
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<td>NIEHS / R21ES023627-01</td>
<td>Differential miRNA expression &amp; progression of arsenic induced skin cancers</td>
<td>PI</td>
<td>States</td>
<td>12/01/2013-11/30/2015</td>
<td>$412,500</td>
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<td>NIEHS / P42ES023716-01</td>
<td>Environmental Exposure and Cardiometabolic Disease</td>
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<td>04/01/2014 – 3/31/2019</td>
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<td>KLCRP</td>
<td>Targeting the anaphase promoting complex as lung cancer chemotherapy</td>
<td>PI</td>
<td>States</td>
<td>1/1/14 – 12/31/15</td>
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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:

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.


4. Acetylation Polymorphisms as Modifiers of Environmental Disease. Department of Environmental Health, University of Cincinnati School of Medicine, Cincinnati, Ohio, 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 52nd 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.


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:
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.
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 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:
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
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
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.

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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

Mordene 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)
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
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: ebrue01@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: sbutt01@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
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: dupreTV@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
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: jmmitch06@louisville.edu  
Faculty Mentor: Hunter N. Moseley, PhD  
Research Project: Developing computational tools for molecular comparison and metabolic placement of detectable uncharacterized metabolites
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
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

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

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

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
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

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

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

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
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