Department of Pharmacology & Toxicology

2016 Annual Report
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TABLE OF CONTENTS</td>
<td>2</td>
</tr>
<tr>
<td>DEPARTMENT PHOTO</td>
<td>3</td>
</tr>
<tr>
<td>MISSION</td>
<td>4</td>
</tr>
<tr>
<td>OVERVIEW</td>
<td>4</td>
</tr>
<tr>
<td>FACULTY PROMOTIONS AND ADMINISTRATIVE APPOINTMENTS</td>
<td>6</td>
</tr>
<tr>
<td>FACULTY RESIGNATIONS AND RETIREMENTS</td>
<td>9</td>
</tr>
<tr>
<td>FACULTY WITH PRIMARY APPOINTMENTS</td>
<td>10</td>
</tr>
<tr>
<td>FACULTY WITH SECONDARY APPOINTMENTS</td>
<td>15</td>
</tr>
<tr>
<td>FACULTY WITH EMERITUS AND ADJUNCT APPOINTMENTS</td>
<td>25</td>
</tr>
<tr>
<td>OFFICE STAFF</td>
<td>27</td>
</tr>
<tr>
<td>NEW GRADUATE STUDENT CLASS</td>
<td>27</td>
</tr>
<tr>
<td>GRADUATE STUDENTS</td>
<td>32</td>
</tr>
<tr>
<td>GRADUATES</td>
<td>33</td>
</tr>
<tr>
<td>FACULTY HONORS</td>
<td>34</td>
</tr>
<tr>
<td>STUDENT HONORS</td>
<td>35</td>
</tr>
<tr>
<td>PUBLICATIONS</td>
<td>37</td>
</tr>
<tr>
<td>ABSTRACTS</td>
<td>45</td>
</tr>
<tr>
<td>RESEARCH GRANTS ACTIVE</td>
<td>55</td>
</tr>
<tr>
<td>RESEARCH GRANTS SUBMITTED</td>
<td>65</td>
</tr>
<tr>
<td>INVITED SCIENTIFIC PRESENTATIONS</td>
<td>75</td>
</tr>
<tr>
<td>INTELLECTUAL PROPERTY ACTIONS</td>
<td>83</td>
</tr>
<tr>
<td>DEPARTMENTAL COURSES</td>
<td>84</td>
</tr>
<tr>
<td>STANDING COMMITTEES</td>
<td>85</td>
</tr>
<tr>
<td>NCI CANCER EDUCATION PROGRAM STUDENTS</td>
<td>86</td>
</tr>
<tr>
<td>RESOLUTION OF APPRECIATION FOR PROFESSOR STEVEN MYERS</td>
<td>98</td>
</tr>
<tr>
<td>FIVE YEAR DEPARTMENT CHAIR REVIEW</td>
<td>100</td>
</tr>
</tbody>
</table>
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.

OVERVIEW

We mourned the loss of Professor Steve Myers who passed away December 4, 2016. Dr. Myers was recruited to the University of Louisville in 1991 and over 25 year career was promoted through the ranks of Professor and Associate Chair for Professional Education in the Department of Pharmacology and Toxicology. Dr. Myers served as course director for numerous pharmacology-based courses taught to medical, dental, nursing, graduate, and undergraduate students. He was recognized for his innovation in teaching via receipt of the Health Science Center Technology Innovation Teaching Award and by his nomination for numerous teaching awards at the University of Louisville. Dr. Myers also had an outstanding international reputation for excellence in teaching and research. He was the founding editor of the Journal of Medical Education and Curricular Development. He was frequently invited as a teacher and examiner of medical and graduate students at universities
in Egypt and the Caribbean. He was very active and successful in international educational and research collaborations, particularly in Egypt. He led the effort to initiate a PhD partnership with Cairo University and Ain Shams University. Dr. Myers had an active research career including studies of drug and xenobiotic metabolism and biomarkers of chemical exposure and effects. He developed the first widely applicable biomarker for human exposure to PAH (polycyclic aromatic hydrocarbons) through his development of chromatographic and mass spec techniques which allowed the detection of hemoglobin adducts of PAH in maternal and fetal blood. Dr. Myers served on numerous committees within the School of Medicine and at the University. These committees included the School of Medicine Faculty Forum (including service as secretary and vice chair), University of Louisville Graduate Council, University of Louisville Faculty Senate and its Academic Programs Committee, the School of Medicine Admissions Committee, Educational Policy Committee, and Second Year Curriculum Committee, the Department of Pharmacology and Toxicology Graduate Recruitment and Admissions Committee, and the Department Faculty Teaching Evaluation Committee he chaired. He was a dear friend and advisor to many of us and will be deeply missed. A resolution of appreciation is provided on page 99.

**Extramural Research Funding**

Extramural research funding rose slightly in FY2016. The Department ranked 29th nationally among all departments of pharmacology in US medical schools and ranked a close third highest among all departments in the University of Louisville School of Medicine. Details on funded research grants are provided beginning on page 55.
The NIEHS T32 training grant in environmental health sciences was renewed for an additional five years. Dr. Gavin Arteel serves as the Director on the renewal with Drs. Hein, Bhatnagar and Cave serving as co-directors.

Major NIH center grants were awarded for a Hepatobiology and Toxicology COBRE and a UofL Alcohol Research Center (Dr. Craig McClain serves as PI on both).

Dr. Mary Li, a UofL 1997 PhTx Ph.D. graduate who subsequent completed a hematology/oncology residency at UofL, established a gift agreement with the department to provide scholarships for students from Tianjin China (where she received her medical training prior to receiving a scholarship to enter our PhD program in pharmacology and toxicology at the University of Louisville). The Department previously had an affiliation with Tianjin Medical University in which Dr. K.C. Huang and other members of our department faculty taught at Tianjin Medical College (now University). Drs. David Hein, Shao Wu (Chair of Radiation Oncology) and Lu Cai visited the Institute of Radiation Medicine, Chinese Academy of Medical Sciences/Peking Union Medical College in Tianjin, China. Peking Union Medical College (located in Beijing) is one of the oldest and most prestigious medical schools in China. The institute invited us to discuss developing a PhD/residency partnership where their students and clinicians transfer to UofL to complete their PhD degree in pharmacology & toxicology. Upon completing their PhD, they would be eligible to apply for the match to enter the residency program in radiation oncology at UofL.

A Wenzhou Medical University delegation visited UofL. All Wenzhou University students briefly described their research projects and spoke highly of their time and experiences here. Feedback from the Wenzhou Medical University delegation was highly positive. An agreement was signed to promote further collaborations.

New pharmacology and toxicology graduate courses were designed and approved.

Following review of his performance as Chair of the Department of Pharmacology and Toxicology, Dr. Hein was reappointed chair for an additional five year term (report is appended).

Faculty promotions

Professor Igor Luckashevich was awarded tenure.
Faculty Administrative Appointments

Professor Kenneth Palmer was appointed Director for the Center for Predictive Medicine

Professor Jonathan Freedman was appointed co-director of the Center for Environmental Health Sciences

Professor John Wise Sr. was appointed co-director of the Center for Environmental Health Sciences
New appointments of secondary faculty members

Bradford G. Hill, Ph.D.
Assistant Professor of Medicine
Ph.D., Biochemistry, University of Louisville (2007)

Research Interests: The broad theme of my research entails understanding how changes in metabolism contribute to cardio-metabolic health and disease. This involves the critical examination of glycolysis, mitochondria, and other pathways of intermediary metabolism and the development of causal relationships between metabolic defects or signatures and (patho)physiology.

Donghan Lee, Ph.D.
Associate Professor of Medicine
James Graham Brown Chair of Structural Biology
Ph.D., Biophysics, Swiss Federal Institute of Technology (2003)

Research Interests: Molecular recognition between biomolecules such as protein-protein, protein-DNA, protein-carbohydrate, protein-ligands; design NMR experiments and development of associated theory.
Craig S. Roberts, M.D.
Professor and Chair of Department of Orthopaedic Surgery
M.D., New York University (1986)

Research Interests: Orthopaedic trauma, fractures and their complications and outcomes.

Resignations and Retirements of Associate Faculty

Dr. Guy Brock, Associate Professor of Bioinformatics and Statistics resigned his faculty position at UofL to take a position at Ohio State University.

Dr. David Tollerud, Professor and Chair of Environmental and Occupational Health Sciences retired.
Dr. Binks Wattenberg, Associate Professor of Biochemistry and Molecular Genetics resigned his faculty position to accept a faculty position in the Department of Biochemistry at Virginia Commonwealth University.

FACULTY WITH PRIMARY APPOINTMENTS

**Demetra Antimisiaris, PharmD**
Associate Professor
PharmD, University of Pacific (1989)

**Research Interests:** Decision making regarding medication use; Prescribing, Monitoring, Patient Use (adherence, health and pharm literacy), and how Pharm-Tox awareness, education, and the healthcare systems (incentives for time and patient integration) impact medication use outcomes from the perspective of the providers, patients, and health care systems. FDA approved medication specifications vs. recommendations vs. real time use of medications and how this impacts treatment failure or success. (i.e. prevalence of missed monitoring parameters such as renal function with medications known to lead to renal accidents)

**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. Beier, Ph.D.**
Assistant Professor
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.
Brian P. Ceresa, Ph.D.
Associate Professor
Ph.D., 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.

Shao-yu Chen, Ph.D.
Professor
Ph.D., Biochemistry, Fujian Agriculture and Forestry University (1991)

**Research Interests:** Elucidation of cellular and molecular mechanisms of alcohol-induced birth defects utilizing a combination of experimental approaches including interference, technology, and ultrasound-guided *in utero* microinjection in cellular, whole embryo and *in vivo* mouse models.

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

**Research Interest:** Role of RAS oncogenes and RASSF family of tumor suppressors in cancer etiology; Development of oncopig model for human cancer; Identification and development of novel small molecules for cancer therapy.

Jonathan Freedman, Ph.D.
Professor
Ph.D., Molecular Pharmacology, Albert Einstein College of Medicine (1986)

**Research Interests:** The research program in our group involves understanding regulatory processes controlling an organism’s response to environmental stress. In particular, how organisms respond when they are exposed to toxic concentrations of transition metals and metalloids. By applying classic genetic and reverse-genetic approaches, molecular biology and transcriptomic techniques in an evolutionarily diverse group of animal species including the nematode C. elegans and mice, as well as mammalian cell culture, regulatory pathways that respond to metals are identified and characterized. Results from this research are used to help elucidate the fundamental mechanisms of transition metal induced disease: developmental abnormalities (Autism Spectrum Disorders), cancer and metabolic disorders, such as type 2 diabetes and obesity. In addition to our work with transition metals, we are interested in the development and application of high-throughput toxicity screening methods using
alternative animal species (e.g., invertebrates and fish). This work is applicable to the Tox21 initiative and consistent with the 3R’s animal welfare paradigm.

**Joshua L. Fuqua, Ph.D.**
Instructor
Ph.D., University of Kentucky (2010)

**Research Interests:** Manufacture and development of clinically relevant proteins for the treatment and/or prevention of neurodegenerative and infectious diseases

**Ramesh C. Gupta**
Professor and Agnes Brown Duggan Chair of Oncological Research
Ph.D., 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, Ph.D.**
Vice Provost for Academic Strategy, Peter K. Knoefel Endowed Chair of Pharmacology, Professor and Chairman of the Department 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

**Joshua L. Hood, MD, PhD**
Assistant Professor
Ph.D., Microbiology, University of Kentucky (2004)
M.D., University of Kentucky (2006)

**Research Interests:** Translational design and implementation of biology inspired nanomedicine supported by biologic nanovesicle (exosome) investigations. Exosome function and nanocarrier properties in the context of tumor angiogenesis and pre-metastatic niche formation are explored with a specific focus on melanoma. Derivative projects include development of exosome based biomarkers for disease and nanomedicines to combat pathogenic exosomes and similarly structured viruses.

**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, Ph.D., M.P.H.**
Associate Professor and Our Highest Potential Endowed Chair in Cancer Research
Ph.D., Toxicology, Massachusetts Institute of Technology (1997)
M.P.H., Epidemiology and Biostatistics, Johns Hopkins University (2001)

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

**Joseph Calvin Kouokam, Ph.D.**
Instructor
Ph.D. (Dr. rer. nat), University of Saarland, Saarbrucken, Germany (2002)

**Research Interests:** Efficacy and safety of plant produced lectins in the treatment of infectious diseases and cancer.

**Igor S. Lukashevich, M.d., Ph.D., D.Sc.**
Professor
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 technology (virus-like-particle vectors; reasserted vaccines, infectious DNA vaccination); molecular biology and pathogenesis of viral hemorrhagic fevers.

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

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

**Kenneth E. Palmer, Ph.D.**
Professor; Helmsley Chair in Pharmaceutical Plant-based Research; Executive Director, Owensboro Cancer Research Program
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., Ph.D.**
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.

**Leah J. Siskind, Ph.D.**
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, Ph.D.**
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, Ph.D.**
Professor, Vice Chair for Graduate Education, Associate Dean for Research
Ph.D., Molecular Biology and Pathology, Albany Medical college/Union University (1980)

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

**John P. Wise, Sr., Ph.D.**
Professor

**Research Interests:** In my laboratory we seek to understand how environmental chemicals cause a normal cell to become a tumor cell. We study how these chemicals damage DNA and impact the DNA damage response. We consider how chemical-induced autophagy inhibition, loss of DNA repair and interference with mitosis cause centrosome amplification and chromosome instability as key outcomes in the
carcinogenic process. We focus on humans, but we also work across wildlife species (e.g. whales, sea turtles, and alligators) considering toxicology in a “One” environmental health perspective. We also work on how cells respond differently in space. Students in my lab have both a laboratory component and a field research component to their projects.

Sandra S. Wise  
Assistant Professor  
Ph.D., Molecular Biology and Biochemistry, University of Maine (2013)

**Research Interests:** Metal toxicology and carcinogenesis; molecular mechanisms for chromosome instability, DNA repair mechanisms and cell death resistance.

**FACULTY WITH SECONDARY APPOINTMENTS**

**Shirish Barve, Ph.D.**  
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, Ph.D.**  
Assistant Professor, Department of Medicine  
Ph.D., Molecular Genetics, Biochemistry and Microbiology, University of Cincinnati (2007)

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

**Aruni Bhatnagar, Ph.D., FAHA**  
Smith and Lucille Gibson Chair and Professor, Department of Medicine;  
Director, Diabetes and Obesity Center  
Ph.D., Kanpur University, India (1985)

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

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

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

**Jian Cai, Ph.D.**  
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, M.D., Ph.D.**  
Professor, Department of Pediatrics, Director of Pediatric Research Institute  
M.D., Norman Bethune University of Medical Sciences (1983)  
Ph.D., Radiation Biology/Oncology, Norman Bethune University of Medical Sciences (1987)

**Research Interests:** Diabetic cardiomyopathy and nephropathy

**Matthew C. Cave, M.D.**  
Associate Professor, Department of Medicine  
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, M.D., Ph.D.**  
Professor and Brinkley Chair in Lung Cancer Research, Department 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, Ph.D.**  
Professor, Department of Medicine  
Ph.D., University of Notre Dame (1995)

**Research Interests:** Environmental cardiology; cardiovascular toxicology.
Albert R. Cunningham, Ph.D.
Associate Professor, Department of Medicine
Ph.D., Environmental and Occupational Health, University of Pittsburgh (1998)

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

Chendil Damodaran, Ph.D.
Associate Professor, Department of Urology
Ph.D., Environmental Toxicology (Cancer Biology), University of Madras (1984).

**Research Interests:** Identifying novel therapeutic compounds of natural origin that possess anti proliferative properties in prostate cancer cells, both androgen-dependent and – independent.

John W. Eaton, Ph.D.
Professor of Medicine and James Graham Brown Endowed Chair of Cancer Biology
Ph.D., Biological Anthropology and Human Genetics, University of Michigan (1969)
M.D.\(hc\), University of Linkoping, Sweden, 2001

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

Ayman El-Baz, Ph.D.
Associate Professor and Chair of Bioengineering
Ph.D., Electrical and Computer Engineering, University of Louisville (2006)

**Research Interests:** Dr, El-Baz directs UofL’s BioImaging Laboratory. The primary focal point of the BioImaging Lab is to develop and implement innovative and ground-breaking techniques for use in image-guided surgeries, and the creation of non-invasive image-based diagnostic systems, which can help to revolutionize the early diagnosis of numerous diseases and brain disorders.

Paul N. Epstein, Ph.D.
Professor, Department 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, Ph.D.
Associate Professor, Department of Medicine
Ph.D, Biochem/Biotech, University for Bodenkultur (1998)

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

**Herman B. Frieboes, Ph.D.**
Assistant Professor, Department of Bioengineering
Ph.D., Biomedical Engineering, University of California, Irvine (2006)

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

**Lelia Gobejishvili, Ph.D.**
Assistant Professor, Department of Medicine
Ph.D. Physiology, I. Beritashvili Institute of Physiology, Georgian Academy of Sciences (1995)

**Research Interests:** Alcohol induced changes in innate immunity; alcohol mediated epigenetic changes of pro-inflammatory cytokines; role of phosphodiesterases in priming of monocytes and development of liver injury/fibrosis.

**Evelyne Gozal, Ph.D.**
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, M.D.**
Professor, Department of 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.
Michal Hetman, M.D., Ph.D.
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.

Bradford G. Hill, Ph.D.
Assistant Professor of Medicine
Ph.D., Biochemistry, University of Louisville (2007)

Research Interests: The broad theme of my research entails understanding how changes in metabolism contribute to cardio-metabolic health and disease. This involves the critical examination of glycolysis, mitochondria, and other pathways of intermediary metabolism and the development of causal relationships between metabolic defects or signatures and (patho)physiology.

Kyung Hong, Ph.D.
Assistant Professor, Department of Medicine
Ph.D., Environmental Medicine/Toxicology, University of Rochester, School of Medicine and Dentistry (2003)

Research Interests: Cell therapy for ischemic cardiomyopathy; cardiac regeneration/repair; cardiac stromal cell biology.

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

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

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

Research Interests: Metabolic signaling in the cardiovascular system.

Swati Joshi-Barve, Ph.D.
Assistant Professor of Medicine
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.

**Bradley B. Keller, M.D.**
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.

**Irina Kirpich, Ph.D., M.P.H.**
Assistant Professor of Medicine
Ph.D., Biology and Physiology, Pomor State University (1997)
M.P.H, University of Louisville (2014)

**Research Interests:** Gut-liver interactions in alcoholic and non-alcoholic liver disease; alcohol and dietary fat mediated intestinal and liver injury; gut barrier, microbiome, probiotics; epigenetics and hepatic steatosis; Oxidized Metabolites of Linoleic Acid (OXLAMs).

**Donghan Lee, Ph.D.**
Associate Professor of Medicine
James Graham Brown Chair of Structural Biology
Ph.D., Biophysics, Swiss Federal Institute of Technology (2003)

**Research Interests:** Molecular recognition between biomolecules such as protein-protein, protein-DNA, protein-carbohydrate, protein-ligands; design NMR experiments and development of associated theory.

**Chi Li, Ph.D.**
Associate 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, II, M.D., Ph.D.**
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
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, M.D., Ph.D.
Professor and Chair 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: Melanoma therapies-Adenovirus-mediated gene therapy; Radio guided surgery for breast, melanoma, and parathyroid tumors as well as gastrointestinal, hepatic, and pancreaticobiliary tumors

Lacey R. McNally, Ph.D.
Assistant Professor of Medicine
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, Ph.D.
Associate Professor of Medicine
Ph.D., 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.

Donald M. Miller, M.D., Ph.D.
Professor of Medicine
Chief, Division of Medical Oncology and Hematology
Foundation Chair and Director, James Graham Brown Cancer Center
M.D., Duke University School of Medicine (1973)
Ph.D., Duke University School of Medicine (1972)
**Research Interests**: Molecular and clinical oncology; modulation of oncogene expression; triplex DNA based gene therapy; treatment of melanoma.

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

**Research Interests**: Validating and characterizing novel imaging probes for multimodality imaging (MRI, PET, SPECT, CT and Optical); Exploring approaches for early detection and monitoring of treatment efficacy of multiple diseases such as infectious diseases, cancer, spinal cord injury, brain diseases, diabetes and heart diseases; Developing thermal laser ablation devices for treating spinal metastases in a MRI environment.

Matthew A. Nystoriak, Ph.D.
Assistant Professor of Medicine
Ph.D., Pharmacology, University of Vermont (2010)

**Research Interests**: Regulation of vascular calcium signaling and blood flow in diabetes.

Martin G. O’Toole, Ph.D.
Assistant Professor of Bioengineering
Ph.D., Chemistry, University of Louisville (2008)


Timothy E. O’Toole, Ph.D.
Assistant Professor of 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.

M. Michele Pisano, Ph.D.
Professor of Surgical and Hospital Dentistry
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, Ph.D.**  
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

**Craig S. Roberts, M.D.**  
Professor and Chair of Department of Orthopaedic Surgery  
M.D., New York University (1986)  

**Research Interests:** Orthopaedic trauma, fractures and their complications and outcomes.

**George C. Rodgers, M.D., Ph.D.**  
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, M.D.**  
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, Ph.D.**  
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, Ph.D.
Professor of Medicine
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-Rankins, Ph.D.
Assistant Professor of Bioengineering
Ph.D., Bioengineering, Arizona State University (2009)

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

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

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

Yi Tan, Ph.D.
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.

Walter H. Watson, Ph.D.
Assistant Professor of Medicine
Ph.D., Toxicology, University of Kentucky (1999)

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

Marcin Wysoczynski, Ph.D.
Assistant Professor of Medicine
Ph.D. Pomeranian Medical University (2009)
Research Interests: Innate immunity in myocardial repair.

Jun Yan, M.D., Ph.D.
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, Ph.D.
Associate Professor of Medicine
Ph.D., Biophysics, Keele University (1998)

Research Interests: Research to understand the structure and mechanism of tumorigenesis, 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.

Wolfgang Zacharias, Ph.D.
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, Ph.D.
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

Benz, Frederick W., Professor Emeritus, Ph.D., Pharmacology, University of Iowa (1970).
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).
Hurst, Harrell E., Professor Emeritus, Ph.D., Toxicology, University of Kentucky (1978).
Jarboe, Charles H., Professor Emeritus; Ph.D., University of Louisville (1956).
Rowell, Peter P., Professor Emeritus, Ph.D., Pharmacology and Therapeutics, University of Florida (1975).
Williams, W. Michael, Professor Emeritus, Ph.D., University of Louisville (1970); M.D., University of Louisville (1974).

FACULTY WITH ADJUNCT POSITIONS

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

Osama El-Tawil, Adjunct Professor of Pharmacology and Toxicology, PhD, Toxicology, University of Medicine and Dentistry of New Jersey/Cairo University (1997)

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)

Kevyn E. Merten, Adjunct Assistant Professor of Pharmacology and Toxicology, PhD, Pharmacology and Toxicology, University of Louisville School of Medicine (2007)

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

Arnold J. Schecter, Adjunct Professor of Pharmacology and Toxicology, MD, Howard University Medical School (1962); MPH, Columbia University (1975)

Irina Tcherepanova, Adjunct Professor of Pharmacology and Toxicology; PhD, Molecular Pharmacology, Albert Einstein College of Medicine (1996)

Joshua M. Thornburg, 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)

Chad Wilkerson, Adjunct Assistant Professor of Pharmacology and Toxicology, PhD, Biochemistry & Molecular Biology, Louisiana State University Health Sciences Center (2002)

OFFICE STAFF

Blair Cade          Department Manager & Exec. Asst. to Vice Provost
Florence Su       Program Coordinator, Sr.
Hannah Bitter    Administrative Assistant (temporary part-time)
Marion McClain  Research Facilitator (Primary appointment in Department of Medicine; Part time in Department of Pharmacology and Toxicology)
Shiloh Tatum    Unit Business Manager, Intermediate (Primary appointment in Department of Medicine; Part time in Pharmacology and Toxicology)

2016 NEW GRADUATE STUDENT CLASS

Liya Chen (Leah)
Bachelor of Clinical Medicine, Wenzhou Medical University

Matthew Dent
B.S., Molecular Biosciences and Biotechnology, Arizona State University
M.S., Plant Genetics and Crop Improvement, University of East Anglia
Jian Jin (Joseph)
Bachelor of Clinical Medicine, Wenzhou Medical University
Masters in Endocrinology, Wenzhou Medical University
Attending Physician (Endocrinology), The Second Affiliated Hospital, Wenzhou Medical University

Lexiao Jin (Monica)
Bachelor of Clinical Medicine, Wenzhou Medical University
Masters in Anesthesiology, Wenzhou Medical University
Attending Physician (Anesthesiology), The Second Affiliated Hospital, Wenzhou Medical University

Christine Kim
B.S., Biology, Purdue University
M.S., Toxicology, University of Kentucky
Fengyuan Li (Linda)
B.S., Biotechnology, Northwest University
M.S., Biochemistry and Molecular Biology, Northwest University

Yihong Li (Summer)
B.S., Biological Engineering, Qiqihar University
M.S., Microbiology, Anhui University
M.S., Microbiology, Institute of Microbiology, Chinese Academy of Sciences
Research Associate, Wenzhou Institute of Biomaterials & Engineering, Wenzhou Medical

Haiyan Lu (Haley)
Bachelor of Clinical Medicine, Wenzhou Medical University
Masters in Pediatrics, Wenzhou Medical University
Pediatrician, The Second Affiliated Hospital and Yuying Children’s Hospital, Wenzhou Medical University
Mohamed Yehia Mahmoud
Bachelor of Veterinary Medicine, Cairo University
Master of Toxicology, Cairo University

Shuhan Meng
Bachelor of Medicine, Jilin University
Master of Medicine, Jilin University

Hunter Miller
B.S., Biochemistry, Murray State University

Andre Richardson
B.S., Toxicology Biology, Nazareth College of Rochester
Joshua Royal
B.S., Biology, Western Kentucky University

Desmond Stewart
B.S., Biochemistry, Xavier University of Louisiana

Jennifer Toyoda
B.S., Biology, University of Kentucky

Aaron Whitt
B.S., Biological Sciences, Morehead State University
**Weiyang Ying (Wayne)**
Bachelor in Anesthesiology of Clinical Medicine, Wenzhou Medical University
Postgraduate Student in Anesthesiology, Scientific Research Center, The Second Affiliated Hospital and Yuying Children’s Hospital

**Yuxuan Zheng**
Bachelor of Clinical Medicine, Jilin University
Master of Internal Medicine, Jilin University

**Graduate Students**
<table>
<thead>
<tr>
<th>Al Hassan, Kyakulaga</th>
<th>Al-Eryani, Laila</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avila, Diana</td>
<td>Barve, Aditya</td>
</tr>
<tr>
<td>Bushau, Adrienne</td>
<td>Carlisle, Samantha</td>
</tr>
<tr>
<td>Chen, Liya</td>
<td>Chen, Wei-Yang</td>
</tr>
<tr>
<td>Dent, Matthew</td>
<td>Dolin, Christine</td>
</tr>
<tr>
<td>Dupre, Tess</td>
<td>Dwenger, Marc</td>
</tr>
<tr>
<td>El-Baz, Nagwa</td>
<td>Finch, Jordan</td>
</tr>
<tr>
<td>Gosney, Julie</td>
<td>Greenwell, John Caleb</td>
</tr>
<tr>
<td>Grewal, Jaspree</td>
<td>Hallgren, Justin L.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hoffman, Mason</th>
<th>Hollis, Elizabeth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hudson, Shanice</td>
<td>Jackson, Nicole</td>
</tr>
<tr>
<td>Jin, Lexiao</td>
<td>Jin, Jian</td>
</tr>
<tr>
<td>Jones, Dominique</td>
<td>Karukonda, Divya</td>
</tr>
<tr>
<td>Kim, Christine</td>
<td>Kurlawala, Zimple</td>
</tr>
<tr>
<td>Lang, Anna</td>
<td>Laun, Alysa</td>
</tr>
<tr>
<td>Li, Yihong</td>
<td>Li, Fengyuan</td>
</tr>
<tr>
<td>Lin, Qian</td>
<td>Lu, Haiyan</td>
</tr>
<tr>
<td>Mahmoud, Mohamed Yehia</td>
<td>McAllister, Ryan</td>
</tr>
<tr>
<td>Meng, Shuhan</td>
<td></td>
</tr>
</tbody>
</table>
Miller, Hunter
Mudd, Ashley
Neely, Aaron
Pandit, Harshul
Perez, Adam
Poole, Lauren
Richardson, Andre
Royal, Joshua
Rush, Jamie
Saforo, Doug
Shao, Tuo
Sharp, Cierra

Shi, Hongxue 时鸿雪
Speer, Rachel
Stepp, Marcus
Stewart, Desmond
Toyoda, Jennifer
Tyo, Kevin
Vicary, Glenn W.
Wechman, Stephen
Whitt, Aaron
Ying, Weiyang
Young, Jamie
Zheng, Yuxuan

**2016 GRADUATES**

Gretchen E. Holz  M.S.  Igor S. Lukashevich, M.D., Ph.D., D.Sc.  Proinflammatory cytokines promote viral replication and cell cycle mediators in arenavirus-induced hepatitis

Glenn W. Vicary  Ph.D.  Jesse Roman, M.D.  The role of nicotine, α7 nicotinic acetylcholine receptors and extracellular matrix remodeling in pulmonary fibrosis

Aditya S. Barve  M.S.  Levi J. Beverly, Ph.D.  Establishing a clinically relevant mouse model of human AML to test novel transmethylation inhibitors

Kevin M. Tyo  M.S.  Jill Steinbach-Rankins, Ph.D.  Multipurpose tenofovir disoproxil fumarate electrospun fibers for the prevention of HIV-1 and HSV-2 infections

Justin L. Hallgren  Ph.D.  Michal Hetman, M.D., Ph.D.  The role of the nucleolus in neurodegeneration

Anna L. Lang  M.S.  Juliane I. Beier, Ph.D.  Vinyl chloride-diet interactions in liver disease: potential roles of autophagy and energy management

Wei-Yang (Jeremy) Chen  Ph.D.  Swati Joshi-Barve, Ph.D. & Craig McClain, M.D.  Acrolein is a critical mediator of alcohol-induced liver and intestinal injury in alcoholic liver disease
Jordan B. Finch  M.S.  Daniel J. Conklin, Ph.D.  Air pollution, pulmonary oxidative stress, and the endothelin system in the development of cardiovascular injury

Julie A. Gosney  M.S.  Brian P. Ceresa, Ph.D.  Isolation of EGFR-containing early endosomes

Cierra N. Sharp  M.S.  Leah J. Siskind, Ph.D.  Developing a more clinically-relevant mouse model of cisplatin-induced nephrotoxicity

Dominique Z. Jones  Ph.D.  La Creis R. Kidd, Ph.D. & Geoffrey J. Clark, Ph.D.  MicroRNA-186 and metastatic prostate cancer

Diana V. Avila  Ph.D.  Shirish Barve, Ph.D. & Leila Gobejishvili, Ph.D.  Role of phosphodiesterase-4 in alcohol-induced organ injury

Aaron M. Neely  M.S.  Chi Li, Ph.D.  Modulation of cell death signaling and cell proliferation by the interaction of homoserine lactones and paraoxonase 2

FACULTY HONORS

Beier, J.
• AASLD Emerging Liver Scholar Award (mentee/mentor award with Lisanne Anders)
• Data presented on the cover of Toxicological Sciences: June 2016 151(2)
• President’s Choice Award, AASLD 67th annual meeting, Boston, MA

Chen, Shao-yu
• Senior author on a poster awarded a junior investigator award from the Research Society on Alcoholism, RSA annual meeting, 2016, New Orleans, Louisiana.

Freedman, J.
• NIEHS Paper of the Month, October 2016

Hood, J.
• Selected through an internal competition to submit an application to the JGBCC molecular therapeutics CoBRE program cycle IV.
• Interviewed by TheScientist magazine for significant contributions to exosome research.
• NCI Cancer Education Program, Norbert J. Burzynski Award, 1st place (tie), Undergraduate Student Category, “Paracrine induction of macrophages by melanoma exosomes,” Mary Ann Smith (4th year pre-med student, Mississippi State University, mentor: Joshua L. Hood), Research!Louisville, Louisville KY, October 14, 2016
Lukashevich, I
  • Tenure Awarded

Siskind, L.
  • Invited Speaker, Gordon Conference on Glycolipids and Sphingolipids, March 2016, Italy
  • Chair, South Eastern Regional Lipid Conference, Nov.11-14th 2016, Cashiers, NC

Wise, J.
  • 2015-2016 Education Award, Society of Toxicology
  • 2015-2018 University Scholar, University of Louisville
  • Coauthor on student posters selected for awards

STUDENT HONORS

Al-Eryani, Laila (States)
  • R!L - Louisville Chapter-Women in Medicine and Science, 2nd place
  • R!L - Doctoral Basic Science Graduate Student Award, First Place
  • OVSOT – Best Poster Presentation of PhD students award 1st place
  • First place Carcinogenesis Specialty Section Graduate Student travel award, Society of Toxicology (SOT) 2016
  • Supplemental Training for Education Program (STEP) funding from the Society of Toxicology (SOT) (in May 2016) to attend a NIH/NCI molecular prevention summer course in Rockville, Maryland, Aug 1-5, 2016
  • miRNA Biomarkers for Toxicology-Travel award 2016
  • 9th Metal Toxicity and Carcinogenesis Conference, best graduate student poster, 1 of 5 unranked.
  • Received NIEHS travel award to attend conference on endocrine disruptors

Carlisle, Samantha (Hein)
  • Received the 1st place award in the oral presentation category "Health Sciences" at the 102nd annual meeting of the Kentucky Academy of Sciences
  • Received NIH grant award for supplemental training.

Chen, Jeremy (McClain)
  • Received Society of Toxicology travel award

Dolin, Christine (Arteel, G.)
  • selected for a platform presentation, OVSOT student/postdoc meeting, Cincinnati, OH.
  • received travel award from the UofL Graduate Student Council.

Dupre, Tess (Siskind)
  • Received KC Huang Most Outstanding Graduate Student Graduate Student Award
Jones, Dominique (Kidd)
- School of Medicine Diversity Award.
- Graduate Dean’s Citation at the 2016 UofL Graduation.
- American Society for Pharmacology and Experimental Therapeutics (ASPET), 2nd Place Delores C. Shockley Best Abstract Award.
- American Association for Cancer Research Careers (AACR), MICR Scholar in Cancer Research Travel Award.
- ASPET Underrepresented Graduate Student Travel Award.

Kurwala, Zimple (Beverly)
- Received iMD3 fellowship

Kyakulaga, Al Hassan (Gupta)
- Best Paper Award at Research!Louisville.

Lang, Anna (Arteel, J.)
- selected for podium presentation, OVSOT Summer Student Meeting, Cincinnati, OH.
- awarded 3rd place Graduate Student Poster Award at Research!Louisville.

Neely, Aaron (Li)
- Received an American Society for Cell Biology (ASCB) Travel Award to present his research at their annual meeting in San Francisco.

Poole, Lauren (Arteel, G.)
- Selected for a platform presentation, Ohio Valley Society of Toxicology Annual Meeting, Indianapolis, IN

Sharp, Cierra (Siskind)
- 2016, Ohio Valley Society of Toxicology (OVSOT): Givaudan Best PhD Student Platform Presentation Award
- 2016, American Society of Nephrology, Kidney Star

Saforo, Doug (Siskind)
- Keystone Symposia: Cancer Pathophysiology: Integrating the Host and Tumor Environments, Breckenridge, CO, “Future of Science Fund” Scholarship
- Outstanding Graduate/Professional Student Award (2015-2016), University of Louisville
- American Physician Scientists Association Annual Meeting Underrepresented Trainee Travel Award (2016), Chicago, IL.

Shi, Hongxue (Cave)
- Received NIEHS travel award to attend conference on endocrine disruptors

Yuan, Fuqiang Ph.D. (Chen)
- Received Junior Investigator Award from the Research Society on Alcoholism.


**PHARMACOLOGY & TOXICOLOGY ABSTRACTS**

**Faculty with Primary Appointments and Students**

**Beier, Juliane**  
National/International:


5. Lang AL, Kaelin BR, Yeo H, Poole LG, Arteel GE and Beier JI (2016) Rapamycin protects liver from the enhancement of LPS induced liver injury caused by experimental vinyl chloride exposure: potential role of mTOR in toxicant/toxin interactions in mice. *Hepatology*, 64:347A.

**Local/Regional**


8. Lang AL, Kaelin BR, Yeo H, Hudson SV, McKenzie CM, Sharp CN, Poole LG, Arteel GE, and Beier JI (2016) Critical Role of Mammalian Target of Rapamycin (mTor) in Liver Damage Caused by VC Metabolites in Mice. *OVSOT Student Summer Meeting*, Cincinnati, OH. (Selected for Podium Presentation).

10. Lang AL, Kaelin BR, Yeo H, Sharp CN, Arteel GE, and Beier JI (2016) Critical Role Of Mammalian Target Of Rapamycin (mTOR) In Liver Damage Caused By VC Metabolites In Mice. Research!Louisville, Louisville, KY. (3rd place Graduate Student Poster Award).


12. Lang AL, Kaelin BR, Yeo H, Poole LG, Arteel GE and Beier JI (2016) Rapamycin protects liver from the enhancement of LPS induced liver injury caused by experimental vinyl chloride exposure: potential role of mTOR in toxicant/toxin interactions in mice. OVSOT annual meeting, Indianapolis, IN.


Arteel, Gavin
National/International

1. Lang AL, Kaelin BR, Yeo H, Hudson SV, McKenzie CM, Sharp CN, Poole LG, Arteel GE, and Beier JI (2016) Critical Role of Mammalian Target of Rapamycin (mTor) in Liver Damage Caused by VC Metabolites in Mice. The Toxicologist. 150:231.


**Local/Regional**


24. Lang AL, Kaelin BR, Yeo H, Hudson SV, McKenzie CM, Sharp CN, Poole LG, Arteel GE, and Beier JI (2016) Critical Role of Mammalian Target of Rapamycin (mTor) in Liver Damage Caused by VC Metabolites in Mice. OVSOT Student Summer Meeting, Cincinnati, OH. (Selected for Podium Presentation).

25. Lang AL, Kaelin BR, Yeo H, Sharp CN, Arteel GE, and Beier JI (2016) Critical Role Of Mammalian Target Of Rapamycin (mTOR) In Liver Damage Caused By VC Metabolites In Mice. Research!Louisville, Louisville, KY. (3rd place Graduate Student Poster Award).

26. Lang AL, Kaelin BR, Yeo H, Poole LG, Arteel GE and Beier JI (2016) Rapamycin protects liver from the enhancement of LPS induced liver injury caused by experimental vinyl chloride exposure: potential role of mTOR in toxicant/toxin interactions in mice. OVSOT annual meeting, Indianapolis, IN.

Ceresa, Brian


Chen, Shao-yu


5. Yun Y, Yuan FQ, Liu J, Chen S-Y. Exposure to low-dose ethanol in the early stage of development impairs early β-cell differentiation in zebrafish by altering DNA methylation. Research! Louisville 2016, University of Louisville


Freedman, Jonathan H.


Gupta, Ramesh

National/International


Local/Regional
4. Kyakulaga AH Aqil F, Munagala R & Gupta R. Withaferin A alone and in Combination with Paclitaxel Inhibits TGF-β1 Induced Epithelial-to-Mesenchymal Transition, Invasion and Metastasis of Lung Cancer in vitro. Research Louisville, Univ. of Louisville, Louisville, October 11-14, 2016

Hein, David
National/International


Local/Regional


via anoikis and invasion assays. Proceedings of the Kentucky Academy of Science, Louisville, Kentucky, November 2016.


**Hood, Joshua**

National/International


**Kidd, LaCreis Renee**

National/International


Local/Regional


Kouokam, J. Calvin

Local/Regional


Research!Louisville, October 2016, Louisville, KY.


Lukashevich, Igor S.
National/International
1. Irina Tretyakova, Brian Nickols, Igor Lukashevich, Scott Weaver, Peter Pushko. DNA-Launched Vaccines for Venezuelan Equine Encephalitis and Chikungunya Viruses. 2016 ASM Biodefense and Emerging Diseases Research Meeting, February 8-10, 2016, Washington, DC, Program and Abstracts

Local/Regional

Matoba, Nobuyuki
National/International

Local/Regional
Lectibody Targeting HIV and Cancer-associated High-mannose Glycans” Research!Louisville. October 2016, Louisville, KY.


**Benz, Fredrick**


### RESEARCH GRANTS ACTIVE

<table>
<thead>
<tr>
<th>Agency/Number</th>
<th>Title</th>
<th>Role</th>
<th>PI</th>
<th>Project Period</th>
<th>Budget Award</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antimisaris, Demetra</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PA-10-263</td>
<td>Strength of Specific Medication Literacy and Clinical Correlates in Low Income Older Adults with Asthma: <em>Supplement</em> to Asthma in Older Adults*</td>
<td>Co-I</td>
<td>Antimisaris</td>
<td>2016-2019</td>
<td>$69,220</td>
</tr>
<tr>
<td>PA-10-263</td>
<td>Asthma in Older Adults: Identifying Phenotypes and Factors</td>
<td>Co-I</td>
<td>Antimisaris</td>
<td>2015-2019</td>
<td>2,869,564</td>
</tr>
<tr>
<td>HRSA/15-057</td>
<td>KY Rural Underserved Geriatric Interprofessional Education Program</td>
<td>Co-I</td>
<td>Antimisaris</td>
<td>2015-2017</td>
<td>2,390,440</td>
</tr>
<tr>
<td>KSEF (Ky Science &amp; Engineering Foundation)</td>
<td>Long Term Care Planning and Policy for Aging Population in Kentucky</td>
<td>Co-I</td>
<td>Antimisaris</td>
<td>2015-2016</td>
<td>$26,000</td>
</tr>
<tr>
<td>Beier, Juliane</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NIDDK/ K01 DK096042-01</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>$447,967</td>
</tr>
<tr>
<td>NIDDK/ T35 DK072923</td>
<td>Summer Endocrine Research Training Program</td>
<td>Mentor</td>
<td>Klinge</td>
<td>05/01/15-04/30/16</td>
<td>$36,206</td>
</tr>
<tr>
<td>NIDDK/ R03 DK107912</td>
<td>Vinyl chloride-NAFLD interaction</td>
<td>PI</td>
<td>Beier</td>
<td>01/16-12/17</td>
<td>$130,000</td>
</tr>
<tr>
<td>P20 GM113226</td>
<td>Hepatobiology and Toxicology COBRE</td>
<td>Project PI</td>
<td>McClain</td>
<td>12/16-11/21</td>
<td>$7,500,000</td>
</tr>
<tr>
<td>T32 ES011564</td>
<td>UofL Environmental Health Sciences Training Program</td>
<td>Mentor</td>
<td>Arteel</td>
<td>04/01/16-03/31/21</td>
<td>$2,183,597</td>
</tr>
<tr>
<td>Arteel, Gavin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T32 ES011564</td>
<td>UofL Environmental Health Sciences Training Program</td>
<td>PI</td>
<td>Arteel</td>
<td>7/1/16-6/30/21</td>
<td>$1,918,730</td>
</tr>
<tr>
<td>U01 AA021901</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>
<td>$1,036,553</td>
</tr>
<tr>
<td>R01 AA021978</td>
<td>Role of ECM and inflammatory remodeling in alcohol-induced liver and lung damage</td>
<td>PI</td>
<td>Arteel</td>
<td>02/01/14-01/31/19</td>
<td>1,125,000</td>
</tr>
<tr>
<td>R01 AA021978S1</td>
<td>Role of ECM and inflammatory remodeling in alcohol-induced liver and lung damage</td>
<td>Mentor</td>
<td>Hudson</td>
<td>09/01/15-01/31/18</td>
<td>$83,418</td>
</tr>
<tr>
<td>R01 DK100414</td>
<td>Therapeutics development for hepatic fibrosis</td>
<td>Sub. PI</td>
<td>R Maitra</td>
<td>09/01/14-08/31/19</td>
<td>$94,767</td>
</tr>
<tr>
<td>MFE-135424 (CIHR postdoctoral fellowship)</td>
<td>Role of extracellular matrix and inflammatory remodeling in alcohol liver and lung damage</td>
<td>Mentor</td>
<td>A Mohamed</td>
<td>07/01/15-07/15/16</td>
<td>$88,000</td>
</tr>
<tr>
<td>P50 AA024337</td>
<td>University of Louisville Alcohol Research Center</td>
<td>Pilot Core Director,</td>
<td>McClain</td>
<td>12/01/15-11/30/20</td>
<td>$6,006,300</td>
</tr>
<tr>
<td>Project/Grant ID</td>
<td>Description</td>
<td>PI/Co-I</td>
<td>Sponsor/Agency</td>
<td>Start/End Date</td>
<td>Budget Amount</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>---------------</td>
</tr>
<tr>
<td>P20 GM113226</td>
<td>Hepatobiology and Toxicology COBRE</td>
<td>Core Dir./mentor McClain</td>
<td></td>
<td>12/01/14 - 11/30/19</td>
<td>$7,500,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceresa, Brian</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NIH/NEI R21EY027032</td>
<td>Identifying novel c-Cbl antagonists to promote corneal epithelial regeneration</td>
<td>PI (30%) Ceresa</td>
<td></td>
<td>07/01/16 - 06/31/18</td>
<td>$423,500</td>
</tr>
<tr>
<td>NIH/NCI R01CA193220</td>
<td>Ubiquilin1 regulates EMT and metastasis of human lung adenocarcinoma</td>
<td>Co-I (1%) Beverly</td>
<td></td>
<td>09/01/10-08/31/14 (NCE)</td>
<td>$1,750,890</td>
</tr>
<tr>
<td>Chen, Shao-yu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NIAAA/RO1 AA021434</td>
<td>Role of microRNA in ethanol-induced apoptosis and teratogenesis</td>
<td>PI Shao-yu Chen</td>
<td></td>
<td>07/2013 - 06/2018</td>
<td>$1,125,000 (direct cost)</td>
</tr>
<tr>
<td>NIAAA/RO1 AA020265</td>
<td>Role of Siah1 in ethanol-induced apoptosis and teratogenesis</td>
<td>PI Shao-yu Chen</td>
<td></td>
<td>07/2012 - 06/2017</td>
<td>$1,125,000 (direct cost)</td>
</tr>
<tr>
<td>NIAMS/RO1 AR063630</td>
<td>Coordinated cytoskeletal dynamics in skin somatic stem cells</td>
<td>Subcontract PI Xiaoyang Wu</td>
<td></td>
<td>09/2013 - 08/2018</td>
<td>$1,125,000 (direct cost)</td>
</tr>
<tr>
<td>$125,000 direct cost for subcontract</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NIAAA/P50 Alcohol Center grant</td>
<td>The role of nutrition in the development/progression of alcohol-induced organ injury.</td>
<td>Project 3 PI Craig McClain</td>
<td></td>
<td>05/2016 - 04/2021</td>
<td>$8,000,000.00 (Total Budget)</td>
</tr>
<tr>
<td>Project 3 budget:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$750,000.00</td>
</tr>
<tr>
<td>Program</td>
<td>Project Description</td>
<td>PI</td>
<td>Co-PI/Member</td>
<td>Start/End</td>
<td>Amount</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>--------------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>NIEHS/T32</td>
<td>UofL environmental health sciences training program</td>
<td>Faculty mentor</td>
<td>Gavin Arteel</td>
<td>07/2016-06/2021</td>
<td>$2,311,000.00</td>
</tr>
<tr>
<td>Clark, Geoffrey J.</td>
<td>NCI/R01 CA133171-01A2 The Role of the Ras effector Nore1a in tumor suppression</td>
<td>PI</td>
<td>Clark</td>
<td>2010-2017</td>
<td>900,000</td>
</tr>
<tr>
<td></td>
<td>NIH Eureka Award/1R01CA153132-01 Oncopigs as a better model for human cancer</td>
<td>PI</td>
<td>Clark</td>
<td>2010-2017</td>
<td>800,000</td>
</tr>
<tr>
<td></td>
<td>NIH Excite Award A first –in-class RaIGEF inhibitor as an anti-Ras drug.</td>
<td>PI</td>
<td>Clark</td>
<td>2016-2018</td>
<td>200,000</td>
</tr>
<tr>
<td></td>
<td>Jewish Hospital Fund for Excellence The development of a novel small molecule inhibitor of lung cancer</td>
<td>PI</td>
<td>Clark</td>
<td>2015-2017</td>
<td>250,000</td>
</tr>
<tr>
<td>KLCRP</td>
<td>Novel small molecule inhibitors of the Ras Oncoprotein for Lung cancer</td>
<td>PI</td>
<td>Clark</td>
<td>2016-2018</td>
<td>150,000</td>
</tr>
<tr>
<td>Freedman, Jonathan</td>
<td>UofL SoM Metals and Carcinogenesis</td>
<td>PI</td>
<td>Freedman/Damodaran</td>
<td>06/16-05/17</td>
<td>$66,761</td>
</tr>
<tr>
<td></td>
<td>NIEHS/T32 ES011564 UofL Environmental Health Sciences Training Program</td>
<td>Member</td>
<td>Arteel</td>
<td>06/16-05/21</td>
<td>$2,211,776 ($2,183,597 direct)</td>
</tr>
<tr>
<td></td>
<td>NIEHS/T35 ES014559 Summer Environmental Health Sciences Training Program</td>
<td>Member</td>
<td>Prough</td>
<td>04/16-03/21</td>
<td>$190,000 ($175,000 direct)</td>
</tr>
<tr>
<td></td>
<td>NCI/R25 CA134283 University of Louisville Cancer Education Program</td>
<td>Member</td>
<td>Hein</td>
<td>09/15-08/16</td>
<td>$293,984</td>
</tr>
<tr>
<td>Gupta, Ramesh</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funding Agency</td>
<td>Project Description</td>
<td>PI</td>
<td>Start Date</td>
<td>End Date</td>
<td>Amount</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>-------</td>
<td>-------------</td>
<td>------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Dept. of Defense</td>
<td>Prevention &amp; Treatment of Breast Cancer by Blueberry</td>
<td>PI</td>
<td>Gupta</td>
<td>09/14-08/17</td>
<td>$1,033,053</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Total)</td>
</tr>
<tr>
<td>STTR Phase I</td>
<td>Exosomal Drug Formulation</td>
<td>PI</td>
<td>Gupta</td>
<td>09/14-02/16</td>
<td>$225,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Total)</td>
</tr>
<tr>
<td>KY Matching</td>
<td>This grant is a supplement to the STTR Phase I grant on Exosomal Drug Formulation</td>
<td>PI</td>
<td>Gupta</td>
<td>04/15-03/17</td>
<td>$150,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Directs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Total)</td>
</tr>
<tr>
<td>Helmsley Trust Fund</td>
<td>Plant-based cancer therapeutics</td>
<td>PI</td>
<td>Gupta</td>
<td>11/15-10/16</td>
<td>$100,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Directs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Total)</td>
</tr>
<tr>
<td>Hein, David</td>
<td>University of Louisville Cancer Education Program</td>
<td>PI</td>
<td>Hein</td>
<td>09/14/11-08/31/17</td>
<td>$1,543,610</td>
</tr>
<tr>
<td>NCI R25- CA134283</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>UofL Environmental Health Sciences Training Program</td>
<td>PI</td>
<td>Hein</td>
<td>07/01/09-06/30/16</td>
<td>$2,129,708</td>
</tr>
<tr>
<td>NIEHS T32- ES011564</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small Environmental Health Sciences Training Program</td>
<td>Mentor</td>
<td>Prough</td>
<td>04/01/11-03/31/16</td>
<td>$175,814</td>
</tr>
<tr>
<td>NIEHS T35-ES014559</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cempra Pharmaceuticals (OIEB</td>
<td>Investigation into the N-acetylation of solithromycin</td>
<td>PI</td>
<td>Hein</td>
<td>10/10/15-01/31/16</td>
<td>$24,450</td>
</tr>
<tr>
<td>160300)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cempra Pharmaceuticals (OIEB</td>
<td>Solithromycin metabolism in rapid and slow acetylators</td>
<td>PI</td>
<td>Hein</td>
<td>06/01/16-09/30/16</td>
<td>$35,330</td>
</tr>
<tr>
<td>161211)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NIEHS T35-ES014559</td>
<td>Summer Environmental Health Sciences Training Program</td>
<td>Mentor</td>
<td>Prough</td>
<td>05/15/16-03/31/21</td>
<td>$186,540</td>
</tr>
<tr>
<td>NIH (P20-GM113226)</td>
<td>Hepatobiology and Toxicology COBRE</td>
<td>Director for faculty career development; project lead renovatio</td>
<td>McClain</td>
<td>06/10/16-03/31/21</td>
<td>$11,530,145</td>
</tr>
<tr>
<td>Project ID/Name</td>
<td>Description</td>
<td>Role</td>
<td>Mentor</td>
<td>Start Date – End Date</td>
<td>Amount</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------</td>
<td>------------</td>
<td>----------</td>
<td>---------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>NIEHS T32 ES011564</td>
<td>UofL Environmental Health Sciences Training Program</td>
<td>Co-I and mentor</td>
<td>Arteel</td>
<td>07/01/16 – 06/31/21</td>
<td>$2,314,825</td>
</tr>
<tr>
<td>NIH R15 HD087911</td>
<td>The interaction between NAT2 acetylator status and exposure to tobacco smoke on ovarian reserve and in vitro fertilization outcomes</td>
<td>Co-I</td>
<td>Taylor</td>
<td>07/08/16 – 06/30/19</td>
<td>$460,018</td>
</tr>
<tr>
<td>NIH (U19-AI103458)</td>
<td>Griffithsin-based rectal microbicides for PREvention of Viral Entry (PREVENT)</td>
<td>Co-mentor for faculty diversity supplement</td>
<td>Palmer</td>
<td>07/01/16-06/30/17</td>
<td>$127,974</td>
</tr>
<tr>
<td>Hood, Joshua</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NIH NIGMS R21 GM107894-03</td>
<td>Continuous Separation of Melanoma Exosomes using Field-Flow Fractionation</td>
<td>Co-PI</td>
<td>Hood (U of L), Gale (U of U)</td>
<td>1/1/15 – 7/31/17</td>
<td>$54,480 (Direct)</td>
</tr>
<tr>
<td>NIH SBIR Contract Phase 1, HHSN261201600054C</td>
<td>Continuous exosome and oncosome separations using a modified SPLITT system</td>
<td>Co-PI</td>
<td>Hood (U of L), Gale, Petersen, (Espira Inc.)</td>
<td>9/27/16 – 6/18/17</td>
<td>$50,001</td>
</tr>
<tr>
<td>NIH NCI R21 CA198249-01</td>
<td>A Novel Vaccination Stratagem for Lung Cancer</td>
<td>Collaborator</td>
<td>Yaddanapudi (JGBCC collaborator)</td>
<td>7/1/15 – 6/30/17</td>
<td>N/A, unpaid</td>
</tr>
<tr>
<td>Kang, Y. James</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NIH-NIAAA, 1R01AA023190</td>
<td>Mechanisms of Probiotics in Alcoholic Liver Disease</td>
<td>Consultant</td>
<td>Wenke Feng</td>
<td>10/01/15-09/30/20</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>Kidd, LaCreis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NIH, NIEHS T32-ES011564</td>
<td>UofL Environmental Health Science Training Program</td>
<td>Mentor</td>
<td>Hein</td>
<td>07/1/09-06/30/16</td>
<td>$1,999,550</td>
</tr>
<tr>
<td>Grant Number</td>
<td>Institution/Program</td>
<td>PI/Co-PI</td>
<td>Dates</td>
<td>Direct Costs</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------</td>
<td>----------</td>
<td>-------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>R25-CA134283-05</td>
<td>University of Louisville Cancer Education Program</td>
<td>Co-I, Hein/Kidd</td>
<td>09/14/12-08/31/16</td>
<td>$1,560,990</td>
<td></td>
</tr>
<tr>
<td>NIAID/3U19AI113182-03S1</td>
<td>Safety and efficacy of plant produced Griffithsin in the context of colorectal pathologies.</td>
<td>Co-I</td>
<td>Kenneth E. Palmer</td>
<td>2016-2017</td>
<td>$127,974</td>
</tr>
<tr>
<td>NIH 1R01 AI093450-06</td>
<td>Development of New Bivalent Cross-Protective Arenaviral Vaccines</td>
<td>Contact PI</td>
<td>MPI</td>
<td>04/01/2011-03/31/2017 (NCE)</td>
<td>$3,964,538</td>
</tr>
<tr>
<td>NIH/2R44AI094863-03A1</td>
<td>Novel DNA-launched Attenuated Vaccine for VEE Virus, SBIR Phase II</td>
<td>PI, sub</td>
<td>Pushko</td>
<td>02/01/16-01/31/18</td>
<td>$615,000</td>
</tr>
<tr>
<td>UofL ExCITE Product Development Grant Cycle 2 (NIH U01 HL127518 ExCITE Program)</td>
<td>Oral Solid Dosage Formulation of Cholera Toxin B Subunit</td>
<td>Co-PI</td>
<td>Hamorsky/ Matoba</td>
<td>2/1/16 – 1/31/18</td>
<td>$200,000</td>
</tr>
<tr>
<td>NIH NIAID Microbicide Innovation Program V/R21/R33 AI088585</td>
<td>Plant-produced Actinohivin as a Candidate HIV Microbicide</td>
<td>PI</td>
<td>Matoba</td>
<td>6/10/10 – 6/30/16</td>
<td>$1,175,000 (total direct costs), NCE</td>
</tr>
<tr>
<td>DoD/USAMRMC/W81XWH-10-2-0082- CLIN 2</td>
<td>Plant-Based Expression Systems for New Vaccines and Therapeutics</td>
<td>Sub-project PI</td>
<td>Wilkerson</td>
<td>9/30/11 – 10/29/16</td>
<td>$1,748,000 (total direct costs)</td>
</tr>
<tr>
<td>Brown Cancer Center Helmsley Charitable Trust Program</td>
<td>Plant-made N-mannosylated cholera toxin B subunit as a novel vaccine scaffold</td>
<td>PI</td>
<td></td>
<td>11/1/15 – 12/31/16</td>
<td>$125,000 (total direct costs)</td>
</tr>
<tr>
<td>Palmer, Kenneth E.</td>
<td>Griffithsin-based Rectal Microbicides for PREvention of Viral ENTry (PREVENT)</td>
<td>PI of PK/PD Core</td>
<td>Palmer PD/Matoba PK/PD Core PI</td>
<td>7/01/14 – 6/30/19</td>
<td>$15,500,390 (total direct costs)</td>
</tr>
<tr>
<td>Project Title</td>
<td>Description</td>
<td>PI</td>
<td>Start Date</td>
<td>End Date</td>
<td>Funding Information</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Molecular Targets Phase III CoBRE Pilot Project (NIH NIGMS/P30GM106396)</td>
<td>Plant-made lectibody targeting tumor-associated high-mannose-glycan antigens as a novel cancer immunotherapeutic/diagnostic agent</td>
<td>PI</td>
<td>7/01/15</td>
<td>6/30/16</td>
<td>$75,000 (total direct costs)</td>
</tr>
<tr>
<td>Molecular Targets Phase IV CoBRE Pilot Project (NIH NIGMS/P30GM106396)</td>
<td>Investigation of a lectibody targeting tumor-associated oligomannose glycans</td>
<td>PI</td>
<td>7/01/16</td>
<td>6/30/17</td>
<td>$75,000 (total direct costs)</td>
</tr>
<tr>
<td>NIH/NIAID U19 AI 113182-01</td>
<td>Griffithsin-based rectal microbicides for prevention of viral entry (PREVENT)</td>
<td>PD/PI Palmer</td>
<td>07/01/14</td>
<td>06/30/19</td>
<td>$14,793,126 **</td>
</tr>
<tr>
<td>NIH/NIAID U19 AI 113182-661</td>
<td>PREVENT Program Administrative Core</td>
<td>PI Palmer</td>
<td>07/01/14</td>
<td>06/30/19</td>
<td>** see parent award above</td>
</tr>
<tr>
<td>NIH/NIAID U19 AI 113182-666</td>
<td>Project 2: PREVENT program preclinical studies</td>
<td>PI Palmer</td>
<td>07/01/14</td>
<td>06/30/19</td>
<td>** see parent award above</td>
</tr>
<tr>
<td>Leona M and Harry B Helmsley Charitable Trust 2014-PG-MED001</td>
<td>Advancing the discovery and development of plant-made pharmaceuticals</td>
<td>Sub-proj. PI Miller</td>
<td>01/01/14</td>
<td>12/31/17</td>
<td>$5,500,000</td>
</tr>
<tr>
<td>DoD/USAMRMC W81XWH-10-2-0082-CLIN 2</td>
<td>Plant-Based Expression Systems for New Vaccines and Therapeutics</td>
<td>PI of sub-award to UofL Wilkerson &amp; Palmer</td>
<td>9/30/11</td>
<td>10/29/16</td>
<td>$1,748,000</td>
</tr>
<tr>
<td>NIH/NHLBI 1U10HL127518-01</td>
<td>The EXCITE Program: Expediting Commercialization, Innovation, Translation and Entrepreneurship</td>
<td>Leader-ship Team Bates/ Miller/ Krentsel</td>
<td>04/01/15</td>
<td>03/21/18</td>
<td>$2,998,200</td>
</tr>
<tr>
<td>NIH/NIAID 3U19 AI 113182-03S1</td>
<td>Diversity Supplement for PREVENT U19</td>
<td>PI &amp; Mentor Palmer/ Kouokam</td>
<td>07/01/16</td>
<td>06/30/17</td>
<td>$127,974</td>
</tr>
<tr>
<td>Jewish Heritage Foundation of Excellence (JHFE)</td>
<td>Griffithsin-Based Nanocarriers for the Prevention of Viral Infections</td>
<td>Co-I</td>
<td>Steinbach-Rankins</td>
<td>08/01/16 – 07/31/18</td>
<td>$300,000</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>-----</td>
<td>-------------------</td>
<td>---------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Siskind, Leah J.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NIH/NIDDK (R01) DK093462</td>
<td>Targeting Ceramide-Induced Kidney Cell Apoptosis and Necrosis for the Treatment of Acute Kidney Injury</td>
<td>PI</td>
<td>Siskind</td>
<td>09/17/12-04/30/17</td>
<td>$217,500 Annual Direct Costs, $1,087,500 total Directs for entire budget period</td>
</tr>
<tr>
<td>Kentucky Lung Cancer Program</td>
<td>Whole genome CRISPR/Cas9 screens to identify novel vulnerabilities of human lung cancer cells</td>
<td>Co-PI</td>
<td>Siskind Beverly</td>
<td>01/01/16 – 1/01/18</td>
<td>$65,000 annual direct costs, $130,000 total direct costs for entire budget period</td>
</tr>
<tr>
<td>Kentucky Lung Cancer Program</td>
<td>Developing pigs as models of lung cancer progression and therapeutics</td>
<td>Co-PI</td>
<td>Siskind Beverly</td>
<td>04/01/16 – 3/31/17</td>
<td>$70,000 total direct costs for budget period</td>
</tr>
<tr>
<td>Jewish Heritage Fund for Excellence Research Enhancement Grant</td>
<td>Identifying physiologically relevant RAS synthetic lethal components</td>
<td>PI</td>
<td>Siskind</td>
<td>12/1/16 – 11/30/17</td>
<td>$50,000 total direct costs for budget period</td>
</tr>
<tr>
<td>Song, Zhao-Hui (Joe)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T32ES11564</td>
<td>UofL Environmental Health Sciences Training Program</td>
<td>Faculty Mentor</td>
<td>David W. Hein</td>
<td>7/1/09 - 6/30/15</td>
<td>$ 2,037,745</td>
</tr>
<tr>
<td>8 P30GM103507 Pilot Grant</td>
<td>The Potential Therapeutic Effects of Cannabidiol on Spinal Cord Injury</td>
<td>PI for Pilot Grant</td>
<td>S Whittmore</td>
<td>8/1/14 - 7/30/16</td>
<td>$ 22,500</td>
</tr>
<tr>
<td>R01DA003934</td>
<td>Molecular Determinants of Cannabinoid Activity</td>
<td>PI, U of L subcontract</td>
<td>P Reggio</td>
<td>4/1/15 - 3/31/20</td>
<td>$ 375,000</td>
</tr>
<tr>
<td>States, J. Christopher</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project ID</td>
<td>Description</td>
<td>PI</td>
<td>States</td>
<td>Start/End Date</td>
<td>Funding</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----</td>
<td>--------</td>
<td>--------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>R21ES023627</td>
<td>Differential miRNA Expression &amp; Progression Of Arsenic Induced Skin Cancers</td>
<td>PI</td>
<td>States</td>
<td>07/01/15 – 06/30/17</td>
<td>$422,000</td>
</tr>
<tr>
<td>KSEF-</td>
<td>Novel Cancer Chemotherapeutics Targeting Mitosis</td>
<td>PI</td>
<td>States</td>
<td>7/1/15 – 6/30/17</td>
<td>$30,000</td>
</tr>
<tr>
<td>KLCRP</td>
<td>Targeting the Anaphase Promoting Complex as Lung Cancer Chemotherapy</td>
<td>PI</td>
<td>States</td>
<td>5/1/15 – 4/30/17</td>
<td>$150,000</td>
</tr>
<tr>
<td>T32ES011564</td>
<td>UofL Environmental Health Sciences Training Program</td>
<td>Mentor</td>
<td>Arteel</td>
<td>07/01/16 – 06/30/21</td>
<td>$2,316,985</td>
</tr>
<tr>
<td>T35ES014559</td>
<td>Summer Environmental Health Sciences Training Program</td>
<td>Mentor</td>
<td>Prough</td>
<td>05/01/16 – 04/30/21</td>
<td>$516,565</td>
</tr>
<tr>
<td>R25CA134283</td>
<td>University Of Louisville Cancer Education Program</td>
<td>Mentor</td>
<td>Hein</td>
<td>09/14/11 – 08/31/16</td>
<td>$1,496,675</td>
</tr>
<tr>
<td>P20GM113226-</td>
<td>Hepatobiology And Toxicology COBRE</td>
<td>Mentor</td>
<td>McClain</td>
<td>06/10/16 – 03/31/21</td>
<td>~$13M</td>
</tr>
<tr>
<td>P30 ES020957</td>
<td>Center for Urban Responses to Environmental Stressors (CURES)</td>
<td>Ext. Adv. Bd.</td>
<td>Runge-Morris</td>
<td>06/01/14 – 03/31/17</td>
<td>$2,454,236</td>
</tr>
</tbody>
</table>

**Wise, John Pierce Sr.**

<table>
<thead>
<tr>
<th>Project ID</th>
<th>Description</th>
<th>PI</th>
<th>States</th>
<th>Start/End Date</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIEHS/R01 ES016893</td>
<td>Particulate Cr(VI) Toxicology in Human Lung Epithelial Cells and Fibroblasts</td>
<td>PI</td>
<td>Wise</td>
<td>07/01/08 – 12/31/18</td>
<td>$3,090,764</td>
</tr>
<tr>
<td>JHFE Research Enhancement Grant</td>
<td>Mechanisms of Particulate Hexavalent Chromium-Induced Centrosome Abnormalities in Human Lung Cells</td>
<td>PI</td>
<td>Wise</td>
<td>05/01/16 – 04/30/17</td>
<td>$50,000</td>
</tr>
<tr>
<td>NIEHS/T32 ES011564 (A1)</td>
<td>UoFL Environmental Health Sciences Training Program</td>
<td>Mentor</td>
<td>Arteel</td>
<td>04/01/16 – 03/31/21</td>
<td>$2,183,597</td>
</tr>
<tr>
<td>R25CA134283</td>
<td>University of Louisville Cancer Education Program</td>
<td>Mentor</td>
<td>Hein and Kidd</td>
<td>09/01/16 – 08/31/21</td>
<td>$1,500,000</td>
</tr>
</tbody>
</table>
### RESEARCH GRANTS SUBMITTED

<table>
<thead>
<tr>
<th>Agency/Number</th>
<th>Title</th>
<th>Role</th>
<th>PI</th>
<th>Project Period</th>
<th>Budget Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>R25 GM121239</td>
<td>Maximizing Student Success at the University of Louisville</td>
<td>Mentor</td>
<td>Hein</td>
<td>12/16-11/21</td>
<td>$1,705,607</td>
</tr>
<tr>
<td>F31 ES028080</td>
<td>Vinyl chloride-diet interactions: potential roles of autophagy and energy management</td>
<td>Mentor</td>
<td>Lang</td>
<td>7/16-6/20</td>
<td>$130,728</td>
</tr>
<tr>
<td>R25 CA134283</td>
<td>University of Louisville Cancer Education Program</td>
<td>Mentor</td>
<td>Hein and Kidd</td>
<td>09/16-08/21</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>P42 ES023716</td>
<td>Environmental exposure and cardiometabolic disease</td>
<td>Co-I</td>
<td>Srivastava</td>
<td>04/17-03/22</td>
<td>$9,245,617</td>
</tr>
</tbody>
</table>

**Arteel, Gavin**

<table>
<thead>
<tr>
<th>Agency/Number</th>
<th>Title</th>
<th>Role</th>
<th>PI</th>
<th>Project Period</th>
<th>Budget Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>R25CA134283</td>
<td>University of Louisville Cancer Education Program</td>
<td>Mentor</td>
<td>Hein and Kidd</td>
<td>09/01/16-08/31/21</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>R01 HL133798</td>
<td>Age-dependent matrisome changes predispose to injury-induced fibrosis</td>
<td>MPI</td>
<td>Roman, Arteel, Siskind, Beverly</td>
<td>07/01/16-06/30/20</td>
<td>$1,400,000</td>
</tr>
<tr>
<td>P42 ES023716</td>
<td>Environmental exposure and cardiometabolic disease</td>
<td>Education Core Director</td>
<td>Srivastava</td>
<td>04/01/17</td>
<td>$9,245,617</td>
</tr>
<tr>
<td>R25-GM121239</td>
<td>Maximizing Student Success at the University of Louisville</td>
<td>Mentor</td>
<td>Hein</td>
<td>12/01/16-11/30/21</td>
<td>$1,705,607</td>
</tr>
<tr>
<td>R25 CA134283</td>
<td>University of Louisville Cancer Education Grant Proposal</td>
<td>Mentor</td>
<td>Hein</td>
<td>04/01/17-03/31/21</td>
<td>$1,500,000</td>
</tr>
</tbody>
</table>

**Ceresa, Brian P.**
<table>
<thead>
<tr>
<th>NEI – R01</th>
<th>Development of a Next-generation Anesthetics for Ocular Pain</th>
<th>Co-PI (25%)</th>
<th>Ceresa, Petruska</th>
<th>7/01/17 - 6/30/22</th>
<th>$1,925,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEI – T35 EY026509</td>
<td>Summer Vision Sciences Training Program</td>
<td>Co-PI (5%)</td>
<td>Ceresa, Kaplan</td>
<td>7/01/17 - 6/30/22</td>
<td>$193,732 (impact score:20)</td>
</tr>
<tr>
<td>NIH</td>
<td>Interactions between Yersinia pestis and the host cell recycling pathway</td>
<td>Co-I (10%)</td>
<td>Lawrenze</td>
<td>4/01/17-3/31/22</td>
<td>$1,925,000</td>
</tr>
<tr>
<td>NCI</td>
<td>Ubiquilins are critical regulators of lung cancer initiation</td>
<td>Co-I (5%)</td>
<td>L. Beverly</td>
<td>7/01/17-6/30/22</td>
<td>$1,925,000</td>
</tr>
<tr>
<td>American Academy of Optometry</td>
<td>Development of a Next-Generation Topical Anesthetic for Treatment of Ocular Pain</td>
<td>Co-I (0%)</td>
<td>P. Scott</td>
<td>1/1/17-12/31/18</td>
<td>$60,000</td>
</tr>
<tr>
<td>Harrington Discovery Institute</td>
<td>Development of a Novel Topical Anesthetic for the Treatment of Ocular Pain</td>
<td>Co-I (0%)</td>
<td>P. Scott</td>
<td>1/1/17-12/31/18</td>
<td>$100,000</td>
</tr>
<tr>
<td>NIH</td>
<td>ErbB2 and ErbB3 as Regulators of EGFR-mediated Corneal Epithelial Homeostasis</td>
<td>PI (30%)</td>
<td>Ceresa</td>
<td>09/01/16 – 08/31/21</td>
<td>$1,925,000</td>
</tr>
</tbody>
</table>

Chen, Shao-yu

| NCI/R25 | Cancer education program for professional and undergraduate students | Faculty mentor | David Hein/Creis Kidd | 04/17 – 03/22 | $1,620,000 |

Clark, Geoffrey J.

<p>| NIH/R01 | The Ras/RalGEF pathway as a therapeutic target in Pancreatic cancer | PI | Clark | 2017-2022 | 350,000 /annum |
| NIH/U01 | A clinically relevant model of small cell lung carcinoma and therapeutic response | Co-PI | Beverly, Siskind and Clark | 2016-2020 | 400,000 /annum |</p>
<table>
<thead>
<tr>
<th>Project Title</th>
<th>Description</th>
<th>PI / Co-PI</th>
<th>Start Date - End Date</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CDMRP Breast cancer research</strong></td>
<td>Development of a porcine model for breast cancer to allow optimization of immune checkpoint therapy.</td>
<td>Clark</td>
<td>2016-2018</td>
<td>300,000</td>
</tr>
<tr>
<td><strong>NIH /U01</strong></td>
<td>Extrinsic selective pressures dictate intrinsic cancer biology phenotypes</td>
<td>Co-I Beverly</td>
<td>2016-2021</td>
<td>400,000 /annum</td>
</tr>
<tr>
<td><strong>KSEF</strong></td>
<td>Small molecule inhibitors of RalGEFs to suppress Ras driven cancer</td>
<td>PI Clark</td>
<td>2017-2018</td>
<td>30,000</td>
</tr>
<tr>
<td><strong>Kentucky Lung cancer research program</strong></td>
<td>Physiologically relevant K-Ras synthetic lethals</td>
<td>Co-I Siskind</td>
<td>2016-2018</td>
<td>150,000</td>
</tr>
<tr>
<td><strong>NIH R21</strong></td>
<td>Novel RalGDS inhibitors to BLOCK Pancreatic cancer</td>
<td>PI Clark</td>
<td>2017-2019</td>
<td>275,000</td>
</tr>
<tr>
<td><strong>CDMRP Neurofibromatosis program</strong></td>
<td>Novel inhibitors of NF1 disease</td>
<td>PI (Co-I: Curran)</td>
<td>2017-2020</td>
<td>194,000 /annum</td>
</tr>
<tr>
<td><strong>NIH R01</strong></td>
<td>Physiologically relevant K-Ras synthetic lethals</td>
<td>Co-PI Beverly</td>
<td>2017-2021</td>
<td>450,000 /annum</td>
</tr>
<tr>
<td><strong>Bristol Myers Squib catalyst award</strong></td>
<td>Small molecule inhibitors of RalGEFs to suppress Ras driven cancer</td>
<td>PI PI</td>
<td>2017-?</td>
<td>To be determined</td>
</tr>
<tr>
<td><strong>Freedman, Jonathan H.</strong></td>
<td>Contribution of environmental toxicants in the development of metabolic disease</td>
<td>PI Freedman</td>
<td>10/17 - 09/22</td>
<td>$1,875,000 ($1,250,000 direct)</td>
</tr>
<tr>
<td><strong>NIEHS/ R01 ES026628-01</strong></td>
<td>The role of autophagy in cadmium induced prostate carcinogenesis</td>
<td>PI Freedman/Damodaran</td>
<td>07/17 - 06/22</td>
<td>$3,162,030 (2053266 direct)</td>
</tr>
<tr>
<td>Fund</td>
<td>Project Description</td>
<td>PI/Co-PI</td>
<td>Start Date</td>
<td>End Date</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>----------------------------------</td>
<td>-------------</td>
<td>-----------</td>
</tr>
<tr>
<td>CDMRP Autism Research Program/ AR160152</td>
<td>Multi-system investigation of environmental factors contributing to Autism Spectrum Disorders</td>
<td>Freedman</td>
<td>09/17-09/20</td>
<td></td>
</tr>
<tr>
<td>Internal RFP sponsored by the Offices of the Provost</td>
<td>Center for Integrated Environmental Health Science</td>
<td>States</td>
<td>08/16-07/19</td>
<td></td>
</tr>
<tr>
<td>SFARI Pilot Grant</td>
<td>Multi-system investigation of environmental factors contributing to ASD</td>
<td>Freedman</td>
<td>08/17-07/19</td>
<td></td>
</tr>
<tr>
<td>MacArthur Foundation’s 100 &amp; Change Programme</td>
<td>Mapping the Chemosphere</td>
<td>Colbourne</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>ADA Grant/1-17-IBS-099</td>
<td>Contribution of environmental toxicants in the development of type 2 diabetes</td>
<td>Freedman</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuqua, Joshua</td>
<td>KTRDC Development of Tobacco Hybrids for Field Production of Griffithsin</td>
<td>Fuqua</td>
<td>1 years; Starting Apr 2016</td>
<td>14,776</td>
</tr>
<tr>
<td>NIAID/ 1 R01 AI131974-01</td>
<td>Engineering, design, and optimization of griffithsin as a systemic HIV therapy</td>
<td>Fuqua</td>
<td>5 years</td>
<td></td>
</tr>
<tr>
<td>Gupta, Ramesh</td>
<td>NCI STTR Phase I A New Technology to Isolate Anthocyanidins and Efficacy against Lung Cancer</td>
<td>Gupta; Spencer</td>
<td>12/16-11/17</td>
<td></td>
</tr>
<tr>
<td>NCI R01</td>
<td>Novel Adjuvent Therapy for Lung Cancer</td>
<td>Gupta</td>
<td>7/16-6/21</td>
<td></td>
</tr>
<tr>
<td>DoD Postdoc fellowship</td>
<td>“Targeted Exosomes for oral delivery of the chemo drug, paclitaxel”</td>
<td>Mentor Agrawal</td>
<td>12/16-11/19</td>
<td>$1,100,000</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------------------------------------------------------</td>
<td>----------------</td>
<td>-------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>NCI R01</td>
<td>Management of breast cancer with berry anthocyanidins</td>
<td>Co-I Munagala</td>
<td>7/17-6/22</td>
<td>$1,925,000</td>
</tr>
<tr>
<td>NIH STTR Phase I</td>
<td>Efficacy of the Anthocyanidins against FAP and Colon Cancer</td>
<td>PI Gupta, Spencer</td>
<td>7/17-6/18</td>
<td>$300,000</td>
</tr>
</tbody>
</table>

Hein, David W.

<table>
<thead>
<tr>
<th>NCI R25-CA134283 (renewal; received priority score of 18)</th>
<th>University of Louisville Cancer Education Program</th>
<th>Multi-PI Hein &amp; Kidd</th>
<th>04/01/17-08/31/16</th>
<th>$1,620,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cempra Pharmaceuticals (OIEB 161211)</td>
<td>Solithromycin metabolism in rapid and slow acetylators</td>
<td>PI Hein</td>
<td>06/01/16-09/30/16</td>
<td>$35,330</td>
</tr>
<tr>
<td>NIH P20-GM13226 (withdrawn because previous submission was funded)</td>
<td>Hepatobiology and Toxicology COBRE Director for faculty career development</td>
<td>McClain</td>
<td>12/01/16-11/30 21</td>
<td>$11,230,145</td>
</tr>
<tr>
<td>NIH (U19-AI103458)</td>
<td>Griffithsin-based rectal microbicides for PREvention of Viral Entry (PREVENT)</td>
<td>Co-mentor for faculty diversity supplement Palmer</td>
<td>07/01/16-06/30/17</td>
<td>$127,974</td>
</tr>
<tr>
<td>NIH R25-GM121239</td>
<td>Maximizing student success at the University of Louisville</td>
<td>PI Hein</td>
<td>12/01/16-11/30/21</td>
<td>$1,705,607</td>
</tr>
<tr>
<td>Project ID</td>
<td>Title</td>
<td>Principal Investigator</td>
<td>Start Date</td>
<td>End Date</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------</td>
<td>------------</td>
<td>----------------</td>
</tr>
<tr>
<td>NCI U01</td>
<td>Biomarkers of Early Detection and Risk for Cancer: The Kentucky E-DETECT Cohort</td>
<td>Co-I K. and R. Baumgartner</td>
<td>07/01/17</td>
<td>06/30/22</td>
</tr>
<tr>
<td>NIEHS P42 ES023716 (received priority score of 20)</td>
<td>Environmental exposure and cardiometabolic disease</td>
<td>Co-I Srivastava</td>
<td>04/01/17</td>
<td>03/31/22</td>
</tr>
<tr>
<td>NIH T32HL134627</td>
<td>Cardiovascular Sciences Training Program at University of Louisville</td>
<td>Internal Advisory Committee Kakar &amp; Joshua</td>
<td>09/01/16</td>
<td>08/31/21</td>
</tr>
<tr>
<td>NIH T32 (received priority score of 17)</td>
<td>Current Trends in Stem Cell Therapeutics</td>
<td>Internal Advisory Committee Ratajczak &amp; Kakar</td>
<td>07/01/17</td>
<td>06/30/22</td>
</tr>
<tr>
<td>NIH R25 GM123933</td>
<td>Bridge to Undergraduate Success (BUS)</td>
<td>Internal Advisory Committee Kakar &amp; Joshua</td>
<td>07/01/17</td>
<td>06/30/22</td>
</tr>
<tr>
<td>NIH R01</td>
<td>Causal mechanisms of NAT2-induced insulin resistance and mitochondrial dysfunction</td>
<td>Consultant Joshua Knowles (Stanford University)</td>
<td>07/01/17</td>
<td>06/30/22</td>
</tr>
<tr>
<td>Hood, Joshua L.</td>
<td>University of Louisville Cancer Education Program</td>
<td>Faculty Mentor Hein, Kidd</td>
<td>4/1/17</td>
<td>3/31/22</td>
</tr>
<tr>
<td>JGBCC Molecular Targets CoBRE Phase IV Pilot OGMB130096</td>
<td>Polarizing Macrophages with Exosomal Nanocarriers to Treat Melanoma</td>
<td>PI Hood</td>
<td>7/1/16</td>
<td>6/30/18</td>
</tr>
<tr>
<td>DOD: CA160529</td>
<td>Targeting phenotype switching via tumor-derived exosomes to inhibit melanoma progression</td>
<td>Co-I McMasters</td>
<td>10/1/2017</td>
<td>9/30/2019</td>
</tr>
<tr>
<td>Grant Type</td>
<td>Project Title</td>
<td>Role(s)</td>
<td>Principal Investigator(s)</td>
<td>Start Date</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>---------</td>
<td>---------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>NIH SBIR</td>
<td>Continuous exosome and oncosome separations using a modified SPLITT system</td>
<td>Co-PI</td>
<td>Hood (U of L), Gale, Petersen (Espiras Inc.)</td>
<td>9/27/16</td>
</tr>
<tr>
<td>NIH SBIR grant phase 1, R43CA217621-01</td>
<td>An instrument for label-free separation and purification of exosomes</td>
<td>Co-PI</td>
<td>Hood (U of L), Petersen (Espiras Inc.), Gale, Sant (U of U)</td>
<td>4/3/17 - 9/29/17</td>
</tr>
<tr>
<td>NIH 1R21AI131903-01</td>
<td>HIV-1 induces M2 macrophage exosomes that promote and increase HIV-1 infectivity of Th2 lymphocytes</td>
<td>PI</td>
<td>Hood, Kouokam (Co-I)</td>
<td>7/1/17 – 6/30/19</td>
</tr>
<tr>
<td>NIH 1R21CA220696-01</td>
<td>Exosomal Nanocarrier Mediated Activation of Macrophages to Treat Melanoma</td>
<td>PI</td>
<td>Hood</td>
<td>7/1/17 – 6/30/19</td>
</tr>
<tr>
<td>Kidd, LaCreis</td>
<td>Influence of the miR-186-glucocorticoid receptor axis on aggressive prostate cancer and docetaxel sensitivity</td>
<td>PI</td>
<td>Kidd</td>
<td>7/1/17-6/30/19</td>
</tr>
<tr>
<td>2R25CA134283-06A1</td>
<td>University of Louisville Cancer Education Program</td>
<td>Co-director, Co-I, Cancer Education Coordinator, Mentor</td>
<td>Hein/ Kidd</td>
<td>9/1/16-08/31/20</td>
</tr>
<tr>
<td>NIGMS, NIH</td>
<td>Maximizing Student Success at the University of Louisville</td>
<td>Co-I</td>
<td>Hein</td>
<td>12/1/16-11/31/20</td>
</tr>
<tr>
<td>GRNT12072718</td>
<td>Biomedical Research Education Coordinator, Mentor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>--------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Kouokam, J**

| NIH/1R21AI131903-01 | HIV-1 induces M2 macrophage exosomes that promote and increase HIV-1 infectivity of Th2 lymphocytes | Co-I Joshua L. Hood | 2017-2019 | $275,000 |

**Lukashevich, Igor**

| NIH 1R01AI12334-01 | Recombinant Reassortant Vaccine Platform to Control Lassa Fever | PI MPI | 04/01/17 - 3/31/22 | $1,283,330 |
| NIH 1R01AI132253-01 | Advanced Multivalent/Universal Lassa Virus Vaccine | PI MPI | 06/01/17 - 05/31/22 | $1,250,000 |
| NIH 1R21AI130964-01 | A Novel Polyvalent Live-Attenuated Vaccine Against Lassa and Ebola Viruses | PI on sub JC de la Torre | 04/01/17 - 03/30/19 | $67,000 |
| DoD, Task A105 | Small Animal Models for Biodefense Viruses | PI MPI | 01/15/17 - 12/30/17 | $1,816,925 |
| NIH 2R43AI088923-03 | Novel DNA-Launched Attenuated Vaccine for Yellow Fever, SBIR Phase II | PI on sub Pushko | 07/01/17 - 06/30/19 | $700,000 |

**Matoba, Nobuyuki**

<p>| Molecular Targets Phase IV CoBRE Pilot Project (NIH NIGMS/ P30GM106396) | Investigation of a lectibody targeting tumor-associated oligomannose glycans | PI Matoba | 7/1/16 - 6/30/17 | $75,000 funded |
| NIH/NCI 2 R25 CA134283-06A1 | University of Louisville Cancer Education Program | Faculty mentor Hein/Kidd | 4/1/17 – 3/31/22 | $1,620,000 |
| NIH/NCI 1R21CA216447-01 | Investigation of a lectibody targeting tumor-associated oligomannose glycans | PI Matoba | 4/1/17 – 3/31/19 | $275,000 (total direct costs) Impact Score: 32, |</p>
<table>
<thead>
<tr>
<th>UofL ExCITE Product Development Grant Cycle 4 (NIH U01 HL127518 ExCITE Program)</th>
<th>Avaren-Fc lectibody for liver graft protection against hepatitis C virus infection</th>
<th>Contact PI</th>
<th>Matoba/Hamorsky</th>
<th>3/1/17 – 2/28/19</th>
<th>$200,000 received funding notice</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIH NIDDK/R01 DK114003-01</td>
<td>A recombinant cholera toxin B subunit variant for mucosal healing in ulcerative colitis</td>
<td>PI</td>
<td>Matoba</td>
<td>7/1/17 – 6/30/19</td>
<td>$1,250,000 (total direct costs) To be reviewed on 2/28/17</td>
</tr>
<tr>
<td>Palmer, Kenneth E.</td>
<td>Diversity Supplement for PREVENT U19</td>
<td>PI &amp; Mentor</td>
<td>Palmer/Kouokam</td>
<td>07/01/16 – 06/30/17</td>
<td>$127,974 • funded</td>
</tr>
<tr>
<td>NIH/NIAID R01 AI113182-03S1</td>
<td>Engineering, Design, and Optimization of Griffithsin as a Systemic HIV Therapy</td>
<td>PI</td>
<td>Palmer/Fuqa/Bailey-Kellogg/Griswold</td>
<td>04/01/17 – 03/31/22</td>
<td>$2,464,606 • Reviewed, not funded</td>
</tr>
<tr>
<td>NIH/NIAID T32</td>
<td>Inflammation and pathogenesis predoctoral training program</td>
<td>Co-I</td>
<td>Shirwan/Lamont</td>
<td>07/01/17 – 06/30/22</td>
<td>• Pending review</td>
</tr>
<tr>
<td>Jewish Heritage Foundation of Excellence (JHFE)</td>
<td>Griffithsin-Based Nanocarriers for the Prevention of Viral Infections</td>
<td>Co-I</td>
<td>Steinbach-Rankins</td>
<td>08/01/16 – 07/31/18</td>
<td>$300,000 • funded</td>
</tr>
</tbody>
</table>

Siskind, Leah J.
<table>
<thead>
<tr>
<th>Grant Number</th>
<th>Description</th>
<th>PI</th>
<th>Start Date</th>
<th>End Date</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>U01CA217612-01</td>
<td>Extrinsic selective pressures dictate intrinsic cancer biology phenotypes</td>
<td>Beverly Siskind Clark</td>
<td>07/01/17 - 06/30/22</td>
<td>$5,898,138</td>
<td></td>
</tr>
<tr>
<td>R01CA221275-01</td>
<td>Using physiological conditions to uncover RAS synthetic lethal targets</td>
<td>Siskind Beverly Clark</td>
<td>07/01/17 - 06/30/22</td>
<td>$3,363,119</td>
<td></td>
</tr>
<tr>
<td>U01CA213288-01</td>
<td>A clinically relevant model of small cell lung carcinoma and therapeutic response</td>
<td>Beverly Siskind Clark</td>
<td>12/01/16 - 11/30/21</td>
<td>$3,465,000</td>
<td></td>
</tr>
<tr>
<td>R01HL133798-01A1</td>
<td>Age-dependent matrisome changes predispose to injury-induced fibrosis</td>
<td>Roman Siskind Arteel Beverly</td>
<td>07/01/17 - 06/30/21</td>
<td>$2,146,938</td>
<td></td>
</tr>
<tr>
<td>R01CA211884-01</td>
<td>Comparing clinical and therapeutic relevance of onco-pigs and onco-mice</td>
<td>Beverly Siskind Clark</td>
<td>01/01/17 - 12/31/19</td>
<td>$2,079,000</td>
<td></td>
</tr>
<tr>
<td>R21DK113475-01</td>
<td>Suramin as a nephroprotectant in cisplatin-induced kidney injury</td>
<td>Siskind Beverly</td>
<td>04/01/17 - 03/31/19</td>
<td>$423,500</td>
<td></td>
</tr>
<tr>
<td>R25CA134283-06</td>
<td>University of Louisville Cancer Education Program</td>
<td>Faculty Mentor David W. Hein and La Creis R. Kidd</td>
<td>9/1/16 - 8/31/21</td>
<td>$1,620,000</td>
<td></td>
</tr>
<tr>
<td>R01ES027778-01A1</td>
<td>Mechanism for arsenic induced carcinogenesis</td>
<td>States</td>
<td>07/01/17 - 06/30/22</td>
<td>$2,488,085</td>
<td></td>
</tr>
<tr>
<td>NIH-NIEHS</td>
<td>Mechanisms of Particulate Hexavalent Chromium-Induced Lung Carcinogenesis</td>
<td>Co-I Wise, J</td>
<td>07/01/17 - 06/30/22</td>
<td>$1,922,755</td>
<td></td>
</tr>
<tr>
<td>R01ES028102-01</td>
<td>The role of autophagy in cadmium induced prostate carcinogenesis</td>
<td>Co-I Damodaran, Freedman</td>
<td>04/01/17 - 03/31/22</td>
<td>$3,162,030</td>
<td></td>
</tr>
<tr>
<td>P42 ES023716-01A1</td>
<td>Superfund Hazardous Substance Research And Traini Program (P42)</td>
<td>Int Adv Bd Srivastava</td>
<td>4/1/16 – 3/31/22</td>
<td>~$13.4M</td>
<td></td>
</tr>
<tr>
<td>UofL Provost/iRFP</td>
<td>UofL Center for Integrated Environmental Health Sciences</td>
<td>States</td>
<td>8/1/16 – 7/31/17</td>
<td>$250,000</td>
<td></td>
</tr>
<tr>
<td><strong>UofL SOMRC</strong></td>
<td><strong>Survival Pathways in Metal-Induced Carcinogenesis</strong></td>
<td><strong>Mentor</strong></td>
<td><strong>Wise, S</strong></td>
<td><strong>10/1/16 – 9/30/17</strong></td>
<td><strong>$25,000</strong></td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------------------------------------</td>
<td>------------</td>
<td>-------------</td>
<td>-----------------------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Wise, John Pierce, Sr.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NIEHS/R01ES02 8284-01</strong></td>
<td><strong>Mechanisms of Particulate Hexavalent Chromium-Induced Lung Carcinogenesis</strong></td>
<td><strong>PI</strong></td>
<td><strong>Wise</strong></td>
<td><strong>07/01/17 – 06/30/22</strong></td>
<td><strong>$1,922,755</strong></td>
</tr>
<tr>
<td><strong>Kentucky Lung Cancer Research Program</strong></td>
<td><strong>Particulate Hexavalent Chromium-Induced Exosome Release in Human Lung Cells</strong></td>
<td><strong>PI</strong></td>
<td><strong>Wise</strong></td>
<td><strong>06/01/17 – 05/31/19</strong></td>
<td><strong>$150,000</strong></td>
</tr>
<tr>
<td><strong>Kentucky Science and Engineering Foundation</strong></td>
<td><strong>Isomotive Dielectrophoresis for Dielectric Spectroscopy of Biological Cells</strong></td>
<td><strong>Co-PI</strong></td>
<td><strong>Williams</strong></td>
<td><strong>07/01/17 – 06/30/22</strong></td>
<td><strong>$50,000</strong></td>
</tr>
<tr>
<td><strong>Wise, Sandra S.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NIEHS/R01ES02 8284-01</strong></td>
<td><strong>Mechanisms of Particulate Hexavalent Chromium-Induced Lung Carcinogenesis</strong></td>
<td><strong>Co-PI</strong></td>
<td><strong>Wise</strong></td>
<td><strong>07/01/17 – 06/30/22</strong></td>
<td><strong>$1,922,755</strong></td>
</tr>
<tr>
<td><strong>1R01ES027778-01A1</strong></td>
<td><strong>Mechanism for arsenic induced carcinogenesis</strong></td>
<td><strong>Co-PI</strong></td>
<td><strong>States</strong></td>
<td><strong>07/01/2017 – 06/30/2022</strong></td>
<td><strong>$2,488,085</strong></td>
</tr>
<tr>
<td><strong>UofL Provost/iRFP</strong></td>
<td><strong>UofL Center for Integrated Environmental Health Sciences</strong></td>
<td><strong>Co-PI</strong></td>
<td><strong>States</strong></td>
<td><strong>8/1/16 – 7/31/17</strong></td>
<td><strong>$250,000</strong></td>
</tr>
<tr>
<td><strong>UofL SOMRC</strong></td>
<td><strong>Survival Pathways in Metal-Induced Carcinogenesis</strong></td>
<td><strong>PI</strong></td>
<td><strong>Wise, S</strong></td>
<td><strong>10/1/16 – 9/30/17</strong></td>
<td><strong>$25,000</strong></td>
</tr>
</tbody>
</table>

**INVITED SCIENTIFIC PRESENTATIONS**

**Faculty with Primary Appointments**

**Antimisiaris:**
1. Chief Resident Immersion Training (CRIT): French Lick Indiana
   - Three day immersion in Geriatrics training for medicine residents
   - Polypharmacy sessions
• Annals of Long-Term Care Supplement; Dec 8, 2017 Conference Coverage
• Annals of Long-Term Care: Clinical Care and Aging. 2016;24(11):14-16.
http://www.managedhealthcareconnect.com/content/psychotropic-drugs-and-multicomboridity-older-adults

Arteel:

1. Research Seminar, 02/16, “Transitional changes to the matrisome and inflammatory liver disease, more than collagen and fibrosis,” Dept of Bioengineering, University of Louisville.


4. Research seminar, 06/16, “Transitional changes to the matrisome and inflammatory liver disease, more than just collagen and fibrosis.” West China Hospital, Sichuan University, Chengdu, China.

5. Seminar, 09/16, “Changes to the hepatic ECM and metastatic cancer risk: can we predict the ‘soil?’,” James Graham Brown Cancer Center, Cancer Colloquia series, University of Louisville.

6. Symposium, 09/16, “Transitional changes to the hepatic ECM in response to stress and injury,” ISBRA annual meeting, Berlin Germany.

7. Research seminar, 10/16, “Transitional changes to the hepatic “matrisome” in the development of Inflammatory liver injury,” University of Pittsburgh School of Pharmacy, Pittsburgh, PA.

8. Research seminar, 11/16 “Transitional changes to the hepatic “matrisome” in the development of Inflammatory liver injury,” Yale University, Liver Center, New Haven, CT.


10. Workshop faculty, 04/14/16, Faculty professional development workshop, “Getting your Work Published in the Best Journals,” University of Louisville, Louisville, KY.

11. Ad hoc member, 04/22/16, Technical Qualifications Board (TQB) for Dr. Johnathan Phillip Kaiser for promotion to GS-14, National Center, for Environmental Assessment, USEPA, Washington, DC.
12. Attendee and participant, 05/16, AASLD Leadership meeting, Digestive Disease Week annual meeting, San Diego, CA.


14. Attendee and participant, 07/16, AASLD Leadership federal liaison task force, Washington, DC.

15. Organizer and Moderator, 09/16, Symposium, “Cross-Talk between stress responses and the innate immunity in ASH/NASH,” International Society for Biomedical Research on Alcoholism (ISBRA), annual meeting, Berlin, Germany.


18. Moderator, 11/16, President’s Choice Lecture, AASLD annual meeting, Boston, MA.

19. Moderator, 11/16, Late-Breaking Abstract Oral Session I, AASLD annual meeting, Boston, MA.

**Beier, Juliane**

1. Research seminar, 03/02/16. Enhancement of NAFLD Risk by Vinyl Chloride: Role of Gut-Liver-Adipose Axis. Molecular Endocrine Grand Rounds, University of Louisville, Louisville, KY.

**Chen, Shao-yu**


**Clark, Geoffrey**


2. “A first –in-class RalGEF inhibitor as an anti-Ras drug”: Excite committee.

3. Postdoc Lee Schmidt Oral presentation at Annual International “ Post-Translational Regulation of Cell Signaling” meeting, Salk Institute, San Diego. Talk entitled: Non-Canonical Regulation of the Hippo Pathway Endpoint, TAZ, Defines a Novel Ras/NORE1A Mediated Senescence Mechanism

**Freedman, Jonathan**

1. 9th Annual Conference on Metal Toxicity & Carcinogenesis; Lexington, KY

2. 3rd International Conference of Chemistry and Environmental Health (Keynote Speaker) Cairo, Egypt

3. Symposium in honor of Jonathan Freedman, Cairo University, Cairo, Egypt

4. Invited Seminar New York University

**Gupta, Ramesh**

1. Plenary Speaker at the New Development at Drug Discovery from Natural Products and Traditional medicines (NIPER), SAS Nagar, India, November 2016 (Dr. Gupta had to cancel his travel plans due to family medical emergency).

**Hein, David**


5. PhD Program in Pharmacology and Toxicology at the University of Louisville: International Partnerships. Institute of Radiation Medicine, Chinese Academy of Medical Sciences/Peking Union Medical College, Tianjin, China, September 2016.
Hood, Joshua
1. *Hood JL. Invited Speaker for the James Graham Brown Cancer Center, BCC and R25 summer internship programs, University of Louisville, Louisville Kentucky, June 28th, “An Introduction of Melanoma Nanomedicine”

2. *Hood JL. Invited Speaker for the Department of Bioengineering Seminar Series, University of Louisville, Louisville Kentucky, September 13th, “An Introduction to Melanoma Nanomedicine and Exosomes”

3. *Hood JL. Invited Speaker for the U of L MD/PhD Program Seminar Series, University of Louisville, Louisville Kentucky, December 7th, “Developing Exosomal Nanocarriers to Treat Melanoma.”

4. *Hood JL. Invited Speaker for the American Society of Exosomes and Microvesicles Conference (ASEMV), Asilomar Conference Center, in Pacific Beach California, USA, October 23rd, “Melanoma Exosomes Promote Mixed Macrophage Polarization.”

Kang, Y. James


Kidd, LaCreis


**Lukashevich, Igor**
1. American Society for Microbiology, Biodefense and Emerging Diseases Research Meeting, February 8-10, 2016, Washington, DC.


**Matoba, Nobuyuki**
1. “Oral administration of a cholera vaccine antigen induces mucosal healing in the colon” Price Institute for Surgical Research, Department of Surgery, University of Louisville School of Medicine, February 11, 2016.

2. “An oligomannose-specific lectin-Fc fusion protein against HIV infection” Department of Microbiology and Immunology, University of Louisville School of Medicine, March 10, 2016.


4. “CTBp project update” The University of Tokyo, July 5, 2016.

5. Invited Talk and Session Chair (Plant Biotech) at the 27th International Conference on Arabidopsis Research, Gyeongju, South Korea, June 29 – July 3, 2016.

**Palmer, Kenneth E.**
1. March 2016 – invited presentation at the Microbicides Trial Network annual meeting in Washington DC
2. April 2016 – invited presentation at the PERC Plant Made Pharmaceuticals symposium at UC Davis – unable to attend because of illness

3. Organized, hosted and chaired the NIH PREVENT U19 annual meeting, with 40 participants from 6 different states and 3 different countries. (November 2016)

4. Organized, hosted and chaired the Center for Predictive Medicine Annual Retreat (November 2016)

Siskind, Leah
1. Invited Speaker, 2016 Gordon Research Conference on Glycolipid & Sphingolipid Biology, 03/06/2016 - 03/11/2016, Renaissance Tuscany Il Ciocco Resort, Lucca (Barga), Italy

2. 2016 T35DK072923-10 Summer Endocrine Research Training Seminar Series, 1.5 contact hours, Acute Kidney Injury, July 2016


6. Invited Speaker, 2016 Gordon Research Conference on Glycolipid & Sphingolipid Biology, 03/06/2016 - 03/11/2016, Renaissance Tuscany Il Ciocco Resort, Lucca (Barga), Italy

Song, Zhao-Hui (Joe)


States, J. Christopher
1. “Arsenic, Mitotic Arrest, miRNAs & APC/C” Institute of Environmental Health
Sciences, Wayne States University, 1/28/16

2. “Arsenic, Mitotic Arrest, miRNAs & APC/C” Dept. Environmental and Occupational Health Sciences, UofL, 2/18/16


**Wise, John**


**Wise, Sandra**

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

**Antimisiaris, Dee**
1. U.S. Provisional Patent Application; Serial No. 62/115,280; DISEASE MANAGEMENT PLATFORM AND METHOD FOR PROVIDING PATIENTS AND CAREGIVERS WITH INFORMATION NECESSARY IN THE TREATMENT OF DEMENTIA

**Clark, Geoffrey J.**
1. Disclosure No. 16069: NOVEL SMALL MOLECULE INHIBITORS OF THE RAS ONCOPROTEIN

**Gupta, Ramesh**
1. University of Louisville Research Foundation filed the following patent applications to protect the valuable technology described in ULRF Research Disclosure, titled “Milk Derived Microvesicle Compositions and Related Methods”: Provisional filed Feb 2013; PCT filed Feb 2014; U.S. patent filed August 2015. Inventors – R.C. Gupta, R. Munagala, F. Aqil and J. Jeyabalan. Office actions were pursued for this pending patent application in Summer 2016

**Matoba, Nobuyuki**
1. Patent Application
   U.S. Provisional Patent Application Serial No. 62/186,151
   Title: Compositions and methods for treating cancer and promoting wound healing

2. Research Disclosure
   #16014: Avaren-Fc lectibody for broad spectrum cancer immunotherapy and diagnosis

**Palmer, Kenneth E.**
1. Founder and Managing Director of Intrucept Biomedicine LLC


**DEPARTMENTAL COURSES**

Pharmacology instruction in the medical school curriculum was provided in an integrated Disease and Therapeutics course. Drs. Myers and Antimisiaris served as thread directors.

Pharmacology and Dental Therapeutics course to dental students. Dr. Steven Myers 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. Ceresa)
PHTX 606 – Pharmacology Seminar (Dr. Clark)
PHTX 661 – Molecular Toxicology (Dr. G. Arteel)
PHTX 625 – Scientific Writing (Dr. G. Arteel)
PHTX 655 – Neuropharmacology (Dr. Song)
PHTX 656 – Cardiovascular and Renal Pharmacology (Drs. Kang and Siskind)
PHTX 657 – Endocrine and Metabolic Pharmacology (Drs. G. Arteel and J. Arteel)
PHTX 658 – Selective Toxicity and Chemotherapy (Dr. Siskind)
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)
PHTX 618 – Career Opportunities in Biomedical Sciences (Drs. Merten and States)
PHTX 619 – Research (Dr. States)
PHTX 631 – Risk Assessment (Dr. Lipscomb)
PHTX 651 – Neonatal Pharmacology
PHTX 616 – Advanced Pharmacology
PHTX 641 – Pharmacology I (Drs. Ceresa and Song)
PHTX 643 – Toxicology I (Drs. Freedman and John Wise, Sr.)
PHTX 652 – Geriatric Pharmacology (Dr. Myers)
STANDING COMMITTEES

Graduate Student Affairs and Curriculum Committee
Dr. Chris States (Chair)
Dr. Brian Ceresa (ex officio)
Dr. Leah Siskind (2016)
Dr. Geoff Clark (2017)
Dr. Gavin Arteel (2018)
Student rep: Marcus Stepp
Student rep: Samantha Carlisle

Graduate Student Admissions and Recruitment Committee
Dr. Brian Ceresa (Chair)
Dr. Chris States (ex officio)
Dr. Steve Myers (2016)
Dr. Shao-yu Chen (2017)
Dr. John Wise Sr. (2018)

SIBUP/Grievance Committee
Dr. Nobuyuki Matoba (Chair)
Dr. Michael Merchant (2016)
Dr. Ramesh Gupta (2017)
Dr. Joe Song (2018)

Teaching Evaluation Committee
Dr. Steve Myers (Chair)
Dr. Gavin Arteel (2016)
Dr. Joshua Hood (2017)
Dr. Leah Siskind (2018)

Seminar Committee
Dr. Geoff Clark (Chair)
Dr. Levi Beverly (2016)
Dr. Igor Lukashevich (2017)
Dr. Calvin Kouokam (2018)

Events Committee
Dr. La Creis Kidd (Chair)
Hannah Bitter
Blair Cade
Florence Su
Dr. Swati Joshi-Barve (2016)
Dr. Juliane Beier (2017)
Dr. Sandra Wise (2018)
Student rep: Marcus Stepp
Wenzhou Medical & Jilin University Task Force
Dr. David W. Hein (Chair)
Dr. Lu Cai
Dr. Wenke Feng
Dr. James Kang
Dr. Joe Song
Dr. Yi Tan

NCI CANCER RESEARCH PROGRAM

Emma Adkins
University of Kentucky undergraduate
Faculty Mentor: Haribabu Bodduluri, PhD
Research Project: Crystalline Silica Mediated Inflammation: Role of Mast Cells

Kaitlyn Adkisson
Western Kentucky University undergraduate
Faculty Mentor: Elizabeth Cash, PhD
Research Project: Nutritive Intake Relates to Activated Cytotoxic T Cells in Lung Cancer Patients
Saira Ahmed
University of Louisville Dental Student
Faculty Mentor: Richard Lamont, PhD
Research Project: Detecting the Presence of Porphyromonas gingivalis in Oral Squamous Cell Carcinoma

Yomna Amer
University of Louisville undergraduate
Faculty Mentor: Brian Clem, PhD
Research Project: The Effect of Reactivation of PRb in the Metabolism of Cancer Cells

Kyle Bilyeu
University of Louisville undergraduate
Faculty Mentor: Chi Li, PhD
Research Project: Sensitizing Pancreatic Cancer Cells to Chemotherapeutics by Modulating Intracellular Iron Homeostasis
Christian Bradley
Howard University graduate
Faculty Mentor: La Creis, Kidd, PhD, MPH
Research Project: Impact of High Order Interactions Between Inflammatory and Immune Response Genes in Prostate Cancer Among Men of African Descent

Charles (Kyle) Castaneda
University of Louisville undergraduate
Faculty Mentor: Brian Clem, PhD
Research Project: Effect of Pharmacological Inhibition of Phosphoserine Aminotransferase (PSAT1) on Metastatic Breast Cancer Motility

Phillip Chuong
University of Louisville undergraduate
Faculty Mentor: Lacey McNally, PhD
Research Project: Detection of Pancreatic Cancer Using a Modified Gelatin Nanocontrast Agent
Kayla Feagins  
University of Louisville undergraduate  
Faculty Mentor: Susan Galandiuk, MD  
Research Project: Circulating Plasma MicroRNA in Colorectal Neoplasia: A New Role in Assessing Response to Therapy

Wesley Field  
University of Louisville medical student  
Faculty Mentor: Robert C.G. Martin, MD, PhD  
Research Project: Quality of Life Assessment for Patients Undergoing Irreversible Electroporation for Treatment of Locally Advanced Pancreatic Cancer

Olivia Fields  
University of Louisville undergraduate  
Faculty Mentor: Sandra Sephton, PhD  
Research Project: Rest-activity Rhythms and Quality of Life in Lung Cancer Patients
Zackary Fitzsimonds
Middle Tennessee State University graduate
Faculty Mentor: Richard Lamont, PhD
Research Project: Differential Regulation of Long-non coding RNAs by Poryphoromonas gingivalis in Oral Squamous Cell Carcinoma

Benjamin Fouts
Earlham College undergraduate
Faculty Mentor: Lacey McNally, PhD
Research Project: Characterization of acidic pH functionalized mesoporous silica nanoparticles for ovarian cancer diagnostics

Madison Furnish
University of Louisville undergraduate
Faculty Mentor: David Hein, PhD
Research Project: Investigation of CRISPR/Cas9 Arylamine N-Acetyltransferase 1 Knockouts in MDA-MB-231 Cell Lines via Anoikis and Invasion Assays
Ashley Gleaton  
Cornell University undergraduate  
Faculty Mentor: Geoffrey Clark, PhD  
Research Project: Functional Interaction Between NORE1A and Mutationally Activated RIT(Q79) Represses Malignant Transformation in Lung Cancer

Zahara Gully  
University of Louisville undergraduate  
Faculty Mentor: Demetra Antimisiaris, PharmD  
Research Project: Tamoxifen: A Study in Pharmacovigilance

Adayshia Haddock-Pitt  
Spelman College undergraduate  
Faculty Mentor: Barbara Polivka, PhD  
Research Project: Effectiveness of Reducing Home VOC Measurements using One Inch Carbon Furnace Filters
Adaline Heitz  
University of Louisville undergraduate  
Faculty Mentor: Kathy Baumgartner, PhD  
Research Project: Healthy Lifestyle Impact on Breast Cancer Specific and All-Cause Mortality

Parker Howard  
University of Louisville undergraduate  
Faculty Mentor: Paula Bates, PhD  
Research Project: Investigating HGPRT as a Component of an AS1411 Prodrug Mechanism

Maya Huss  
University of Louisville undergraduate  
Faculty Mentor: Jill Steinbach-Rankins, PhD  
Research Project: Transport and Distribution of Stealth and Cell Penetrating Nanoparticles in Cervical Cancer Tissue Mimics
Kevin Jacob
University of Louisville undergraduate
Faculty Mentor: Robert C.G. Martin, MD, PhD
Research Project: Identification of Aberrant Wnt/β-catenin Signaling on Cancer Stem Cell Activation in Hepatocellular Carcinoma

Corey James Ketchem
University of Louisville medical student
Faculty Mentor: Levi Beverly, PhD
Research Project: Novel Drug Combinations Sensitize Leukemia Cells to a Bcl-2 Inhibitor

Josephine Kim
University of Kentucky undergraduate
Faculty Mentor: Jun Yan, MD, PhD
Research Project: Combining Natural Compound β-glucan with Immune Checkpoint Inhibitor Therapy to Promote Antitumor Immunity
Tiana Martin
Spelman College undergraduate
Faculty Mentor: La Creis Kidd, PhD, MPH
Research Project: The Impact of Complex Interactions of Chemokine Sequence Variants on Prostate Cancer Risk among men of African Descent

Delvon Mattingly
University of Louisville graduate
Faculty Mentor: Richard Baumgartner, PhD
Research Project: Health Behaviors and Breast Cancer Risk in Non-Hispanic White & Hispanic Women

Grant McKenzie
University of Louisville medical student
Faculty Mentor: Robert C.G. Martin, MD, PhD
Research Project: Comprehensive Geriatric Assessment for Hepatopancreatobiliary Surgical Patients – A Systematic Review
Megan Mercer
University of Louisville medical student
Faculty Mentor: Nicholas Ajkay, MD
Research Project: Estimated Percentage of Breast Volume Excision and Its Relationship with Quality of Life and Satisfaction After Breast Conservation Therapy for Breast Cancer

Alex Palumbo
University of Louisville medical student
Faculty Mentor: Eleanor Lederer, MD
Research Project: KCC Expression and Function May Contribute to Human Cancer Cell Motility

Sophia Sears
Goshen College undergraduate
Faculty Mentor: Jonathan Freedman, PhD
Research Project: Effects of therapeutic compounds on cadmium-induced prostate cancer
Seth Sereff  
University of Louisville undergraduate  
Faculty Mentor: Paula Bates, PhD  
Research Project: Elucidating the Mechanism of XB05 in Malignant Cells

Nazeer Shaikh  
University of Louisville medical student  
Faculty Mentor: Neal Dunlap, MD  
Research Project: A Prospective Study of Nasociliary Function and Rhinosinusitis Symptomatology in Patients with Oropharyngeal Squamous Cell Carcinoma Receiving Intensity Modulated External Beam Radiotherapy: Preliminary Results

Mary Ann Smith  
Mississippi State University undergraduate  
Faculty Mentor: Joshua Hood, MD, PhD  
Research Project: Paracrine Induction of Macrophages by Melanoma Exosomes
Paula Stepp  
Western Kentucky University undergraduate  
Faculty Mentor: Mariusz Ratajczak, MD, PhD  
Research Project: Imprinting Status of Paternally Imprinted Tandem Genes and their Expression in Ovarian Carcinoma Cell Lines

Segen Tella  
University of Louisville undergraduate  
Faculty Mentor: Donald Miller, MD, PhD  
Research Project: The Effect of G-quadruplex Oligonucleotides Sequences Targeting cMYC, SOX2 and HTERT in Melanoma Cell Lines

Matthew Ullum  
University of Kentucky undergraduate  
Faculty Mentors: Goetz Kloecker, MD and Jun Yan, MD, PhD  
Research Project: Decrease of MDSCs by Oral ß-glucan in Lung Cancer Patients
A Resolution in Recognition of the Service of Dr. Steven R. Myers to the University of Louisville

Whereas, Dr. Steven R. Myers was recruited to the University of Louisville in 1991 and over a 25 year career was promoted through the ranks to Professor and Associate Chair for Professional Education in the Department of Pharmacology and Toxicology; and

Whereas, Dr. Myers served as course director for numerous pharmacology-based courses taught to medical, dental, nursing, graduate, and undergraduate students. He was recognized for his innovation in teaching via receipt of the Health Science Center Technology Innovation Teaching Award and by his nomination for numerous teaching awards at the University of Louisville; and

Whereas, Dr. Myers also had an outstanding international reputation for excellence in teaching and research. He was the founding editor of the Journal of Medical Education and Curricular Development. He was frequently invited as a teacher and examiner of medical and graduate students at universities in Egypt and the Caribbean. He was very active and successful in international educational and research collaborations, particularly in Egypt. He led the effort to initiate a PhD partnership with Cairo University and Ain Shams University; and

Whereas, Dr. Myers served as an invited plenary speaker and keynote speaker at international meetings held in Egypt last year. He chaired an international symposium entitled “Recent Challenges beyond the Usual Toxicological and Public Health Challenges in Africa” at the annual meetings of the Society of Toxicology; and

Whereas, Dr. Myers had an active research career including studies of drug and xenobiotic metabolism and biomarkers of chemical exposure and effects. He developed the first widely applicable biomarker for human exposure to PAH (polycyclic aromatic hydrocarbons) through his development of chromatographic and mass spec techniques which allowed the detection of hemoglobin adducts of PAH in maternal and fetal blood; and

Whereas, Dr. Myers served on the United States Environmental Protection Agency technical qualifications review panel for the evaluation of individuals for promotion in the United States government and frequent reviewer of NIH grant proposals. He was a member of the U.S. Department for Health and Human Services Centers for Disease Control Environmental Safety and Occupational Health Study Section; and

Whereas, Dr. Myers served as editor or associate editor of several scientific journals. He held leadership positions in several scientific organizations, including Vice President and President of the Ohio Valley Society of Toxicology, Chair of the Awards Committee and Secretary/Treasurer of the International Society for Polycyclic Aromatic Compounds, and Secretary/Treasurer of the Risk Assessment Specialty Section of the Society of Toxicology; and
Whereas, Dr. Myers served on numerous committees within the School of Medicine and at the University. These committees included the School of Medicine Faculty Forum (including service as secretary and vice chair), University of Louisville Graduate Council, University of Louisville Faculty Senate and its Academic Programs Committee, the School of Medicine Admissions Committee, Educational Policy Committee, and Second Year Curriculum Committee, the Department of Pharmacology and Toxicology Graduate Recruitment and Admissions Committee, and the Department Faculty Teaching Evaluation Committee he chaired; and

Whereas, Dr. Myers was universally admired, appreciated, and respected by his colleagues, students, and friends; and

Whereas, Dr. Myers’ death on December 4, 2016, is a great loss to his friends and family, to the Department of Pharmacology and Toxicology, the Schools of Medicine and Dentistry, the University of Louisville and to the entire scientific community, all of whom hold him in highest respect and esteem; now

Therefore Be It Resolved, we extend our deepest sympathy to his wife Jane and children Alex and Katie; and

Be It Further Resolved that this resolution adopted by the Department of Pharmacology and Toxicology on the 6th day of December be spread upon the minutes of the University of Louisville Faculty Senate this 7th day of December in the year 2016.
University of Louisville School of Medicine
Pharmacology and Toxicology Chair Review (2011-2015)
Report to Dr. Toni Ganzel, Dean
November 30, 2016

1. Introduction

2. Committee Membership

3. Materials Reviewed

4. Interviews Conducted

5. Summary of Committee Findings

6. Committee Recommendation

7. Appendices
1. Introduction

In August, 2016 Dr. Toni Ganzel, Dean of the School of Medicine, appointed a committee to review the stewardship of David Hein, Ph.D., as Chair of the Department of Pharmacology and Toxicology for the period 2011-2015. The Committee met for the first time on September 27, 2016 and was charged by Dr. Ganzel to conduct the review in accordance with the applicable policies and guidelines of the University of Louisville and the School of Medicine. After receiving its charge, the Committee elected Dr. Ashok Kumar as Chair.

Dr. Hein was appointed Chair on August 1, 1997. This is the third review of Dr. Hein’s performance as Chair.

This report includes a listing of information resources used by the Committee, a summary of the key findings, and the Committee’s recommendation to the Dean. Copies of survey results are included as an appendix to this report.

2. Committee Membership

Ashok Kumar, Ph.D., Dept. of Anatomical Sciences and Neurobiology
Luis Marsano, M.D., Dept. of Medicine
Suresh Tyagi, Ph.D., Dept. of Physiology and Biophysics
Gary Vitale, M.D. Dept. of Surgery
Esma Yolca, Ph.D., Dept. of Microbiology & Immunology

3. Materials Reviewed

A. Questionnaires
B. Narrative Performance Evaluations
C. Dr. Hein’s current Curriculum Vitae
D. Dr. Hein’s 5-year progress report

4. Interviews Conducted

A. Dr. Hein – Introductory meeting with full Committee
B. Faculty of the Department
5. Summary of Committee Findings

Overview:
The committee concluded that the Department of Pharmacological and Toxicology has been benefited from the exemplary leadership of Dr. David Hein. The surveys, questionnaires, and interviews with faculty members at all levels further attest that Dr. Hein is providing excellent leadership to the department. The department has accomplished the teaching and research mission of the School of Medicine. There has been a major improvement in the extramural funding, recruitment of faculty and students, research publications, and awards in the department during the past five years. His own funding and research productivity is also excellent. In general, the committee finds that the faculty members, staff, and students are all highly satisfied with his leadership role and would like to have him chair for the next five years.

A. Academic Program (teaching):

Dr. Hein’s has made tremendous contributions to the teaching and arranging resources to advance pharmacology education at the University of Louisville. His department is making a significant contribution in teaching Toxicology and Pharmacology at the health science center campus. A number of faculty members in the department contribute to teaching every year. The assignment of teaching of each faculty member is based on their percentage efforts towards teaching. In general, the faculty members are highly satisfied with their teaching load in the department. They commended Dr. Hein that he is careful not to put extra burden on faculty members who have research program as well. There has been no instance where any issue related to teaching came to the committee’s notice when interviewing departmental faculty. The faculty survey also demonstrates strong commitment of Dr. Hein to collaborative teaching and education. The recommendation letters received by the committee are highly positive and encouraging about his leadership role in teaching. In summary, pharmacology education is a key component of healthcare mission of the school and Dr. Hein is providing outstanding leadership to achieve excellence on this aspect.

The Department of Pharmacology and Toxicology is also one of the leading departments for graduate student education and research. The department recruits an average of 12-14 students in M.S. and Ph.D. programs. The presence of students from all over the world and various ethnicities clearly suggest that the department is committed to the University’s diversity plan. The success rate of these students is very high. For example, in year 2015, 4 Ph.D. and 8 M.S. degrees were awarded by the department. Graduate students continue to publish their work in peer-reviewed journals. Many graduate students received prestigious fellowships and awards in the past five years. They presented their research work in regional, national, and international conferences. Moreover, many of their graduate students got 1st and 2nd place at the annual Research Louisville symposium. Dr. Hein also leads a R25 Cancer education program that has produced more than 200 professionals around the nation. The student survey is highly positive for education and research at the graduate level. Dr. Hein is available to the students and follows an open-door policy. He certainly cares about success and academic
growth of graduate students. He has recently initiated an international collaboration at Universities in China and Egypt. In this program, students are recruited to the Ph.D. program of the department. The criteria for such recruitment are personal interviews and recommendations by the Dean and faculty members of their parent schools. In general, faculty members feel that the students are well-trained and they provide excellent help to the PIs in their research. However, there is a small concern that these students are selected without GRE and sometimes they have problems in speaking English. The committee recommends that some more stringent criteria should be used. The students should take GRE or TOEFL before they are recruited at UofL. In general, the committee feels that Dr. Hein is making good effort and is a role model to develop international collaborations in research and education. Overall, the committee found that Dr. Hein has formulated outstanding teaching and graduate research program in Pharmacology and Toxicology which will further expand in the coming years.

B. Research:
1) Personal Research program:
Dr. Hein has demonstrated exemplary research productivity and distinction in the field of pharmacology and toxicology since his appointment as the Chair of Department of Pharmacology and Toxicology. His research focus is on molecular epidemiology of cancer susceptibility, including pharmacogenetics and personalized medicine, trying to understand and identify individuals genetically susceptible to develop cancer when exposed to environmental and occupational chemicals. Dr. Hein’s contributions to the field of cancer research, pharmacogenetics, and toxicology have been well recognized. He has authored over 230 peer-reviewed scientific publications, including articles and book chapters and published 14 of these publications in the last 5 years. Dr. Hein has co-authored over 580 abstracts presented at national and international meetings. His publications have been cited (over 9500 citations) impressively in other scholarly scientific literature with an h-index of 48. He currently serves on the editorial boards of seven international journals and has been invited as a speaker in more than fifteen National and International conferences and symposia/seminars in the last five years. Dr. Hein’s research has been continuously supported by Federal and non-Federal funding agencies. He is currently Principle Investigator on an NIH/NCI R25 and Co-Investigator/Co-Mentor award (total amount is $1,578,940). He also serves as Mentor/Co-mentor/Co-investigator/Director or Co-director on NIEHS T35/NIH U19/NIH R15/NIH P20 and NIH T32 grants that totals over $14 million.

2) Departmental Research.
The Department of Pharmacology and Toxicology has shown a gradual and steady increase in the funding (from $3 million to $7 million) for research over the past 5 years under Dr. Hein’s leadership as department chair. His department has recruited seven new faculty with a primary appointment, five new faculty with a secondary appointment, and one adjunct faculty over the last couple of years. These recruitments have strengthened the research productivity within the department impressively. The new recruitments not only have brought in major grant funding, but also continued their productivity by obtaining external funding and publishing extensively. The exemplary and supportive research environment created by Dr. Hein as Chair tremendously contributes to this
collective success. The Department of Pharmacology and Toxicology plays an exemplary role on campus by partnering and collaborating with other departments, divisions, and centers under Dr. Hein’s visionary leadership. As a result, the Department has contributed to the success of School of Medicine by contributing to the efforts in obtaining major grant funds, such as Hepatology & Toxicology COBRE grant that brings in over $11,000,000. He has made remarkable contribution to the promotion of the Department and Institution nationally and internationally as demonstrated by an approved international partnership with Wenzhou Medical University and Jilin University in China and Cairo University in Egypt to enroll Ph.D. students at the University of Louisville. These international new Ph.D. partnerships bring in very competitive graduate students to work at UofL research laboratories that contribute tremendously UofL’s scientific growth.

C. Department Administration:

1. Internal Evaluation: Surveys were given to the faculty, staff and alumni of the Department of Pharmacology & Toxicology. The faculty survey includes 54 standardized questions that evaluate the leadership, response under pressure, understanding of the difficulties and challenges for faculty, willingness to admit mistakes, ability to inspire cooperation, distribution of responsibilities, vision, responsiveness and support of faculty members, as well as the guidance given by the Chair in the process of scholarly activities and professional promotion. Overall, the questionnaire was extremely positive with 87% or more of the faculty giving a positive or very positive review on the leadership and support given by Dr. Hein. During in-person interviews with different faculty members at all levels in their career, all were extremely complimentary of the strong leadership and close attention that Dr. Hein offers to all faculty members. They reported that Dr. Hein is always interested and supportive on their success in their academic careers and promotion inside the institution. It was clear from the interviews that the presence of Dr. Hein is very strong in the department, and even now that he has other institutional obligations due to his activities in the Provost’s Office, he remains a strong leader for his faculty. The only criticism given was not directed at him but to the University itself that gives limited resources for the function of Pharmacology education.

The review by the staff of the Department of Pharmacology & Toxicology is based on a standardized survey of 40 questions that was answered by 62.5% of members. This review by the staff was also very positive with 85% or more of the members giving a very strong or strong endorsement of Dr. Hein. Overall, Dr. Hein is seen as a strong leader that inspires the respect of faculty and staff and remains composed under pressure, as well as being willing to accept suggestions from others and to admit mistakes. He is also seen as someone who honors his commitments to his staff and makes an effort to retain and promote his personnel, including women and minorities. The descriptive evaluation by staff was also extremely strong, recognizing the leadership and support that he offers to members of his department.

External Evaluation: The Alumni Survey was sent to eight alumni, and six of them responded. In the survey, there were 29 standardized questions that covered the areas of
CONFIDENTIAL

leadership, vision, humility, and ability to retain and promote faculty members, as well as the degree of respect he receives from former trainees. This alumni survey was also strongly positive with all members either strongly agreeing or agreeing with the positive characteristics that Dr. Hein shows as Chair of the Department of Pharmacology & Toxicology. Narrative comments described him as “a wonderful leader with a commitment to the education and success of his students, researchers, medical students and residents.” External reviews from distinguished members of the University of Louisville faculty include a former Vice Dean for the School of Medicine, the Executive Vice President for Health Affairs/Research, the Chair from the Department of Physiology, the Vice Provost for Diversity and International Affairs, the Director of the Diabetes and Obesity Center, and the Associate Vice President for Innovation and Translational Research were all extremely positive, giving Dr. Hein strong support for his outstanding leadership and dedication to the Department of Pharmacology & Toxicology.

In summary, the reviews about the administrative skills of Dr. Hein in the Department of Pharmacology & Toxicology have been extremely positive with strong support to his leadership skills and his vision for the Department for future growth.

D. Finances

The department appears to be in a good shape financially. There has been a tremendous increase in the extramural grant support in the past years. Many of the departmental faculty have their own ROI awards. Some of the faculty members were recruited based on their funding in previous institutions. However, they are able to renew or obtain new funding after joining the department. The department has over 6 million dollars which includes general funds, endowments, and sponsored programs. Based on the financial report of the department provided to the committee, it is clear that Dr. Hein spends departmental funds wisely which is also reflected by balance in Funds. The administrative staff in departmental office is quite minimal which may help save some funds for other research and education activities in the department. All faculty members agreed that Dr. Hein maintains transparency in departmental fund spending and provides extra supports to investigators who have for some reason run out of funds for their research. The committee found no concern about the financial situation of the department.

6. Committee Recommendation

The Committee unanimously agreed that Dr. David Hein provided outstanding leadership to the department and recommends his continuation of the chair of Department of Pharmacology & Toxicology.

During the review process, a few minor items came to the Committee’s attention that the Committee believes would be worthy of Dr. Hein’s consideration during the next five years. These items are listed below:
1). More stringent criteria should be adopted for recruitment of graduate students through the international collaboration. This includes GRE and TOFEL tests.

2). In addition to the graduate program director, Dr. Hein should pay a little extra attention to the graduate students. It will be helpful to have regular meetings with students and try to address their concerns.
CONFIDENTIAL

Respectfully submitted,

Pharmacology and Toxicology Chair Review Committee

Ashok Kumar, Ph.D.

Suresh Tyagi, Ph.D.

Esma Yolcu, Ph.D.

Luis Marsano, M.D.

Gary Vitale, M.D.