

UNIVERSITY OF
LOUISVILLE[®]

SCHOOL OF MEDICINE

Department of Pharmacology & Toxicology

2012 Annual Report



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Department of Pharmacology and Toxicology-2012

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.

FACULTY PROMOTIONS



Kenneth E. Palmer, Ph.D. was promoted to professor with tenure.

Research Interests

- Development of vaccines and antiviral proteins to prevent and treat viral diseases that predispose people to development of cancer.

NEW FACULTY APPOINTMENTS (Primary appointments)



Juliane I. Arteel, PhD (Juliane Beier in professional publications)
Assistant Professor of Pharmacology & Toxicology

Research Interests

- Interactions of diet and environmental toxins in the production of non-alcoholic fatty liver disease



Brian P. Ceresa, PhD

Associate Professor of Pharmacology & Toxicology

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.

NEW FACULTY APPOINTMENTS (Associate appointments)

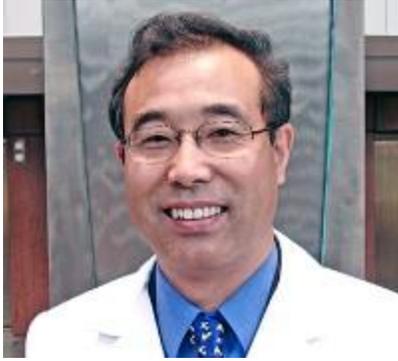


Guy N. Brock, PhD

Associate Professor of Bioinformatics and Biostatistics

Research Interests

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



Wenke Feng, PhD

Assistant Professor of Medicine (Division of Gastroenterology, Hepatology, and Nutrition)

Research Interests

- Mechanisms of alcoholic liver disease
- Mechanisms of nonalcoholic steatohepatitis
- Tissue hypoxia and diabetic complications



Swati Joshi-Barve, PhD

Assistant Professor of Medicine (Division of Gastroenterology, Hepatology, and Nutrition)

Research Interests

- Mechanisms of Steatohepatitis (nonalcoholic and alcoholic fatty liver disease)
- Mechanisms of Alcohol-induced Immune Dysfunction
- Mechanisms of Hepatocellular Carcinoma



Lacey R. McNally, PhD

Assistant Professor of Medicine (Division of Hematology and Oncology)

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



Timothy E. O'Toole, PhD

Assistant Professor of Medicine (Division of Cardiovascular Medicine)

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.

NEW FACULTY APPOINTMENTS (Adjunct appointments)

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

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

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

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

APPOINTMENTS (administration)

J. Christopher States was appointed Interim Associate Dean for Research in the School of Medicine.

FACULTY TRANSFER

Dr. Jian Cai transferred his primary appointment as Assistant Professor from the Department of Pharmacology and Toxicology to the Department of Medicine (Division of Nephrology) with an associate appointment in the Department of Pharmacology and Toxicology.

FACULTY DEATHS

Scharff, Thomas G., Professor Emeritus; Ph.D., University of Rochester (1956).

FACULTY RETIREMENTS



W. Glenn McGregor, MD

Professor Glen McGregor retired and was appointed Adjunct Professor.

FACULTY RESIGNATIONS



Richard E. Goldstein, MD, PhD

Professor of Surgery and Professor of Pharmacology and Toxicology
vonRoenn Family Chair in Surgical Endocrinology

FACULTY HONORS

- **Juliane Arteel** received a perfect score (10) on her NIH K01 research grant application (**Craig McClain**, mentor)
- **Juliane Arteel** received the President's Choice Award, AASLD 63rd annual meeting, Boston, MA
- **Juliane Arteel** received a Travel Award, to the 7th International Symposium on ALPD, Beijing, China
- **Ramesh Gupta** received the 2012 Distinguished Faculty Award in Research – Basic and Applied Sciences, University of Louisville
- **Ramesh Gupta** received special recognition and welcome by the House of Representatives of the Commonwealth of Kentucky
- **Ramesh Gupta** was recognized by the the Office of the President for his patent on polymeric uterine cervical implants
- **Kenneth Palmer** was promoted to professor with tenure.
- Distinguished university scholar appointments were renewed for **David Hein** and **Chris States**.

STUDENT HONORS



Akshata Moghe (Shirish Barve, mentor) received the Guy Stevenson Award presented to a doctoral degree recipient who excels in scholarship, leadership, and other areas within his or her discipline. The recipient carries the graduate school banner at commencement ceremonies and addresses the assembly during the Doctoral Hooding and Graduation Ceremony.

Lori M. Millner (David Hein, mentor) received the KC Huang Outstanding Graduate Student Award.

Robin Schmidt (Gavin Arteel, mentor) was selected as presidential poster of distinction, AASLD annual meeting, Boston, MA

Dominique Jones (La Creis Kidd, mentor) received a three year Southern Regional Education Board Doctoral Scholars Award.

Amanda Lasnik (Ken Palmer, mentor) was awarded a full cost scholarship for attending the International Microbicides Conference in Sydney, Australia. **Elaina Chambers (Shirish Barve, mentor)** was awarded a travel award and a student achievement award from the SOT Biotechnology Specialty Section. **Akshata Moghe, Madhuvanti Patil (Shirish Barve, mentor)** and **Carmine Leggett (David Hein, mentor)** received travel awards from ASPET to attend the annual Experimental Biology meeting in San Diego.

Colins Eno (Chi Li, mentor) was selected and received a travel award to present his research at the Seventh Annual NIH National Graduate Student Research Conference.

Doug Safaro (Chris States, mentor) received the 1st place undergraduate award at the Cancer Education Research Program, at Research!Louisville

FACULTY WITH PRIMARY APPOINTMENTS



Gavin E. Arteel, PhD

Professor and Associate Chair for Research

Ph.D., Toxicology, University of North Carolina-Chapel Hill (1997).

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



Juliane I. Arteel, PhD (Juliane Beier in professional publications)

Assistant Professor of Pharmacology & Toxicology

Ph.D., Biochemistry and Molecular Biology, Heinrich-Heine-Universität (2005)

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



Frederick W. Benz, PhD

Professor

Ph.D., Pharmacology, University of Iowa (1970).

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



Brian P. Ceresa, PhD

Associate Professor of Pharmacology & Toxicology

PhD, Pharmacology, Vanderbilt University (1995)

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



Theresa S. Chen, PhD

Professor

Ph.D., Pharmacology, University of Louisville (1971).

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



Keith R. Davis, PhD

Professor

Ph.D., Molecular, Cellular and Developmental Biology, University of Colorado (1985)

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



Ramesh C. Gupta, PhD

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

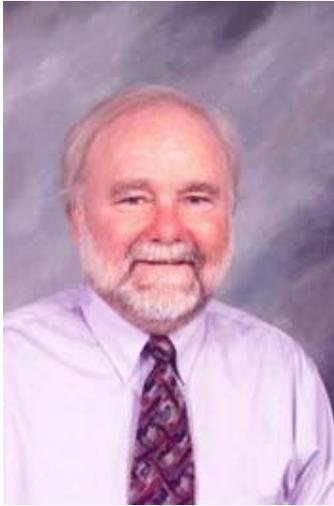
Research Interests: Development and identification of intermediate biomarkers to investigate etiology and prevention of human cancers resulting from both environmental and endogenous exposures.



David W. Hein, PhD

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

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



Harrell E. Hurst, PhD

Professor

Ph.D., Toxicology, University of Kentucky (1978).

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



Y. James Kang, PhD

Professor

Ph.D., Cell Biology and Zoology, Iowa State University (1989).

Research Interests: Molecular and cardiac toxicology. Transgenic and knock-out animal models to study oxidative injury and antioxidant systems in the heart. Biological functions and toxicological significance of metallothionein and glutathione in vivo.



La Creis R. Kidd, PhD, MPH

Associate Professor and Our Highest Potential Endowed Chair in Cancer Research
Ph.D., Toxicology, Massachusetts Institute of Technology (1997).

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



Igor S. Lukashevich, MD, PhD, DSci

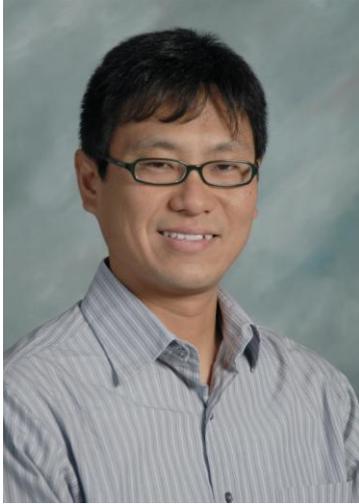
Professor of Pharmacology & Toxicology

M.D., Minsk Medical Institute, Belaris (1973);

Ph.D., Institute of Virology, Academy of Medical Science, Moscow Russia (1976);

D.Sc., Institute of Virology, Academy of Medical Science, Moscow Russia (1987)

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



Nobuyuki Matoba, PhD

Assistant Professor

Ph.D., Applied Life Sciences, Kyoto University, Japan (2001).

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



Steven R. Myers, PhD

Associate Professor

Ph.D., Pharmacology, University of Kentucky (1986).

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



Donald E. Nerland, PhD

Professor

Ph.D., Medicinal Chemistry, University of Kansas (1974).

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



Kenneth E. Palmer, PhD

Professor

Ph.D., Microbiology, University of Cape Town (1997)

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



William M. Pierce Jr, PhD

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

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



Peter P. Rowell, PhD

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

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



Uma Sankar, PhD

Assistant Professor

Ph.D., Molecular, Cellular, and Developmental Biology, Ohio State University (2003).

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



Zhao-Hui (Joe) Song, PhD

Professor

Ph.D., Pharmacology, University of Minnesota (1992).

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



J. Christopher States, PhD

Professor and Graduate Director: Recruitment and Admissions

Ph.D., Molecular Biology and Pathology, Albany Medical College/Union University (1980).

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



Walter M. Williams, MD, PhD

Professor

Ph.D., Pharmacology, University of Louisville (1970); M.D., University of Louisville (1974).

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

FACULTY WITH JOINT APPOINTMENTS



George R. Aronoff , MD

Professor of Medicine and Professor of Pharmacology and Toxicology
M.D., Indiana University (1975).

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



Shirish Barve, PhD

Professor of Medicine and Professor of Pharmacology and Toxicology
Ph.D., Molecular Pathogenesis, University of Kentucky (1990).

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



Aruni Bhatnagar, PhD

Professor of Medicine and Professor of Pharmacology and Toxicology
Ph.D., Chemistry, University of Kanpur (1985).

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



Haribabu Bodduluri, PhD

Professor of Microbiology & Immunology and Professor of Pharmacology & Toxicology
Ph.D., Biochemistry, Indian Institute of Science (1983).

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



Jason A. Chesney, MD, PhD

Associate Professor of Medicine and Associate Professor of Pharmacology and Toxicology
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.



Albert R. Cunningham, PhD

Associate Professor of Medicine and Associate Professor of Pharmacology and Toxicology
Ph.D., Environmental and Occupational Health, University of Pittsburgh (1998)

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



John W. Eaton, PhD

James Graham Brown Professor of Medicine and Professor of Pharmacology & Toxicology
Ph.D., Biological Anthropology and Human Genetics, University of Michigan (1969).

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



Paul N. Epstein, PhD

Professor of Pediatrics and Professor of Pharmacology and Toxicology
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.



Richard E. Goldstein, MD, PhD

Professor of Surgery and Professor of Pharmacology and Toxicology
vonRoenn Family Chair in Surgical Endocrinology

M.D., Thomas Jefferson University (1982)

Ph.D., Molecular Physiology and Biophysics, Vanderbilt University School of Medicine (1994).

Research Interests: Surgical endocrinology; surgical oncology.



Evelyne Gozal, PhD

Associate Professor of Pediatrics and Associate Professor of Pharmacology and Toxicology

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.



Theo Hagg, MD, PhD

Professor & Endowed Chair of Neurological Surgery and Professor of Pharmacology & Toxicology

M.D., University of Leiden (1985)

Ph.D., Neurosciences, University of California-San Diego (1998)

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



Michal Hetman, MD, PhD

Associate Professor of Neurological Surgery and Pharmacology and Toxicology
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.



Brad B. Keller, MD

Professor of Pediatrics, Pharmacology and Toxicology, and Bioengineering Kosair Charities Chair and Chief, Division of Pediatric Heart Research
M.D., Pennsylvania State University (1985)

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



Chi Li, PhD

Assistant Professor of Medicine and Assistant Professor of Pharmacology and Toxicology
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.



Craig J. McClain, MD

Professor of Medicine and Professor of Pharmacology and Toxicology
M.D., University of Tennessee-Memphis (1972)

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



Kelly M. McMasters, MD, PhD

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

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



Donald M. Miller, MD, PhD

James Graham Brown Professor of Medicine Professor of Pharmacology and Toxicology
M.D., Duke University (1973); Ph.D., Biochemistry, Duke University (1973)

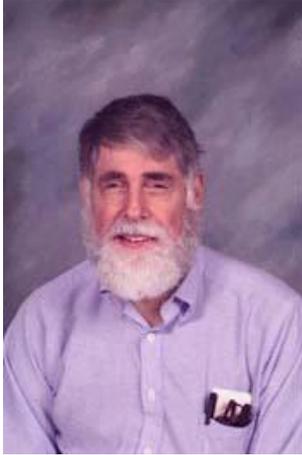
Research Interests: Molecular and clinical oncology; modulation of oncogene expression;
triplex DNA based gene therapy; treatment of melanoma.



M. Michele Pisano, PhD

Professor of Molecular, Cellular and Craniofacial Biology
Professor of Pharmacology and Toxicology
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.



George C. Rodgers, MD, PhD

Professor of Pediatrics and Professor of Pharmacology and Toxicology
Humana Chair of International Pediatrics

Ph.D., Organic Chemistry, Yale University (1964); M.D., State University of New York (1975).

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



Jesse Roman, MD

Professor and Chair of Medicine and Professor of Pharmacology and Toxicology
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



Janice E. Sullivan, MD

Professor of Pediatrics and Professor of Pharmacology and Toxicology
M.D., University of Minnesota (1988)

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



Brian (Binks) W. Wattenberg, PhD

Associate Professor of Medicine and Associate Professor of Pharmacology & Toxicology
Ph.D., Biological Chemistry, Washington University (1981)

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



Hong Ye, PhD

Associate Professor of Medicine and Associate Professor of Pharmacology and Toxicology
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, PhD

Professor of Medicine and Professor of Pharmacology and Toxicology
Ph.D., Biochemistry, Philipps-University, Marburg, Germany (1980)

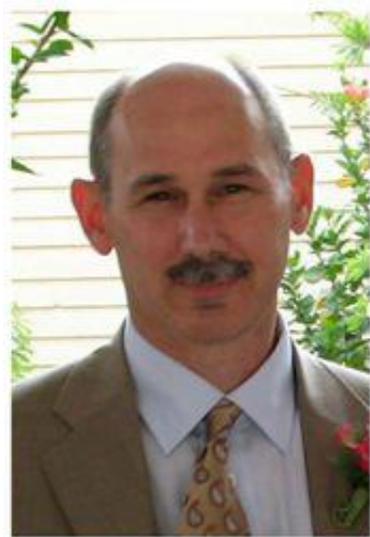
Research Interests: Ribozymes for gene therapy in rheumatoid arthritis; involvement and roles of cathepsins in oral cancers; gene expression profiling with DNA microarray chip technology.

V. FACULTY WITH ASSOCIATE APPOINTMENTS



Levi J. Beverly, PhD
Assistant Professor of Medicine (Division of Hematology and Oncology)

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



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

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



Guy N. Brock, PhD

Associate Professor of Bioinformatics and Biostatistics

PhD. Statistics, University of New Mexico (2003)

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



Jian Cai, PhD

Assistant Professor

Ph.D., Pharmacology and Toxicology, University of Louisville (1999).

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



Lu Cai, MD, PhD

Associate Professor of Pediatrics and Radiation Oncology

Ph.D., Radiation Biology/Oncology, Norman Bethune University of Medical Sciences (1987)

Research Interests: Diabetic cardiomyopathy and nephropathy



Matthew C. Cave, MD

Assistant Professor of Medicine (Division of Gastroenterology, Hepatology, and Nutrition)

M.D., University of Kentucky (2001)

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



Daniel J. Conklin, PhD

Associate Professor of Medicine (Cardiology)

Ph.D., University of Notre Dame (1995).

Research Interests: Environmental cardiology; cardiovascular toxicology



Teresa Whei-Mei Fan, PhD

Professor of Chemistry

Ph.D., Biochemistry, University of California-Davis (1983)

Research Interests: Metabolomics, proteomics, ecotoxicology, contaminant bioavailability, transport, biotransformation, and bioremediation



Wenke Feng, PhD

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

Research Interests

- Mechanisms of alcoholic liver disease
- Mechanisms of nonalcoholic steatohepatitis
- Tissue hypoxia and diabetic complications



Hermann B. Frieboes, PhD

Assistant Professor of Bioengineering

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



Yiru Guo, PhD

Associate Professor of Medicine (Division of Cardiovascular Medicine)

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.



Ben Jenson, MD

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

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



Steven P. Jones, PhD

Associate Professor of Medicine (Division of Cardiovascular Medicine)

Research Interests: Metabolic signaling in the cardiovascular system



Colleen B. Jonsson, PhD

Professor of Microbiology and Immunology

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



Swati Joshi-Barve, PhD

Assistant Professor of Medicine (Division of Gastroenterology, Hepatology, and Nutrition)
Ph.D., Biochemistry, University of Kentucky (1992)

Research Interests

- Mechanisms of Steatohepatitis (nonalcoholic and alcoholic fatty liver disease)
- Mechanisms of Alcohol-induced Immune Dysfunction
- Mechanisms of Hepatocellular Carcinoma



Lacey R. McNally, PhD

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

Research Interests

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



Chin K. Ng, PhD

Associate Professor of Radiology and Associate Professor of Pharmacology and Toxicology
Ph.D., Medical Physics, University of Wisconsin (1989)

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



Timothy E. O'Toole, PhD

Assistant Professor of Medicine (Division of Cardiovascular Medicine)
PhD., 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.



David A. Scott, PhD

Associate Professor of Periodontics, Endodontics & Dental Hygiene
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



David J. Tollerud, MD

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

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



Walter H. Watson, PhD
Assistant Professor of Medicine (Division of Gastroenterology, Hepatology and Nutrition)

Research Interests:

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

Faculty with Emeritus Appointments

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

Faculty with Adjunct Appointments

- **James A. Blank**, Adjunct Associate Professor of Pharmacology and Toxicology; PhD, Pharmacology and Toxicology, University of Louisville School of Medicine (1985).
- **Adrian J. Fretland**, Adjunct Assistant Professor of Pharmacology and Toxicology; PhD, Pharmacology and Toxicology, University of Louisville School of Medicine (2000).
- **John C. Lipscomb**, Adjunct Associate Professor of Pharmacology and Toxicology; PhD, Pharmacology and Toxicology, University of Arkansas for Medical Sciences (1991).

- **W. Glenn McGregor**, Adjunct Professor of Pharmacology and Toxicology, MD, University of Michigan (1976)
- **Kristin J. Metry-Baldauf**, Adjunct Assistant Professor of Pharmacology and Toxicology; PhD, Pharmacology and Toxicology, University of Louisville School of Medicine (2007).
- **Eric M. Vela**, Adjunct Assistant Professor of Pharmacology and Toxicology; PhD, Virology and Gene Therapy, University of Texas Health Sciences Center at Houston (2005)
- **Yang Wang**, Adjunct Associate Professor of Pharmacology and Toxicology; MD., Jiangxi Medical College (1982); PhD, Physiology, University of Toronto (1993)

Office Staff

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

Graduate Students

Name

Adcock, Scott
 Al-Eryani, Laila
 Al-Maqtari, Tareq
 Aloway, April
 Avila, Diana
 Baldauf, Keegan
 Barton, Chris
 Belshoff, Alex
 Carlisle, Samantha
 Chambers, Elana
 Chen, Wei Yang (Jeremy)

Cheng, Pei-Hsin (Penny)
 Donde, Hridgandh
 England, Christopher
 Eno, Colins
 Fioret, Daniel
 Greenwell, Caleb
 Hallgren, Justin
 Holz, Gretchen
 Jackson, Nicole
 Jones, Dominique
 Kumar, Pritesh
 Lasnik, Amanda
 Leggett, Carmine
 Massey, Veronica
 McAllister, Ryan
 Moghe, Akshata
 Patil, Madhuvanti
 Pritchard, Zachary
 Schmidt, Robin
 Shidal, Christopher
 Skibba, Melissa
 Stepp, Marcus
 Vicary, Glenn
 Wahlang, Banrida
 Wechman, Stephen
 Wu, Huihui

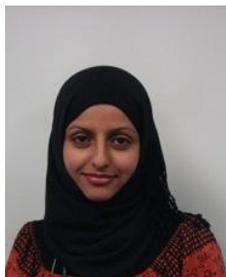
2012 Graduates

Graduate	Degree	Mentor	Dissertation/Thesis Title
 Veronica Massey	M.S.	Gavin E. Arteel, Ph.D.	Integrin inhibitor cyclorgdfv blunts enhanced LPS-induced liver injury caused by ethanol in mice

 <p>Keegan J. Baldauf</p>	M.S.	Gavin E. Arteel, Ph.D.	Acetaldehyde dehydrogenase 2 (ALDH2) activation protects hepatocytes from mitochondrial damage and death caused by 4-hydroxynonenal
 <p>Madhuvanti Patil</p>	Ph.D.	Shirish Barve, Ph.D.	The role of the transmethylation pathway in the regulation of cell death in leukemic CD4+ T cells
 <p>Colins O. Eno</p>	Ph.D.	Chi Li, Ph.D.	The role of endogenous Bcl-xL in regulation of apoptotic signaling pathways
 <p>Akshata Moghe</p>	Ph.D.	Shirish Barve, Ph.D.	Role of chromatin remodeling in curcumin-mediated regulation of gene expression in hepatocellular carcinoma
 <p>Carmine S. Leggett</p>	Ph.D.	David W. Hein, Ph.D.	Role of human arylamine N-acetyltransferase in carcinogen metabolism and human breast cancer progression

	M.S.	Jesse Roman, M.D.	Idiopathic pulmonary fibrosis: Diagnosis, management, and the search for a cure
	M.S.	Uma Sankar, Ph.D.	Approaches in the treatment of Parkinson's disease: A focus on stem cell-based therapies
	M.S.	Matthew Cave, M.D.	Polychlorinated biphenyl 153 exacerbates nonalcoholic fatty liver disease in C57BL/6 mice
	M.S.	Al Cunningham, Ph.D.	Structure-activity relationship model for estrogen receptor ligands
	Ph.D.	Shirish Barve, Ph.D.	The role of phosphodiesterase 4 in diabetic inflammation

2012 Entering Class of Graduate Students



[Laila Al-Eryani](#)

B.Sc., Pharmacy, Sana'a University, Sana'a, Yemen



[April Aloway](#)

B.S., Chemistry, St. Xavier University, Chicago M.S., Biology, Roosevelt University, Chicago



[Samantha Carlisle](#)

B.S., Chemistry, conc. Biology, University of Louisville



[Gretchen Holz](#)

B.A., English & Gender Studies, Indiana University



[Nicole Jackson](#)

B.A., Chemistry, Cheyney University of Pennsylvania



[Zachary Pritchard](#)

B.S., Environmental Science and Ecology, Sierra Nevada College



[Melissa Skibba](#)

B.S., Chemistry, conc. forensic science; Carroll University

Postdoctoral Fellows

Farrukh Aqil

Juliane Arteel

Katie Bourcy

Bharat Kumar Devapatla

Krystal Teasley Hamorsky

Junichi Inaba

Calvin Kouokam

Akhilesh Kumar

Radha Munagala

Wendy Spencer

Saleha Vuyyuri

Tiffany Grooms-Williams

Pharmacology and Toxicology Publications

Faculty with Primary Appointments and Students (students highlighted)

1. Aqil F, Vadhanam MV, Gupta RC. Enhanced activity of punicalagin delivered via polymeric implants against benzo[a]pyrene-induced DNA adducts. *Mutation Research*. 743:59-66, 2012.
2. Aqil F, Gupta A, Munagala R, Jeyabalan, J, Kausar H, Sharma, R, Singh IP, Gupta RC. Antioxidant and antiproliferative potential of anthocyanin/ellagitannin-enriched extracts from *Syzygium cumini* L. ('jamun', the Indian Blackberry). *Nutrition & Cancer*. 64:428-438, 2012.
3. Aqil F, Jeyabalan J, Kausar H, Bansal H, Vadhanam MV, Gupta RC. Multi-layer polymeric implants for controlled release of chemopreventives. *Cancer Letters*. 326:33-40, 2012.
4. Aqil F, Munagala R, Kausar H, Jeyabalan J, Vadhanam MV, Gupta RC. Anti-proliferative and antioxidant activity of punicalagins and its protection against oxidative DNA adducts. *Food Research Internatl*. 49:345-353, 2012.
5. Arteel GE. Beyond reasonable doubt: who is the culprit in lipotoxicity in NAFLD/NASH?. *Hepatology*, 55:2030-2032, 2012
6. **Bansal SS**, Kausar H, Vadhanam MV, Ravoori S, Gupta RC. Controlled systemic delivery by polymeric implants enhances tissue and plasma curcumin levels compared with oral administration, *Eur.J. Pharm. Biopharm*. 80:571-577, 2012
7. Beier JI, Arteel GE. Alcoholic liver disease and the potential role of plasminogen activator inhibitor-1 (PAI-1) and fibrin metabolism. *Experimental Biology and Medicine*, 237:1-9, 2012.
8. Beier JI, Landes S, Mohammad M, McClain CJ. Nutrition in Liver Disorders and the Role of Alcohol. Chapter 82, pp 1117-1127. In: *Modern Nutrition in Health and Disease*, 11th Edition, Shils ME, ed. 2012. Lippincott, Williams & Wilkins: Philadelphia. ISBN: 978-1605474618.
9. Boekelheide K, Blumberg B, Chapin RE, Cote I, Graziano JH, Janesick A, Lane R, Lillycrop K, Myatt L, States JC, Thayer KA, Waalkes MP, Rogers JM. *Environ Health Perspect*. 120:1353-1361, 2012
10. Carrion Jr R, Bredenbeek P, Jiang X, Tretyakova I, Pushko P, Lukashevich IS. Vaccine Platforms to Control Arenaviral Hemorrhagic Fevers. *J Vaccines Vaccin* 3:160, 2012. doi:10.4172/2157-7560.1000160
11. Ceresa BP (ed). *Molecular Regulation of Endocytosis*, InTech Publishing, ISBN 978-953-51-0662-3, 2012.
12. **Chang W**, Barve S, Chen TS. p-Aminophenol-induced cytotoxicity in Jurkat T cells: Protective effect of 2(RS)-n-propylthiazolidine-4(R)-carboxylic acid. *Journal of Biochemical and Molecular Toxicology* 26 (2):71-78, 2012

13. Chauthe S, Sharma R, Aqil F, Gupta R, Singh IP. An Applicable Method for Quantitative Analysis of Medicinal Plant Extracts and Herbal Products. *Phytochemical Analysis*, 23:689-696, 2012
14. Cocciolo A, Di Domenico F, Coccia R, Fiorini A, Cai J, Pierce WM, Mecocci P, Butterfield DA, Perluigi M. Decreased expression and increased oxidation of plasma haptoglobin in Alzheimer disease: Insights from redox proteomics. *Free Radic Biol Med*. 2012, Nov 15;53(10):1868-1876. doi:10.1016/j.freeradbiomed.2012.08.596. Epub 2012 Sep 7. PMID: 23000119
15. Daly J, Bebenek K, Watt DL, Richter K, Jiang C, Zhao ML, Ray M, McGregor WG, Kunkel TA, Diaz M. [Altered Ig hypermutation pattern and frequency in complementary mouse models of DNA polymerase \$\zeta\$ activity](#). *J Immunol*. 2012 Jun 1;188(11):5528-37. doi: 10.4049/jimmunol.1102629. Epub 2012 Apr 30. PMID: 22547703
16. Das N, Paul, S Chatterjee D, Banerjee N, Majumder NS, Sarma N, Sau TJ, Basu S, Banerjee S, Majumder P, Bandyopadhyay AK, States JC, Giri, AK. Arsenic exposure through drinking water increases the risk of liver and cardiovascular diseases in the population of West Bengal, India. *BMC Public Health*, 12:639, 2012.
17. Di Domenico F, Sultana R, Ferree A, Smith K, Barone E, Perluigi M, Coccia R, Pierce W, Cai J, Mancuso C, Squillace R, Wiengeler M, Dalle-Donne I, Wolozin B, Butterfield DA. Redox proteomics analyses of the influence of co-expression of wild-type or mutated LRRK2 and Tau on *C. elegans* protein expression and oxidative modification: relevance to Parkinson disease. *Antioxid Redox Signal*. Dec 1;17(11):1490-506, 2012. Epub 2012 Mar 20. PMID: 22315971; PMCID:PMC3448940.
18. Di Domenico F, Casalena G, Jia J, Sultana R, Barone E, Cai J, Pierce WM, Cini C, Mancuso C, Perluigi M, Davis CM, Alkayed NJ, Butterfield DA. Sex differences in brain proteomes of neuron-specific STAT3-null mice after cerebral ischemia/reperfusion. *J Neurochem*. 2012 May; 121(4):680-92. doi: 10.1111/j.1471-4159.2012.07721.x. Epub 2012 Mar 28. Erratum in: *J Neurochem*. Sep;122(5):1093, 2012. Butterfield, Allan D [corrected to Butterfield, D Allan]. PMID: 22394374; PMCID: PMC3325362.
19. [Eno CO](#), [Eckenrode EF](#), [Olberding KE](#), [Zhao G](#), [White C](#), [Li C](#). Distinct roles of mitochondria- and ER-localized Bcl-xL in apoptosis resistance and Ca²⁺ homeostasis. [Mol Biol Cell](#). Jul;23(13):2605-2618, 2012.
20. [Eno CO](#), [Zhao G](#), [Olberding KE](#), [Li C](#). The Bcl-2 proteins Noxa and Bcl-xL co-ordinately regulate oxidative stress-induced apoptosis. [Biochem J](#). May 15;444(1):69-78, 2012.
21. Féris G, Huskens D, Palmer KE, Boudreaux DM, Swanson MD, Markovitz DM, Balzarini J, Schols D. Combinations of griffithsin with other carbohydrate-binding agents demonstrate superior activity against HIV Type 1, HIV Type 2, and selected carbohydrate-binding agent-resistant HIV Type 1 strains. *AIDS Research and Human Retroviruses* 28(11):1513-23, 2012. PMID: 22607556

22. Férir G, Palmer KE, Schols D. Griffithsin, alone and combined with all classes of antiretroviral drugs, potently inhibits HIV cell-cell transmission and destruction of CD4+ T cells. *Journal of Antivirals & Antiretrovirals* 4:103-112, 2012. Doi: 10.4172/jaa.10000054
23. Fiorini A, Sultana R, Barone E, Cenini G, Perluigi M, Mancuso C, Cai J, Klein JB, St Clair D, Butterfield DA. Lack of p53 Affects the Expression of Several Brain Mitochondrial Proteins: Insights from Proteomics into Important Pathways Regulated by p53. *PLoS One.*; 7(11):e49846, 2012. doi: 10.1371/journal.pone.0049846. Epub 2012, Nov 27. PMID: 23209608; PMCID: PMC3507874
24. Fong M, Jin S, Rane MJ, Singh RK, Gupta RC, Kakar SS. Withaferin A synergizes the therapeutic effect of doxorubicin through ROS-mediated autophagy in ovarian cancer. *PLoS One*, e42265, 2012. doi:10.1371/journal.pone.0042265.
25. Fu Z, Shrubsole MJ, Li G, Smalley WE, Hein DW, Chen Z, Shy Y, Cai Q, Ness RM, Zheng W. Using gene-environmental interaction analyses to clarify the role of well-done meat and heterocyclic amine exposure in the etiology of colorectal polyps. *American Journal of Clinical Nutrition* 96:1119-1128, 2012. (Epub September 26). [PMCID: PMC3471199]
26. Goicochea MA, Zapata JC, Bryant J, Davis H, Salvato MS, Lukashevich IS. Evaluation of Lassa virus vaccine immunogenicity in a CBA/J-ML29 mouse model. *Vaccine* 30:1445-1452, 2012.
27. Gravari E, Radmacher PG, Adamkin DH, Myers SR. Amino acid profiles in infants less than 1250 g receiving total parental nutrition. *Journal of Neonatal and Perinatal Medicine*, 5(2): 2012
28. Gupta R, Bansal S, Aqil F, Jeyabalan J, Cao P, Russell GK, Munagala R, Ravoori S, Vadhanam MV. Controlled-release systemic delivery - a new concept in cancer chemoprevention. *Carcinogenesis*. 33:1608–1615, 2012.
29. Hayes MW, Carrion R, Nunneley J, Medvedev AE, Salvato MS, Lukashevich IS. Pathogenic Old World Arenaviruses Inhibit TLR2/Mal-Dependent Proinflammatory Cytokines In Vivo. *J. Virology* 86:7216-7226, 2012.
30. He F, Kumar A, Song ZH. Heat shock protein 90 is an essential molecular chaperone for CB2 cannabinoid receptor-mediated signaling in trabecular meshwork cells. *Mol Vis.*18:2839-2846, 2012. PMID:23233786
31. Hein DW, Doll MA. Accuracy of various human NAT2 SNP genotyping panels to infer rapid, intermediate, and slow acetylator phenotypes. *Pharmacogenomics* 13:31-41, 2012. (Epub November 17, 2011). [PMCID: PMC3285565](#)
32. Hein DW, Doll MA. A four-SNP NAT2 genotyping panel recommended to infer human acetylator phenotype. *Pharmacogenomics* 13:855, 2012.

33. Hou J, Kang YJ. Regression of pathological cardiac hypertrophy: Signaling pathways and therapeutic targets. *Pharmacol Ther*, 135:337-354, 2012.
34. Kausar H, Jeyabalan J, Aqil F, Chabba D, Sidana J, Singh, IP, Gupta RC. Berry anthocyanidins synergistically suppresses growth and metastatic potential of human non-small-cell lung cancer cells. *Cancer Letters*. 325:54-62, 2012.
35. Kidd LR, Jones DZ, Rogers EN, Beache S, Rudd JE, Ragin C, Jackson M, McFarlane-Anderson N, Tulloch-Reid M, Morrison S, Brock GN, Barve SS, Kimbro KS. Chemokine Ligand 5 (CCL5) and Chemokine Receptor (CCR5) Genetic Variants and Prostate Cancer Risk among men of African Descent: A Case-Control Study. *Hereditary Cancer in Clinical Practice*, 10(1):16, 2012.
36. Kirpich I, Ghare S, Zhang J, Gobejishvili L, Kharebava G, Barve SJ, Barker D, Moghe A, McClain CJ, Barve S. Binge alcohol-induced microvesicular liver steatosis and injury are associated with down-regulation of hepatic Hdac 1, 7, 9, 10, 11 and up-regulation of Hdac 3. *Alcohol Clin Exp Res*. Sep;36(9):1578-86, 2012. doi: 10.1111/j.1530-0277.2012.01751.x. Epub 2012 Feb 29.
37. Klarer AC, Stallons LJ, Burke TJ, Skaggs RL, McGregor WG. [DNA polymerase eta participates in the mutagenic bypass of adducts induced by benzo\[a\]pyrene diol epoxide in mammalian cells](#). *PLoS One* 7(6):e39596, 2012. doi: 10.1371/journal.pone.0039596. Epub 2012 Jun 20. PMID: 22745795.
38. Klionsky DJ, Klionsky DJ, Abdalla FC, Abeliovich H, ... Sankar U, et al. Guidelines for the use and interpretation of assays for monitoring autophagy. *Autophagy*. April; 8(4):445-544, 2012. PMID: 22966490
39. Kumar A, Qiao Z, Kumar P, Song ZH. Effects of palmitoylethanolamide on aqueous humor outflow. *Invest Ophthalmol Vis Sci*. 53(8):4416-4425, 2012. PMID: 22589443
40. Kumar SD, Vijaya M, Samy RP, Dheen ST, Ren M, Watt F, Kang YJ, Bay BH, Tay SS. Zinc supplementation prevents cardiomyocyte apoptosis and congenital heart defects in embryos of diabetic mice. *Free Radic Biol Med*, 53:1595-1606, 2012.
41. Lavender NA, Rogers EN, Yeyeodu S, Rudd J, Hu T, Zhang J, Brock GN, Kimbro KS, Moore JH, Hein DW, Kidd LR. Interaction among apoptosis-associated sequence variants and joint effects on aggressive prostate cancer. *BMC Medical Genomics* 5:11, 2012. [PMCID: PMC3355002](#)
42. Li S, Xie H, Li S, Kang YJ. Copper stimulates growth of human umbilical vein endothelial cells in a vascular endothelial growth factor-independent pathway. *Exp Biol Med*, 237:77-82, 2012.

43. Litchfield LM, Riggs KA, Hockenberry AM, Oliver LD, Barnhart KG, Cai J, Pierce WM Jr, Ivanova MM, Bates PJ, Appana SN, Datta S, Kulesza P, McBryan J, Young LS, Klinge CM. Identification and characterization of nucleolin as a COUP-TFII coactivator of retinoic acid receptor β transcription in breast cancer cells. *PLoS One*. 7(5):e38278, 2012. doi: 10.1371/journal.pone.0038278. Epub 2012 May 31. PMID: 22693611; PMCID: PMC3365040
44. Lukashovich IS. Advanced Vaccine Candidates for Lassa Fever. *Viruses* 4(11):2514-2557, 2012.
45. Massey VL, Arteel GE. Acute alcohol-induced liver injury. *Frontiers in Physiology*, 3:193, 2012.
46. Matoba N. Vaccine Development and Production, in Plants, Chapter 9, Yoshikawa and Kaminogawa, Eds. In: The Basics of Food Immunology (Kenpakusha, Tokyo, Japan). Invited peer-reviewed book chapter (article in Japanese), 2012
47. Matsuda R, Tahara A, Matoba N, Fujiwara K. Virus Vector-Mediated Rapid Protein Production in *Nicotiana benthamiana*: Effects of Temperature and Photosynthetic Photon Flux Density on Hemagglutinin Accumulation. *Environ Control Biol*. 50 (4):375-381, 2012.
48. Millner LM, Doll MA, Cai J, States JC, Hein DW. NATb/NAT1*4 promotes greater arylamine N-acetyltransferase 1 mediated DNA adducts and mutations than NATa/NAT1*4 following exposure to 4-aminobiphenyl. *Mol Carcinog*. Aug;51(8):636-46, 2012. doi: 10.1002/mc.20836. Epub 2011 Aug 11. PMID: 21837760; PMCID: PMC3217153
49. Millner LM, Doll MA, Cai J, States JC, Hein DW. Phenotype of the most common "slow acetylator" arylamine N-acetyltransferase 1 genetic variant (NAT1*14B) is substrate-dependent. *Drug Metab Dispos*. Jan;40(1):198-204, 2012. doi: 10.1124/dmd.111.041855. Epub 2011 Oct 18. PMID: 22010219; PMCID: PMC3250052.
50. Millner, L.M., Doll, M.A., Stepp, M.W., States, J.C., and Hein, D.W.: Functional analysis of arylamine N-acetyltransferase 1 (NAT1) NAT1*10 haplotypes in a complete NATb mRNA construct. *Carcinogenesis* 33:348-355, 2012. (Epub November 22, 2011). PMCID: PMC3271262.
51. Mohammad MK, Avila D, Zhang J, Barve S, Arteel G, McClain C, Joshi-Barve S. Acrolein cytotoxicity in hepatocytes involves endoplasmic reticulum stress, mitochondrial dysfunction and oxidative stress. *Toxicol Appl Pharmacol.*, 265(1):73-82, 2012. doi: 10.1016/j.taap.2012.09.021. Epub 2012 Sep 28.
52. Mokhtar A, Ravoori S, Vadhanam MV, Pan J, Rai SN, Jenson AB, Parker LP & Gupta RC. Vaginal cells of smokers are more resistant to human papillomavirus infection than that of non-smokers. *Experimental & Molecular Pathology*. 93(3) 422-427, 2012.
53. Muenyi CS, Pinhas AR, Fan TW, Brock GN, Helm CW, States JC. Sodium arsenite \pm hyperthermia sensitizes p53 expressing human ovarian cancer cells to cisplatin by modulating

platinum DNA damage responses. *Toxicological Sciences* 27:139-149, 2012.

54. Ngalame NNO, Micciche AF, Feil ME, States JC. Delayed temporal increase of hepatic Hsp70 in ApoE knockout mice after prenatal arsenic exposure. *Toxicological Sciences* 131:225-233, 2012.
55. Park J H, Davis K R, Lee G, Jung M, Jung Y, Park J, Yi S Y, Lee M A, Lee S, Yeom CH, Kim J. Ascorbic acid alleviates toxicity of paclitaxel without interfering with the anticancer efficacy in mice, *Nutr Res* 32:873-883, 2012.
56. Potts LF Cambon AC, Ross OA, Rademakers R, Dickson DW, Uitti RJ, Wszolek ZW, Rai SN, Farrer MJ, Hein DW, Litvan I.: Polymorphic genes of detoxication and mitochondrial enzymes and risk factors for progressive supranuclear palsy: A case control study. *BMC Medical Genetics* 13:16, 2012. [PMCID: PMC3340705](https://pubmed.ncbi.nlm.nih.gov/22580290/).
57. Qiao Z, Kumar A, Kumar P, Song ZH. Involvement of a non-CB1/CB2 cannabinoid receptor in the aqueous humor outflow-enhancing effects of abnormal-cannabidiol. *Exp Eye Res.* 100:59-64, 2012. PMID:22580290
58. Qiu L, Ding X, Zhang Z, and Kang YJ. Copper is required for cobalt-induced transcriptional activity of hypoxia-inducible factor-1. *J Pharmacol Exp Ther*, 342:561-567, 2012.
59. Ravoori S, Vadhanam MV, Aqil F & Gupta RC Inhibition of estrogen-mediated mammary tumorigenesis by blueberry and black raspberry. *Journal of Agricultural and Food Chemistry.* 60: 5547-5555, 2012.
60. Rush JS, Quinalty LM, Endelman L, Sherry DM, Ceresa BP. Endosomal Accumulation of the Activated EGFR Induces Apoptosis. *J. Biol. Chem.*, 287(1):712-722, 2012.
61. Salvato MS, Clegg JCS, Buchmeier MJ, Charrel RN, Gonzalez JP, Lukashevich IS, Peters CJ, Romanowski V. Family Arenaviridae. In: *Virus Taxonomy, Classification and Nomenclature of Viruses, Ninth Report of the International Committee on Taxonomy of Viruses, 2012*. Editors: Andrew M.Q. King, Michael J. Adams, Eric B. Carstens, and Elliot J. Lefkowitz, pp. 715-723, Academic Press, Elsevier Inc.
62. Schreiter T, Marquitan G, Darnell M, Sowa JP, Bröcker-Preuss M, Andersson TB, Baba HA, Furch M, Arteel GE, Mathé Z, Treckmann J, Gerken G, Gieseler RK and Canbay A. An ex-vivo perfusion system emulating in-vivo conditions in non-cirrhotic and cirrhotic human liver. *Journal of Pharmacology and Experimental Therapeutics*, 342:730-41, 2012
63. Seber LE, Barnett BW, McConnell EJ, Hume SD, Cai J, Boles K, Davis KR. Scalable purification and characterization of the anticancer lunasin peptide from soybean. *PLoS One.* 7(4):e35409, 2012. doi: 10.1371/journal.pone.0035409. Epub 2012 Apr 13. *PLoS ONE* 7(4): e35409 PMID: 22514740; PMCID: PMC3326064.

64. Shi X, Wahlang B, Wei X, Yin X, Falkner KC, Prough RA, Kim SH, Mueller EG, McClain CJ, Cave M, Zhang X. Metabolomic analysis of the effects of polychlorinated biphenyls in nonalcoholic fatty liver disease..J Proteome Res. Jul 6;11(7):3805-3815, 2012
65. Song M, Schuschke DA, Zhou Z, Chen T, Pierce WM Jr, Wang R, Johnson WT, McClain CJ. High fructose feeding induces copper deficiency in Sprague-Dawley rats: A novel mechanism for obesity related fatty liver. Journal of Hepatology, 56 (2):433-440, 2012
66. Spencer W, Vadhanam MV, Jeyabalan J & Gupta RC. Oxidative DNA damage following microsome/Cu(II)-mediated activation of the estrogens, 17 β -estradiol, equilenin and equilin: role of reactive oxygen species. Chem. Res. Tox. 25(2):305-314, 2012
67. States JC, Singh AV, Knudsen TB, Rouchka EC, Ngalame NO, Arteel GE, Piao Y and Ko MS. Prenatal arsenic exposure alters gene expression in the adult liver to a proinflammatory state contributing to accelerated atherosclerosis. PLoS One, 7(6):e38713, 2012
68. Sugamori KS, Brenneman D, Sanchez O, Doll MA, Hein DW, Pierce WM Jr, Grant DM. Reduced 4-aminobiphenyl-induced liver tumorigenicity but not DNA damage in arylamine N-acetyltransferase null mice. Cancer Letters 318:206-213, 2012. (Epub December 19, 2011). [PMCID: PMC3303986]
69. Sultana R, Robinson RA, Lange MB, Fiorini A, Galvan V, Fombonne J, Baker A, Gorostiza O, Zhang J, Cai J, Pierce WM, Bredesen DE, Butterfield DA. Do proteomics analyses provide insights into reduced oxidative stress in the brain of an Alzheimer disease transgenic mouse model with an M631L amyloid precursor protein substitution and thereby the importance of amyloid-beta-resident methionine 35 in Alzheimer disease pathogenesis? Antioxid Redox Signal. Dec 1;17(11):1507-1514, 2012. Epub 2012 Jun 6. PMID: 22500616; PMCID: PMC3448937
70. Tezel G, Thornton IL, Tong MG, Luo C, Yang X, Cai J, Powell DW, Soltau JB, Liebmann JM, Ritch R. Immunoproteomic analysis of potential serum biomarker candidates in human glaucoma. Invest Ophthalmol Vis Sci. Dec 13;53(13):8222-8231, 2012. doi: 10.1167/iovs.12-10076. PMID: 23150628
71. Tezel G, Yang X, Luo C, Cai J, Powell DW. An astrocyte-specific proteomic approach to inflammatory responses in experimental rat glaucoma. Invest Ophthalmol Vis Sci. 2012 Jun 28;53(7):4220-4233, 2012. doi: 10.1167/iovs.11-9101, PMID: 22570341; PMCID: PMC3392010
72. Tretyakova I, Lukashevich IS, Wang E, Weaver S, Pushko P. Novel vaccine against Venezuelan equine encephalitis virus combines advantages of DNA immunization and live attenuated vaccine. Vaccine <http://dx.doi.org/10.1016/j.Vaccine.12.050>, 2012.
73. Vadhanam MV, Thaiparamvil J, Gairola CG, Gupta RC. Oxidative DNA adducts detected in vitro from redox activity of cigarette smoke constituents, Chem. Res. Tox., 25: 2499-2504, 2012.

74. Wilburn DB, Bowen KE, Gregg RG, Cai J, Feldhoff PW, Houck LD, Feldhoff RC. Proteomic and UTR analyses of a rapidly evolving hypervariable family of vertebrate pheromones. *Evolution*. 2012 Jul;66(7):2227-39. doi:10.1111/j.1558-5646.2011.01572.x. Epub 2012 Feb 17. PMID: 22759298

75. Xie Y, Chen J, Han P, Yang P, Hou J, Kang YJ. Immunohistochemical detection of differentially localized up-regulation of lysyl oxidase and down-regulation of matrix metalloproteinase-1 in Rhesus monkey model of chronic myocardial infarction. *Exp Biol Med*, 237:853-859, 2012.

Pharmacology and Toxicology Abstracts

Faculty with Primary Appointments and Students (Students highlighted)

Arteel:

National/International

1. **Schmidt R**, Tan M, Ding X, Zhong H, and **Arteel G** (2012) Sulphoraphane prevents liver injury caused by high-fat diet and olanzapine. *The Toxicologist* 126:78
2. **Baldauf KJ**, Jokinen JD, Beier JI and **Arteel GE** (2012) Acetaldehyde Dehydrogenase 2 (ALDH2) activation protects hepatocytes from mitochondrial damage and death caused by 4-hydroxynonenal. *The Toxicologist*. 126:108.
3. Mohammad M, **Avila D**, Zhang J, Jokinen J, **Arteel G**, McClain C, Barve S, Joshi-Barve S (2012) Multiple cell-death mechanisms are triggered in hepatotoxicity induced by acrolein, an environmental pollutant and lipid peroxidation product. *The Toxicologist*. 126:440
4. **Arteel GE** (2012) Overview: critical interfaces in the pathogenesis of alcoholic/nonalcoholic steatohepatitis. *Alcoholism-Clinical and Experimental Research* 36:84A.
5. Beier JI and **Arteel GE** (2012) Integrins and crosstalk between coagulation and injury in alcohol-induced liver injury. *Alcoholism-Clinical and Experimental Research* 36:313A.
6. **Schmidt RH**, Tan M, Jokinen J, **Massey VL**, Zhong H and **Arteel GE** (2012) Arsenic enhances experimental liver disease via altering GI tract function: protection with prebiotics. *Hepatology* 56:591A.
7. Beier JI, Zhong H, Joshi-Barve S, Falkner KC, Ritzenthaler JD, Roman J, and **Arteel GE** (2012) Critical role of crosstalk between fibrin ECM and Integrin signaling plays a critical role in hepatic regeneration after partial hepatectomy in mice. 7th International Symposium on ALPD, Beijing, China.
8. Beier JI, Zhong H, Joshi-Barve S, Falkner KC, Ritzenthaler JD, Roman J, and **Arteel GE** (2012) Role of ECM/integrin crosstalk in hepatic regeneration: implications for liver disease. ISBRA 2012 Satellite Symposium: Recent Progress in Biomedicine on Alcoholism, Kyoto, Japan.

Local/Regional

1. **Schmidt RH**, Tan M, Jokinen J, Massey VL, Zhong H and **Arteel GE** (2012) Arsenic enhances experimental liver disease via altering GI tract function: protection with prebiotics. *Research!Louisville*.
2. Mohammad M, **Avila D**, Zhang J, Jokinen J, **Arteel G**, McClain C, Barve S, Joshi-Barve S (2012) Multiple cell-death mechanisms are triggered in hepatotoxicity induced by acrolein, an environmental pollutant and lipid peroxidation product. *OVSOT annual meeting*.

3. **Massey VL**, Schmidt RH, Poole LG and **Arteel GE** (2012) Integrin $\beta 3^{-/-}$ mice are protected against enhanced alcohol-induced liver injury. *Research!Louisville*.
4. **Poole LG**, Jokinen JD, Massey VL and **Arteel GE** (2012) Sinusoidal endothelial cells regulate basal and stimulated macrophage activation via altered ECM production. *SROP annual meeting*.

Beier:

National/International

1. **Baldauf KJ**, Jokinen JD, **Beier JI** and Arteel GE (2012) Acetaldehyde Dehydrogenase 2 (ALDH2) activation protects hepatocytes from mitochondrial damage and death caused by 4-hydroxynonenal. *The Toxicologist. Supplement to Toxicological Sciences* 126:108.
2. **Beier JI**, Zhong H, Joshi-Barve S, Falkner KC, Ritzenthaler JD, Roman J, and Arteel GE (2012) Critical role of crosstalk between fibrin ECM and Integrin signaling plays a critical role in hepatic regeneration after partial hepatectomy in mice. 7th International Symposium on ALPD, Beijing, China.
3. **Beier JI**, Zhong H, Joshi-Barve S, Falkner KC, Ritzenthaler JD, Roman J, and Arteel GE (2012) Role of ECM/integrin crosstalk in hepatic regeneration: implications for liver disease. ISBRA 2012 Satellite Symposium: Recent Progress in Biomedicine on Alcoholism, Kyoto, Japan.
4. **Beier JI**, Falkner KC, Cave M (2012) Vinyl Chloride Exposures Are Associated With Mitochondrial Toxicity And Hepatocellular Necrosis: Implications For Toxicant Associated Steatohepatitis. *Hepatology* 56:591A.
5. Cave M, **Beier JI**, Wheeler B, Falkner KC, Bellis-Jones H, Clair H, and McClain CJ (2012) Occupational Vinyl Chloride Exposures Are Associated With Significant Changes To The Plasma Metabolome: Implications For Toxicant Associated Steatohepatitis. *Hepatology* 56:882A.
6. Cave M, **Beier JI**, Wheeler B, Falkner KC, and McClain CJ (2012) Hepatic Angiosarcoma Due To Occupational Vinyl Chloride Exposure Generates A Distinct Plasma Metabolite Profile. *Hepatology* 56:594A.

Local/Regional

1. **Beier JI**, Falkner KC, Cave M (2012) Vinyl Chloride Exposures Are Associated With Mitochondrial Toxicity And Hepatocellular Necrosis: Implications For Toxicant Associated Steatohepatitis. *Research!Louisville*.

Benz:

1. **F. W. Benz**, J. Cai, D. E. Nerland and H. E. Hurst. Biomarkers of acrylonitrile exposure: second-order rate constants for the reaction of acrylonitrile with the most reactive sites in human hemoglobin. *Toxicological Sciences* 126, No. 1-Supplement, 528 (2012).
2. Harrell E. Hurst, Jian Cai, Donald E. Nerland, and **Fredrick W. Benz**. Numeric model estimation of kinetic parameters for parallel and sequential acrylonitrile-hemoglobin adduct formation using accurate mass proteomic data. *Journal of the American Society for Mass Spectrometry* Vol. 23 Supplement 1, 57 (2012)
3. **F.W. Benz**, J. Cai, D.E. Nerland, and H.E. Hurst. Evaluation of a Biomarker for Assessment of Acute Acrylonitrile Exposure in Humans. *Toxicology Letters* 211S: S47 (2012).

Cai:

1. F. W. Benz, **J. Cai**, D. E. Nerland and H. E. Hurst. Biomarkers of acrylonitrile exposure: second-order rate constants for the reaction of acrylonitrile with the most reactive sites in human hemoglobin. *51st Annual Meeting, Society of Toxicology*, March 11-15, 2012, San Francisco, CA.
2. X. Yang, C. Luo, **J. Cai**, D. W. Powell, G. Tezel. Immune/Inflammatory Responses of Retinal Astrocytes in Experimental Glaucoma. *2012 ARVO Annual Meeting*, May 6-9, 2012, Fort Lauderdale, FL.
3. C. Luo, X. Yang, **J. Cai**, D. W. Powell, G. Tezel. Cell-Specific Regulation of Autophagy in Experimental Glaucoma. *2012 ARVO Annual Meeting*, May 6-9, 2012, Fort Lauderdale, FL.
4. H. E. Hurst, **J. Cai**, D. E. Nerland, and F. W. Benz. Numeric model estimation of kinetic parameters for parallel and sequential acrylonitrile-hemoglobin adduct formation using accurate mass proteomic data. *60th ASMS Conference on Mass Spectrometry and Allied Topics*, May 20-24, 2012, Vancouver, BC, Canada
5. F.W. Benz, **J. Cai**, D.E. Nerland, and H.E. Hurst. Evaluation of a Biomarker for Assessment of Acute Acrylonitrile Exposure in Humans. *Eurotox, Congress of the European Societies of Toxicology*, June 17-20, 2012, Stockholm, Sweden.

Ceresa:

1. Peterson, J.L., Phelps, E.D., **Ceresa, B.P.** The Molecular Mechanism behind Betacellulin Induced Corneal Epithelial Wound Healing, Federation of the American Society of Experimental Biology, April 2012
2. **Ceresa, B.P.**, Peterson, J.L., Phelps, E.D., Betacellulin-Mediated Corneal Epithelial Cell Migration, Association for Research in Vision and Ophthalmology, May 2012.
3. Peterson, J.L., Phelps, E.D., **Ceresa, B.P.** The Molecular Mechanism behind Betacellulin Induced Corneal Epithelial Wound Healing, Research! Louisville, Sept 2012

Chen:

1. Song M et al., Chronic alcohol drinking exacerbates liver injury in high fructose diet fed mice. *Digestive Disease Week 2012* (Control ID: 1299458)
2. Song :M et al., Low fructose beverage consumption impairs copper status and causes liver injury and fat accumulation in marginal copper deficient rats. *Hepatology 2012*(ID # 1420694)
3. Song et al., Kupffer cells depletion eliminates high fructose induced fatty liver in marginal copper deficient rats. *Hepatology 2012*
4. Song M, **Chen T**, McClain CJ. Chronic alcohol drinking exacerbates liver injury in high fructose diet fed mice. Research!Louisville 2012
5. Oz H and **Chen, T**. Green tea polyphenols and sulfasalazine hve parallel anti-inflammatory properties in colitis models. *Digestive Disease Week 2012* (ID 1594836)

Gupta:

1. Munagala R, Aqil F, **Gupta RC**, Higashi RM & Vadhanam MV. Pomegranate components modulate distinct pathways in prostate cancer cells. *Proc. Am. Cancer Res.* 53: 2586, 2012.
2. Kakar SS, **Gupta RC** & Fong MY. Combination strategies for management of ovarian cancer using doxorubicin and withaferin A. *Proc. Am. Cancer Res.* 53: 2765, 2012.

3. Gadre S-Y, Aqil F, Jeyabalan J, Kausar H, Sharma R, Singh IP & **Gupta RC**. Enhance d anti-tumor activity and bioavailability of chemopreventives by coated polymeric implants. *Proc. Am. Cancer Res.* 53: 2883, 2012.
4. Aqil F, Jeyabalan J, Munagala R, Ravoori S, Vadhanam, MV & **Gupta RC**. Prevention of breast cancer by spices involvement of miRNAs and other molecular targets. *Proc. Am. Cancer Res.* 53: 5443, 2012.
5. Aqil F, Jeyabalan J, Munagala R, Ravoori S, Sharma R, Sidana J, Singh IP & **Gupta RC**. *Proc. Am. Cancer Res.* 53: 5447, 2012.
6. **Gupta RC**, Jeyabalan J, Aqil F, Sidana J, Singh IP, Munagala R, and Kausar H. Color' Therapy – Berry anthocyanidins as potential drug for cancer treatment, 3rd Annual Conference of Natural Products, S.A.S. Nagar, NIPER, November 22-24, India.
7. Sharma R, Bansal AK, **Gupta RC**, Singh IP. Stability Studies of anthocyanins in crude extract of fruit pulp of *Eugenia jambolana* ('Jamun'). H. Color' Therapy – Berry anthocyanidins as potential drug for cancer treatment, 3rd Annual Conference of Natural Products, S.A.S. Nagar, NIPER, November 22-24, India.

Hein:

1. **Leggett, C.S.**, Doll, M.S., States, J.C., Trent, J.O. and **Hein, D.W.**: Identification and characterization of novel arylamine N-acetyltransferase small molecular inhibitors. *The FASEB Journal* 26: 852.16, 2012.
2. **Carlisle, S.M., Leggett, C.S.**, Trent, J.O., Doll, M.A., States, J.C., and **Hein, D.W.**: In silico screening for novel human arylamine N-acetyltransferase 1 inhibitors. *Proceedings of Research!Louisville*, UCE-110, Louisville, Kentucky, September 2012.
3. Hickey, C., Kidd, L., **Hein, D.**, and Doll, M.: Examination of combined effects of well-done red meat, smoking and rapid N-acetyltransferase 1 and 2 on breast cancer susceptibility. *Proceedings of Research!Louisville*, GPH-100, Louisville, Kentucky, September 2012.
4. **Jackson, N., Leggett, C.S.**, Doll, M.A., States, J.C., and **Hein, D.W.**: Inhibition of human arylamine N-acetyltransferase 1 using curcumin and resveratrol increases the potency of small inhibitor compound 10. *Proceedings of Research!Louisville*, UCE-113, Louisville, Kentucky, September 2012.
5. **Stepp, M.**, Doll, M., **Millner, L.**, States, J.C., and **Hein, D.**: Functional analysis of arylamine N-acetyltransferase 1 (NAT1) NAT1*10 haplotype in NATa mRNA constructs. *Proceedings of Research!Louisville*, GRM-30, Louisville, Kentucky, September 2012.
6. Uebel, J., Doll, M.A., States, J.C., and **Hein, D.W.**: Effect of NAT2 acetylation polymorphism on drug and carcinogen metabolism in cryopreserved human hepatocytes in culture. *Proceedings of Research!Louisville*, MED-87, Louisville, Kentucky, September 2012.
7. **Hein, D.W.** and Kidd, L.R.: First year cohort results for the NCI R25 University of Louisville Cancer Education Program. *Proceedings of the 11th Annual James Graham Brown Cancer Center Retreat*, Abstract #43, Louisville, Kentucky, October 2012.
8. Hickey, C., Kidd, L., **Hein, D.W.**, and Doll, M.A.: Examination of combined effects of well-done red meat and rapid N-acetyltransferase 1 and 2 on breast cancer susceptibility. *Proceedings of the 11th Annual James Graham Brown Cancer Center Retreat*, Abstract #44, Louisville, Kentucky, October 2012.
9. **Stepp, M.**, Doll, M., **Millner, L.**, States, J.C., and **Hein, D.**: Functional analysis of arylamine N-acetyltransferase 1 (NAT1) NAT1*10 haplotype in NATa mRNA constructs.

Proceedings of the 11th Annual James Graham Brown Cancer Center Retreat, Abstract #96, Louisville, Kentucky, October 2012.

10. **Hein, D.W.**, **Millner, L.M.**, Zang, Y., Doll, M.A., and States, J.C.: Can substrate-dependent expression of genetic polymorphism confound associations with disease? Examples of associations between N-acetyltransferase genetic polymorphism and breast cancer. Personal Genomics and Medical Genomics meeting, Cold Spring Harbor Laboratory, New York, November 2012.

Hurst:

1. Benz FW, Cai J, Nerland DE, **Hurst HE**, Biomarkers of acrylonitrile exposure: second order rate constants for the reaction of acrylonitrile with the most reactive sites in human hemoglobin, 51st Annual Meeting, Society of Toxicology, San Francisco, CA, March 11 – 15, 2012 (Abstract #2448, *Toxicological Sciences* 126, No. 1-Supplement, 528 (2012)).
2. **Hurst, H.E.**, Cai, J., Nerland, D.E. and Benz, F.W., Numeric model estimation of kinetic parameters for parallel and sequential acrylonitrile-hemoglobin adduct formation using accurate mass proteomic data. 59th ASMS Conference on Mass Spectrometry and Allied Topics, Vancouver, B.C., Canada, May 20 – 24, 2012 (Abstract #2530, Poster MP 112, *Journal of the American Society for Mass Spectrometry* Vol. 23 Supplement 1, 57 (2012).)
3. Benz FW, Cai J, Nerland DE, **Hurst HE**. Evaluation of a biomarker for assessment of acute acrylonitrile exposure in humans. 48th Congress of the European Societies of Toxicology (EUROTOX), Stockholm, Sweden, June 17-20, 2012 (*Toxicology Letters* 211S: S47 2012),.
4. **Hurst, H.E.**, Cai, J., Nerland, D.E. and Benz, F.W., Numeric model estimation of kinetic parameters for parallel and sequential acrylonitrile-hemoglobin adduct formation using accurate mass proteomic data. Research!Louisville 2012, Louisville, KY, September 20, 2012.

Kidd:

National:

- 1 **Dominique Jones**, Divine Anene, **April Aloway**, Praise Anene, **Diana Avila**, Leila Gobejishvili, Shirish Barve, Lacey McNally, and **LaCreis R. Kidd**. Reduced Expression of miR-342-3p in stage I, III, and IV Prostate Cancer. AACR Annual Meeting, Washington, D.C., Abstract submitted November 15, 2012.
2. Kevin S. Kimbro, Susan T. Yeyeodu, G.M. Oprea, Tiva T. Vancleave, J.Y. Shim, **LaCreis R. Kidd**. Toll-Like Receptor (TLR)-Associated Sequence Variants as Predictors of Prostate Cancer Risk Among Men of African Descent. AACR Special Conference on Translation of the Cancer Genome: Scientific, Clinical, and Operational Challenges (October 15-18, 2011 at the Hyatt Regency San Francisco, CA.

Local:

1. Divine Anene, **Dominique Jones**, **April Aloway**, Praise Anene, **Diana Avila**, Leila Gobejishvili, Shirsh Barve, Lacey McNally and **LaCreis Kidd**. *Are Cell Adhesion Associated Micro-RNAs Linked With Metastatic Prostate Cancer?* The Kentucky Honors Roundtable, Murray State University, Murray, Kentucky, October 27, 2012. (**Outcome for NCI R25 Cancer Education Grant**)
2. **Dominique Jones**, Divine Anene, **April Aloway**, Praise Anene, **Diana Avila**, Leila Gobejishvili, Shirsh Barve, Lacey McNally and **LaCreis Kidd**. *Potential micro-RNA Biomarkers Associated with Cell Migration and Metastasis*. James Graham Brown Cancer

Center Retreat, Louisville, Kentucky, October 3, 2012. **(Outcome for NCI R25 Cancer Education Grant)**

3. Christina Hickey, David W. Hein, **La Creis R. Kidd**. *Examination of combined effects of well-done red meat, smoking, and rapid N-acetyltransferase 1 and 2 on breast cancer susceptibility*, James Graham Brown Cancer Center Retreat, Louisville, Kentucky, October 3, 2012. **(Outcome for NCI R25 Cancer Education Grant)**
4. Divine Anene, **Dominique Jones**, **April Aloway**, Praise Anene, **Diana Avila**, Leila Gobejishvili, Shirsh Barve, Lacey McNally and **LaCreis Kidd**. *Are Cell Adhesion Associated Micro-RNAs Linked With Metastatic Prostate Cancer?* Research Louisville!, Louisville, Kentucky, August 24, 2012. **(Outcome for NCI R25 Cancer Education Grant)**
5. **April Aloway**, **Dominique Jones**, Divine Anene, Praise Anene, **Diana Avila**, Leila Gobejishvili, Shirsh Barve, Lacey McNally and **LaCreis Kidd**. *Cell Survival miRNAs (29a, 29c, and 221) and Pre-metastatic Prostate Cancer?* Research Louisville!, Louisville, Kentucky, August 24, 2012. **(Outcome for NCI R25 Cancer Education Grant)**
6. **Dominique Jones**, Divine Anene, **April Aloway**, Praise Anene, **Diana Avila**, Leila Gobejishvili, Shirsh Barve, Lacey McNally and **LaCreis Kidd**. *Potential micro-RNA Biomarkers Associated with Cell Migration and Metastasis*. Research Louisville!, Louisville, Kentucky, August 24, 2012. **(Outcome for NCI R25 Cancer Education Grant)**
7. Christina Hickey, David W. Hein, **La Creis R. Kidd**. *Examination of combined effects of well-done red meat, smoking, and rapid N-acetyltransferase 1 and 2 on breast cancer susceptibility*, Research Louisville!, Louisville, Kentucky, August 24, 2012. **(Outcome for NCI R25 Cancer Education Grant)**

Lukashevich:

1. **Lukashevich, I.S.** Vaccine platforms to control arenavirus hemorrhagic fevers. Proceedings of 2nd International Conference on Vaccines and Vaccination, Aug 20-22, 2012, Hilton/Northbrook, USA, J Vaccines Vaccin 2012, 3(4):102.
2. Goicochea, M.A, **Lukashevich, I.S.** A small animal model for evaluation of immunogenicity of vaccine candidates against Lassa virus. Animal Model Development Workshop, Sept 17-18, 2012, NIH, Bethesda, MD, Program and Abstracts, p. 46.
3. **Lukashevich, I.S.**, Bredenbeek, P., Pushko, P. Experimental Lassa fever vaccines targeting different groups at risk. Emerging Viruses: Disease Models and Strategies for Vaccine Development, Oct 23-24, 2012, Galveston, TX, Program and Abstracts, p. 88.
4. Goicochea, M., I. Tretyakova, P. Pushko, **I.S. Lukashevich**. Expression of Lassa virus glycoproteins with cross-presenting potential in an alphavirus-based virus-like-particle vector. International Conference: Virus-Like Particle & Nano-Particle Vaccines, 28-30 November 2012, Cannes, France.

Matoba:

1. Hamorsky K*, Kouokam JC, Bennett L, **Matoba N**. Plant-derived Cholera Toxin B Subunit for Aide in Mass Vaccination against Cholera. New Cells, New Vaccine VI, Wilmington, DE, March 2012.
2. **Baldauf K***, Kouokam J, Hamorsky K, Jala V, Bodduluri H, **Matoba N**. Oral administration of plant-made cholera toxin B subunit mitigates inflammation in a mouse model of colitis. Research!Louisville, Louisville, KY, September 2012.
3. Hamorsky K, Grooms-Williams T, Husk A, Bennett L, Palmer K, **Matoba N***. Efficient

bioproduction of IgG monoclonal antibodies in Nicotiana plants. Research!Louisville, Louisville, KY, September 2012.

4. Hamorsky K, Grooms-Williams T, Husk A, Bennett L, Palmer K, **Matoba N***. “Efficient bioproduction of IgG monoclonal antibodies in Nicotiana plants.” James Graham Brown Cancer Center Retreat, October 2012, Louisville, KY.
5. Grooms-Williams T*, Hamorsky KT, Bennett L, Husk A, **Matoba N**. “Synergistic activity profile of the broadly HIV neutralizing monoclonal antibody VRC01 in combination with other HIV inhibitors” James Graham Brown Cancer Center Retreat, October 2012, Louisville, KY.
6. Speer D*, Husk A, **Matoba N**. “Plant-based Production of Bi-specific HIV Inhibitor as Topical Microbicide” 2012 Kentucky Academy of Science Undergraduate Poster Presentation, October 19 – 20, 2012, Richmond, KY. – *Mr. Speer, an undergraduate intern in my lab, received a Third Place award in the Molecular and Cellular Biology category.*
7. Husk A*, Speer D, **Matoba N**. “Plant-based Production of Bi-specific HIV Inhibitor as Topical Microbicide” James Graham Brown Cancer Center Retreat, October 2012, Louisville, KY. – *Mr. Husk, a research technologist in my lab, received a Second Place award.*
8. Bennett L*, Hamorsky KT, Kouokam JC, Baldauf K, **Matoba N**. “A plant-produced cholera toxin B subunit variant devoid of cryptic N-glycan modification retains key molecular properties and oral immunogenicity” James Graham Brown Cancer Center Retreat, October 2012, Louisville, KY.
9. **Matoba N***, **Baldauf K**, Husk A, Morris MK, Hamorsky K, Palmer K, Hanson C. A Novel, Non-ARV-Based Topical HIV-1 Microbicide Candidate Targeting Viral High-Mannose Glycans. 2nd Antivirals Congress, Cambridge, MA, November 2012. –*abstract selected for an oral presentation.*

Nerland:

1. F. W. Benz, J. Cai, **D. E. Nerland** and H. E. Hurst. Biomarkers of acrylonitrile exposure: second-order rate constants for the reaction of acrylonitrile with the most reactive sites in human hemoglobin. Toxicological Sciences 126, No. 1-Supplement, 528 (2012).
2. H.E. Hurst, J. Cai, **D.E. Nerland**, and F. W. Benz. Numeric model estimation of kinetic parameters for parallel and sequential acrylonitrile-hemoglobin adduct formation using accurate mass proteomic data. Journal of the American Society for Mass Spectrometry Vol. 23 Supplement 1, 57 (2012).
3. F.W. Benz, J. Cai, **D.E. Nerland**, and H.E. Hurst. Evaluation of a Biomarker for Assessment of Acute Acrylonitrile Exposure in Humans. Toxicology Letters 211S:S47 (2012).
4. H.E. Hurst, J. Cai, **D.E. Nerland**, and F.W. Benz, Numeric model estimation of kinetic parameters for parallel and sequential acrylonitrile-hemoglobin adduct formation using accurate mass proteomic data. Research!Louisville 2012, Louisville, KY, September 20, 2012.

Palmer:

1. Féris G, **Palmer KE**, Schols D. Broad spectrum anti-HIV activity of griffithsin and synergy with the antiviral drugs maraviroc, tenofovir and raltegravir. *Congress on Retroviruses and Opportunistic Infections (CROI) 2012*. Seattle, WA, March 2012.

2. **Lasnik AB**, Wang L, Rohan LC, La Branch C, Montefiori DC, **Palmer KE**. Investigation of the immunogenicity of natural product lectin microbicide candidates. *Microbicides 2012* Sydney Australia, April 2012
3. Nixon B, Stefanidou M, Fakioglu E, Segarra T, Rohan LC, Wang L, Lackman-Smith C, Snyder C, Lasnik AB, **Palmer KE**, Herold BC. A carbopol gel formulation of the antiviral lectin griffithsin protects against HSV-2 challenge in a murine model. *Microbicides 2012* Sydney, Australia, April 2012.
4. Wang L, Schnaare R, Dezzutti CS, Russo J, **Palmer KE**, McGowan I, Rohan LC. Development and assessment of a rectal specific combination microbicide gel containing Tenofovir and Griffithsin. *Microbicides 2012* Sydney, Australia, April 2012.
5. Wang L, **Palmer KE**, Ferguson L, and Rohan LC. A microbicide gel for vaginal delivery of Griffithsin: development and *in vitro* release. *Microbicides 2012* Sydney, Australia, April 2012.
6. Hamorsky, K, Grooms-Williams T, Husk A, Bennett L, **Palmer KE**, Matoba N*. Efficient bioproduction of IgG monoclonal antibodies in Nicotiana plants. Research!Louisville, Louisville, KY, September 2012
7. Hamorsky K, Grooms-Williams T, Husk A, Bennett L, **Palmer KE**, Matoba N*. “Efficient bioproduction of IgG monoclonal antibodies in Nicotiana plants.” James Graham Brown Cancer Center Retreat, October 2012, Louisville, KY.
8. Matoba N, **Baldauf K**, Husk A, Morris MK, Hamorsky K, Palmer KE, Hanson C. A novel non-ARV based topical microbicide candidate targeting viral high mannose glycans. 2nd Antivirals Congress, Cambridge, MA, November 2012.
9. Fuqua J, Augenstein A, Riedell S, **Lasnik AB**, Walker J, Hamorsky K, Matoba N, **Palmer KE**. Next-generation HPV Prophylactic Vaccines: Optimizing Construct Design and Evaluating mucosal immunization routes. James Graham Brown Cancer Center Retreat, October 2012, Louisville, KY. *This poster won 2nd prize in the Postdoctoral Fellow category.*
10. Augenstein A, Fuqua A, Riedell S, **Lasnik AB**, Walker J, Hamorsky K, Matoba N, **Palmer KE**. Preclinical evaluation of next generation HPV prophylactic vaccines. *Research!Louisville* September 2012. *This poster won 1st prize in the Medical Student category.*
11. **Lasnik AB**, **Palmer KE**. Assessment of the immunogenicity of a biopharmaceutical intended for topical administration. *Research!Louisville* September 2012.
12. Barton CB, Grooms-Williams T, Matoba N, **Palmer KE**. Oral Administration of Griffithsin in Rodents Supports Its Potential as a Rectal Microbicide to Combat Rectal HIV Transmission. *Research!Louisville* September 2012.

Sankar:

1. Wilkerson DC, Cates J and **Sankar U**. “Regulation of the Mitochondrial Fission GTPase Drp1 by the Sulfhydryl Oxidase GFER”. *Keystone Symposia on Mitochondrial Dynamics and Function*, Banff, Alberta Canada, March 19-24, 2012. **-Selected for an oral presentation.**
2. Wilkerson DC, Cates J, Cary R and **Sankar U**. “Regulation of the Mitochondrial Fission GTPase Drp1 by the Sulfhydryl Oxidase GFER”. Research! Louisville, September 2012, Louisville, KY.
3. Cary R, Waddell S, Long F, Novack DN, Voor, MJ, and **Sankar U**. “CaMKK2 Inhibition as a Bone Anabolic Strategy in Combating Age and Malignancy-Induced Bone Loss”. Research! Louisville, September 2012, Louisville, KY. **Won First Place in Staff Category.**

4. Cary R, Voor, MJ, Novack DN and **Sankar U**. “Ca²⁺/Calmodulin-Dependent Protein Kinase Kinase 2 as a Novel Modulator of Bone Remodeling”. 34th Annual Meeting of the American Society for Bone and Mineral Research, October 12-15, 2012, Minneapolis, MN.
5. Wilkerson DC, Cates J, Cary R and **Sankar U**. “Regulation of the Mitochondrial Fission GTPase Drp1 by the Sulfhydryl Oxidase GFER”. 11th Annual Brown Cancer Center Retreat, October 26, 2012, The Olmstead, Louisville, KY.
6. Cary R, Waddell S, Long F, Novack DN, Voor, MJ, and **Sankar U**. “CaMKK2 Inhibition as a Bone Anabolic Strategy in Combating Age and Malignancy-Induced Bone Loss”. 11th Annual Brown Cancer Center Retreat, October 26, 2012, The Olmstead, Louisville, KY.
Won First Place in the Roving Award Category.

Song:

1. Kumar A, Qiao Z, **Kumar P**, **Song ZH**. Effect of oleoylethanolamide on aqueous humor outflow. The Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL, May, 2012.
2. **Kumar P**, Kumar A, **Song ZH**. Structure activity relationships of ligands for GPR119--a GPCR that is related to cannabinoid receptors. International Cannabinoid Research Society Conference, Freiberg, Germany, July, 2012.
3. J Singh, D Lynch, **Song ZH**, and PH Reggio. The importance of CB2 homodimer to the CB2 catalyzed activation of Gi protein. International Cannabinoid Research Society Conference, Freiberg, Germany, July, 2012.
4. Devane, WA, Stevens, DL, Finn, DP, **NM Nebane**, **Song ZH**, Peters D, Crawford D, Walker JM, Applegate B, Kennish JM, Cassidy MP, Selley DE, Zimmer A, Zimmer A, Dewey WL. Leelamine, a novel diterpene, exhibits cannabimimetic effects in CB1 receptor knockout mice. International Cannabinoid Research Society Conference, Freiberg, Germany, July, 2012.

States:

1. **States JC**, France CA, **Taylor BF**, Tent JO. Targeting the anaphase promoting complex/cyclosome to inhibit cell cycle and to induce apoptosis. Abstract 2049, The Toxicologist CD—An official journal of the Society of Toxicology, Volume 126, Issue 1, March 2012
2. **M Stepp**, MA Doll, **L Millner**, **JC States**, DW Hein. Functional analysis of arylamine N-acetyltransferase 1 (NAT1) NAT1*10 haplotype in NATa mRNA constructs. Research!Louisville, University of Louisville, Louisville, KY, September 18-21, 2012.
3. **SM Carlisle**, **CS Leggett**, JO Trent, MA Doll, **JC States**, DW Hein. In Silico Screening for Novel Human Arylamine N-Acetyltransferase 1 Inhibitors. Research!Louisville, University of Louisville, Louisville, KY, September 18-21, 2012.
4. **N Jackson**, **CS Leggett**, MA Doll, **JC States**, DW Hein. Inhibition of Human Arylamine N-Acetyltransferase I using Curcumin and Resveratrol Increases the Potency of Small Inhibitor Compound 10. Research!Louisville, University of Louisville, Louisville, KY, September 18-21, 2012.
5. J Uebel, M Doll, **JC States**, D Hein. Effect of NAT2 Acetylation Polymorphism on Drug and Carcinogen Metabolism in Cryopreserved Human Hepatocytes in Culture. Research!Louisville, University of Louisville, Louisville, KY, September 18-21, 2012.

6. DJ Saforo, BC Sils, **BF Taylor**, JO Trent, **JC States**. Candidate Drugs Target the APC/C to Induce Mitotic Arrest in Ovarian Cancer. Research!Louisville, University of Louisville, Louisville, KY, September 18-21, 2012.

**Active Grants/contracts and other research activities
Faculty with Primary Appointments**

Arteel:

Agency/Number	Title	Role	PI	Project Period	Budget Award
RC2 AA019385	Biomarkers for Steatohepatitis	Co-I	McClain	09/30/09-08/31/12	\$1,536,994
R01 AA010154	TNF α and recovery from alcoholic liver injury	Subcon. PI	Diehl (Duke)	09/01/09-07/31/12	\$140,255
T32 ES011564	UofL Environmental Health Sciences Training Program	Mentor	Hein	07/01/09-06/30/14	\$2,037,745
P01 AA017103	Alcohol liver disease and alcohol-nutrient interactions	Director, animal core	McClain	09/30/08-08/31/12	\$1,350,000
R01 AA003624	Control of drug and ethanol metabolism	PI	Arteel	05/02/06-10/30/12	\$1,364,794
U01 AA021901	Novel therapies in alcoholic hepatitis University of Louisville	Co-I	McClain	10/01/12-09/31/17	\$1,554,829
R21 ES021311	Effect of dietary fat on the hepatotoxicity of environmental arsenic	Co-I	Watson	05/25/12–04/30/14	\$449,750
UofL IRIG CEG mechanism	Role of ECM and inflammatory remodeling in alcohol-induced liver and lung damage	PI	Arteel	07/01/12-06/30/13	\$15,000

Benz:

Agency/Number	Title	Role	PI	Project Period	Budget Award
DoD US Army W81XWH-10-2-0143	Biomarkers of Exposure and Mechanism of Action of Toxic Industrial Chemicals (TICs)	PI		9/27/2010 – 6/30/2013	\$558,000

Cai:

Agency/Number	Title	Role	PI	Project Period	Budget Award
R01 EY013813-	TNF-alpha in Cell Death & Neuroprotection in	Co-I	Tezel	8/07-7/12	1,850,000

07 (NIH)	Glaucoma				
R01 HL094419-01A1 (NIH)	O-GlcNAc Signaling in Heart Failure	Co-I	Jones	8/09-6/12	1,942,775
DoD US Army W81XWH-10-2-0143	Biomarkers of Exposure and Mechanism of Action of Toxic Industrial Chemicals (TICs)	Co-I	Benz	9/27/2010 – 9/26/2012	558,000

Ceresa:

Agency/Number	Title	Role	PI	Project Period	Budget Award
NIH/NIGMS R01GM092874	Endocytic Regulation of EGFR Signaling	PI	30%	09/01/10-08/31/14	\$600,000
NIH/NEI R01EY021497	Modulation of EGFR Signaling to Promote Corneal Wound Healing	PI	50	01/01/12 – 12/31/14	\$750,000

Davis:

Agency/Number	Title	Role	PI	Project Period	Budget Award
DoD/USAMRMC W81XWH-09-2-0022	Development of Novel Vaccines and Therapeutics Using Plant-Based Expression Systems	Co-PI	Donald Wilkerson	03/15/09 - 03/14/12 Currently in 1 yr no-cost extension	\$1,680,000
Owensboro Grain	Development of Lunasin as a Chemoprevention Agent	PI	Keith Davis	05/01/2010 - 10/31/2013	\$ 496,151
DoD/USAMRMC W81XWH-10-2-0082- CLIN 1	Plant-Based Expression Systems for New Vaccines and Therapeutics	Co-PI	Donald Wilkerson	08/23/2010 - 08/22/2013	\$1,751,000
Kentucky soybean Promotion Board	Continued Development of the Soybean-Derived Peptide Lunasin as an Anticancer Agent	PI	Keith Davis	7/1/2011 - 6/30/2012	\$78,059
DoD/USAMRMC W81XWH-10-2-0082- CLIN 2	Plant-Based Expression Systems for New Vaccines and Therapeutics	Co-PI	Donald Wilkerson	9/30/2011 -10/29/2015	\$1,748,000

Kentucky soybean Promotion Board	Continued Development of the Soybean-Derived Peptide Lunasin as an Anticancer Agent	PI	Keith Davis	7/1/2012 - 6/30/2013	\$78,559
Kentucky Science and Engineering Foundation	Plant-Based Expression of an Alpha-1 Antitrypsin Biosimilar	PI	Keith Davis	7/1/2012 - 6/30/2013	\$50,000

Gupta:

Agency/Number	Title	Role	PI	Project Period	Budget Award
NCI CA-118114	Breast Cancer Chemoprevention Strategies	PI	Gupta	04/07 - 03/13	\$1,416,820
NCI CA-125152	Breast Cancer Chemoprevention Potential of Common Spices	PI	Gupta	07/07 - 05/13	\$1,406,000
KY Lung Cancer Res. Board	Activation of the Par-4 Extrinsic Pathway for Suppression of Lung Cancer	PI	Gupta	12/10 - 11/13	\$150,000
U.S. Highbush Blueberry Council	Prevention of Breast Cancer by Blueberry	PI	Gupta	07/11 - 6/13	\$91,431
UofL CEG	Prevention & Treatment Strategies for Lung Cancer Recurrence & Metastasis	PI	Gupta	02/12 - 01/13	\$15,000
R43-CA-162417	Sustained, Target Delivery for Treatment of Cervical Pathologies	PI	Gupta	07/12 - 12/13	\$300,000 (Sub award \$91,000)

Hein:

Agency/Number	Title	Role	PI	Project Period	Budget Award
NIH/NIEHS (T32-ES011564)	UofL Environmental Health Sciences Training Program	PI	Hein	07/01/2009 – 06/30/2014	\$2,037,745
NCI R25CA011564	University of Louisville Cancer Education Program	PI	Hein	09/14/2011-08/31/2016	\$1,543,610
NIEHS T35 ES014559	Summer Environmental Health Sciences Training Program	Mentor	Prough	04/01/2011 – 03/31/2016	\$175,814
NIH (P30-	Center for Environmental Genomics and Integrative	Investigat	Ramos	06/04/2007 –	\$4,440,000

ES014443)	Biology	or		03/31/2012	
NCI Contract HHSN261201100 383P	Study of Candidate Xenobiotic Metabolism Genes and Renal Cancer	PI	Hein	09/01/2011– 08/30/2012	\$7,913

Hurst:

Agency/Number	Title	Role	PI	Project Period	Budget Award
US Army Med Research W81XWH-10-2- 0143	Biomarkers of Exposure and Mechanism of Action of Toxic Industrial Chemicals (TICs)	Co-I	Benz	09/27/2010 – 06/30/2013	\$558,000

Kang:

Agency/Number	Title	Role	PI	Project Period	Budget Award
NIH-NHLBI, 2R01 HL063760	Oxidative stress and heart failure by copper restriction	PI		07/01/07-06/30/13	\$1,480,000

Kidd:

Agency/Number	Title	Role	PI	Project Period	Budget Award
NIH, NIEHS T32-ES011564	UofL Environmental Health Science Training Program	Mentor	Hein	07/1/09-06/30/14	\$1,999,550
R25-CA134283- 01A1	University of Louisville Cancer Education Program	Co-I Cancer Educatio n Coordinat or Mentor	Hein	9/14/12-08/31/16	\$1,560,990

Lukashevich:

Agency/Number	Title	Role	PI	Project Period	Budget Award
NIH/R01 AI093450	Development of New Bivalent Cross-Protective Arenaviral Vaccines	PI		04/01/2011-03/31/2016	\$3,964,538
NIH/R43 AI094863 (SBIR)	Novel DNA-launched Attenuated Vaccine for VEE Virus	Co-PI	P. Pushko	03/01/2012-05/31/2013	\$171,849
NIH/R43 AI094700 (SBIR)	Trivalent Arenaviral Vaccine Based on Virus-Like Particle Vectors (VLPVs)	Co-PI	P. Pushko	04/01/2012-07/30/2013	\$56,213
NIH/R03 AI094159	A Novel DNA-launched Live Attenuated Chikungunya Vaccine	Co-PI	P. Pushko	03/01/2012 - 08/31/2013	\$37,250
NIH/R43 AI0889231 (SBIR)	Infectious DNA Vaccine for Yellow Fever	Co-PI	P. Pushko	03/01/2012-10/31/2012	\$19,223

Matoba:

Agency/Number	Title	Role	PI	Project Period	Budget Award
NIH NIAID Microbicide Innovation Program V /R21/R33 AI088585	Plant-produced Actinohivin as a Candidate HIV Microbicide	PI		06/10/10 – 06/30/15	\$1,175,000 (total direct costs)
DoD/USAMRMC/ W81XWH-09-2-0022	Development of Novel Vaccines and Therapeutics Using Plant-Based Expression Systems	Member	Wilkerson	03/15/09 – 03/14/13	\$1,680,000 (total direct costs)
DoD/USAMRMC/	Plant-Based Expression Systems for New Vaccines	Subproje	Wilkerson	08/23/2010 to	\$390,000 (total

W81XWH-10-2-0082- CLIN 1	and Therapeutics	ct PI		08/22/2013	subproject direct costs)
DoD/USAMRMC/W81XWH-10-2-0082- CLIN 2	Plant-Based Expression Systems for New Vaccines and Therapeutics	Subproject PI	Wilkerson	9/30/2011 to 10/29/2015	\$1,748,000 (total direct costs)
UofL Office of the Vice President for Research IRIG Research Initiation Grant/50721	Prophylactic potential of plant-produced cholera toxin B subunits in experimental colitis	PI		06/01/11 – 11/30/12	\$5,000 (total direct costs)
Brown Cancer Center Helmsley Trust Program /G2142	Immunotherapeutic potential of plant-made CTB against colitis and colon cancer	PI		07/18/11 – 07/17/13	\$170,000 (total direct costs)
UofL Office of the Vice President for Research IRIG Competitive Enhancement Grant/50730	Development of a recombinant entry/fusion-bispecific inhibitor toward a topical HIV-1 microbicide.	PI		10/01/11 – 12/31/12	\$15,000 (total direct costs)

Myers:

Agency/Number	Title	Role	PI	Project Period	Budget Award
Univ. of CA Tobacco-related Disease Research Prog/17RT-0138	Measuring prenatal tobacco exposure in newborn blood spots	Co-PI		07/01/08 - 06/30/12	\$506,927

Nerland:

Agency/Number	Title	Role	PI	Project Period	Budget Award
DoD US Army W81XWH-10-2-0143	Biomarkers of Exposure and Mechanism of Action of Toxic Industrial Chemicals (TICs)	Co-PI	Benz	9/27/2010 – 6/30/2013	\$558,000

Palmer:

Agency/Number	Title	Role	PI	Project Period	Budget Award
National Institutes of Health/NIAID AI 076169	Antiviral lectins as microbicides	PI	Palmer	04/15/2008-12/31/2012	\$1,760,728
National Institutes of Health/NIAID AI 076169S1	Administrative supplement: Antiviral lectins as microbicides	PI	Palmer	07/01/2010-12/31/2012	\$522,561
Harry B and Leona M Helmsley Charitable Trust	Pan-oncogenic HPV vaccine	PI	Palmer	08/01/2011-07/31/2012	\$340,000
PI of sub-project	Plant-produced Actinohivin as a Candidate HIV Microbicide	Co-I	Matoba	06/01/2010-5/31/2012	\$409,750
National Institutes of Health/NIAID R33 AI088585	Plant-produced Actinohivin as a Candidate HIV Microbicide	Co-I	Matoba	06/01/2012-5/31/2015	\$1,350,000
DoD/USAMRMC W81XWH-09-2-0022	Development of Novel Vaccines and Therapeutics Using Plant-Based Expression Systems	PI of sub-project	Wilkerson	03/15/09- 03/14/12	\$1,680,000
DoD/USAMRMC W81XWH-10-2-0082- CLIN 1	Plant-Based Expression Systems for New Vaccines and Therapeutics	PI of sub-project	Wilkerson	08/23/2010-08/22/2013	\$1,751,000
DoD/USAMRMC	Plant-Based Expression Systems for New Vaccines	PI of sub-	Wilkerson	9/30/2011-10/29/2015	\$1,748,000

W81XWH-10-2-0082- CLIN 2	and Therapeutics	project			
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Sankar:

Agency/Number	Title	Role	PI	Project Period	Budget Award
Department of Defense CDMRP Discovery Award /PR121604	CaMKK2 Inhibition in Enhancing Bone Fracture Healing	PI		01/15/2013-07/14/2015	\$187,000 (Total Costs)
UofL Office of the Exec. VP for Research and Innovation - Competitive Enhancement Grant	Role of Calmodulin-dependent protein kinase kinases in bone remodeling	PI		09/01/12 – 08/31/13	\$15,000
Brown Cancer Center/ Helmsley Trust Program	Role of Calmodulin-Dependent Protein Kinase Signaling in Hematopoiesis	PI		06/01/12- 05/31/14	\$120,000
NIAID/4R33AI088 585-03	Plant-produced Actinohivin as a Candidate HIV Microbicide	Co-I	Matoba	06/10/10 – 05/31/12	\$275,000 (total direct costs)
IOIC100629X04 Owensboro Grain Company	Development of Lunasin as a Chemoprevention Agent	Co-I	Keith Davis	05/01/2010 to 11/01/2012	\$ 316,388
DoD/USAMRMC W81XWH-09-2-0022	Development of Novel Vaccines and Therapeutics Using Plant-Based Expression Systems	Sub-Project PI	Wilkerson	03/15/09 - 03/14/12	\$1,680,000
DoD/USAMRMC W81XWH-10-2-0082- CLIN 1	Plant-Based Expression Systems for New Vaccines and Therapeutics <u>Sub-Project:</u> Ca ²⁺ /Calmodulin dependent protein kinases in early embryonic neuronal development	Sub-Project PI	Wilkerson	08/23/10 – 08/22/13	\$1,751,000 Sub-project: \$389,505

DoD/USAMRMC W81XWH-10-2- 0082- CLIN 2	Plant-Based Expression Systems for New Vaccines and Therapeutics <u>Sub-Project</u> : Ca ²⁺ /Calmodulin dependent protein kinases in vaccine-related immunogenicity	Sub- Project PI	Wilkerson	9/30/2011-10/29/2015	\$1,748,000
NIH R25- CA134283	University of Louisville Cancer Education Program	Mentor	Hein	09/14/11 – 08/30/16	\$1,543,610 total costs

Song:

Agency/Number	Title	Role	PI	Project Period	Budget Award
R01EY13632	Cannabinoid Receptors-Potential Targets for Novel Antiglaucoma Drugs	PI	ZH Song	8/1/2009- 7/31/2012	\$740,000

States:

Agency/Number	Title	Role	PI	Project Period	Budget Award
KLCRP	Role of REV1 in Carcinogen Induced Lung Cancer	PI	States	12/1/11 – 5/30/13	\$75,000
SoMRC	Novel Cancer Chemotherapeutics Targeting Mitosis	PI	States	12/1/11 – 5/30/13	\$15,000
NIH-NIEHS / R01ES017260-04	Atherogenic Mechanisms Of Arsenic	Co-I	Srivastava	6/15/09 – 3/31/14	\$1,641,792

Research Grants Submitted Faculty with Primary Appointments

Arteel:

Agency/Number	Title	Role	PI	Project Period	Budget Request
NIAAA	Prenatal alcohol exposure: impact on insulin signaling pathways	Co-I	Neal	07/01/13- 06/30/18	\$1,875,000
NIEHS	Maternal cigarette smoke exposure: impact on offspring gut-liver axis function	Co-I	Neal	07/01/13- 06/30/15	\$412,500
NIAAA	Prenatal Alcohol Exposure: Impact on Gut Function	Co-I	Neal	07/01/13-	\$412,500

				06/30/15	
NIEHS	Gut-liver interaction in arsenic-enhanced obesity-induced liver disease	PI	Arteel	07/01/13-03/31/18	\$1,875,000
NIAAA	Role of ECM and inflammatory remodeling in alcohol-induced liver and lung damage	PI	Arteel	09/01/12-08/31/17	\$1,875,000
NIAAA	Nutrition, Gut Flora/Intestinal Dysfunction in Alcohol-Induced Organ Injury	Pilot Core Director; Project 3 CoPI	McClain	12/01/13-11/30/18	\$8,999,998

Beier:

Agency/Number	Title	Role	PI	Project Period	Budget Request
1K01DK096042-01	Enhancement of NAFLD risk by vinyl chloride: interaction of gut-liver-adipose axis	PI	Beier	07/01/12-06/31/17	\$483,804
1K01 DK096042-01 A1	Enhancement of NAFLD risk by vinyl chloride: interaction of gut-liver-adipose axis	PI	Beier	04/01/13-03/31/18	\$483,804

Cai:

Agency/Number	Title	Role	PI	Project Period	Budget Request
NIH/R01	Primogenesis in Cancer	Co-I	Kang	9/12-8/17	5,547,546
NIH/R01	Primogenesis in Cancer	Co-I	Kang	1/13-12/17	3,576,821
NIH/R01	Prevention & Treatment Strategies for Lung Cancer Recurrence & Metastasis	Co-I	Gupta	12/12-11/17	2,693,290
NIH/R01	Oxidative Stress, Neuroprotection & Immunomodulation in Glaucoma	Co-I	Tezel	4/13-3/18	1,875,000
DOD/preproposal	Novel Small Molecules that Selectively Target SOX9-Expressing Cells.	Co-I	Bates	2/13-1/16	562,500
DOD/preproposal	Identification of PVS Biomarkers & Antibody Development for Elucidating Its Roles in Breast Cancer Development & Metastasis	Co-I	Kang	7/13-6/16	545,376
NIH/R01	Strategies for Lung Cancer Prevention and Treatment	Co-I	Gupta	8/13-7/18	3,650,677
NIH/R21	TLR's and Immune Regulation in Glaucoma	Co-I	Tezel	7/13-6/15	412,500

Davis:

Agency/Number	Title	Role	PI	Project Period	Budget Request
Kentucky soybean Promotion Board	Continued Development of the Soybean-Derived Peptide Lunasin as an Anticancer Agent	PI	Keith Davis	7/1/2011 to 6/30/2012	\$78,559
Kentucky Science and Engineering Foundation	Plant-Based Expression of an Alpha-1 Antitrypsin Biosimilar	PI	Keith Davis	7/1/2012 to 6/30/2013	\$50,000
NIH/NCI	Enhancing anti-tumor immunity of NK cells by lunasin for cancer immunotherapy	Co-I	Hua-Chen Chang	7/1/2013 to 6/30/2015	\$100,000 direct cost

Gupta:

Agency/Number	Title	Role	PI	Project Period	Budget Request
NCI R01-CA-166306	Prevention & Treatment Strategies for Lung Cancer Recurrence & Metastasis	PI	Gupta	04/12 - 03/14	\$2,500,000
NIEHS R21-ES-021608	Role of miRNAs in Hormonal Breast Cancer	PI	Gupta	04/12 - 03/14	\$412,125
NIEHS R01-ES-021769	Role of Estrogen in Lung Cancer	PI	Gupta	04/13 - 06/18	\$2,400,110
NCI R01-CA-169311	Inhibition of Breast Cancer by Berry Bioactives	PI	Gupta	07/12 - 06/17	\$2,598,627
NCI R01-CA-169366	Novel Combination Therapy for Management of Ovarian Cancer	Co-I	Kakar	07/12 - 06/17	\$2,278,989
NCAAM/NCI R01-AT-007428	Inhibition of Lung Cancer by Berry Polyphenolics	PI	Gupta	07/12 - 06/17	\$2,256,809

Hein:

Agency/Number	Title	Role	PI	Project Period	Budget Request
NCI R25CA011564	University of Louisville Cancer Education Program	PI	Hein	09/01/2012-08/31/2013	\$303,936

(non-competing renewal)					
NIEHS K99/R00 (K99ES022264)	Role of N-acetyltransferase 1 in breast cancer metastasis (pathway to independence)	Mentor	Bourcy	09/01/2012 – 08/31/2017	\$909,140
DOD/CDMRP Post-doctoral fellowship	Role of N acetyltransferase 1 in breast cancer metastasis	Mentor	Bourcy	09/30/2012 – 09/30/2015	\$324,000
DOD/CDMRP Post-doctoral fellowship	Capture and Characterization of Circulating Tumor Cells in Breast Cancer	Co-Mentor	Millner	06/01/2013 – 05/31/2016	\$450,000
Postdoctoral ACS Grant	Capture and characterization of circulating tumor cells	Co-Mentor	Millner	09/01/2012 – 08/31/2015	\$150,000
Several institutional COBRE, Center, and training grant proposals		Internal Advisory Committee			

Kang:

Agency/Number	Title	Role	PI	Project Period	Budget Request
NIH,2R01HL063760-09	Oxidative stress and heart failure by copper restriction	PI		04/01/13-03/31/18	1,250,000 (Direct Cost)

Kidd:

Agency/Number	Mechanism/Title	Role	PI	Project Period	Budget Request
Expression Analysis & Golden Helix	Epithelial-Mesenchymal Transition miRNAs as predictors of prostate cancer progression and pre-metastasis	PI	Kidd	6/15/2012-5/15/2012	N/A

NIH R01 OGMB121405	Racial Disparity in Pancreatic Adenocarcinoma	Co-I	McNalley	2013-2018	\$1,923,701
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Lukashevich:

Agency/Number	Title	Role	PI	Project Period	Budget Request
R43(SBIR)	MOPV-vectored Lassa Fever Vaccine	Co-PI	PP	5/1/2013- 4/30/2015	\$50,000

Matoba:

Agency/Number	Title	Role	PI	Project Period	Budget Request
NIH NIAID/ U19 AI 103458-01	Griffithsin-based microbicides for HIV-1 prevention	Project 2 Co-I; Core A Member; Core B PI	Palmer PD/Matoba Core B PI	1/01/13 – 12/31/17	\$9,004,205 (total direct costs) <i>Not funded</i>
The Bill and Melinda Gates Foundation Grand Challenges Explorations Round 9	Engineering Tobacco Plants to Produce Authentic HIV Vaccines	PI		10/01/12 – 04/30/14	\$100,000 (total direct costs) <i>Not funded</i>
NIH NIAID Microbicide Innovation Program V R33 transition application	Plant-produced Actinohivin as a Candidate HIV Microbicide	PI		12/01/12 – 11/30/15	\$900,000 (total direct costs) Funded

Palmer:

Agency/Number	Title	Role	PI	Project Period	Budget Request
National Institutes of Health/NIAID U19 AI-108345	Griffithsin-based microbicides for HIV prevention	Program Director, Principal Investigator of Admin Core, PI of Project 2	Palmer	01/01/2013-12/31/2017	\$12,851,971

Sankar:

Agency/Number	Title	Role	PI	Project Period	Budget Request
Department of Defense CDMRP Discovery Award/PR121604	CaMKK2 Inhibition in Enhancing Bone Fracture Healing	PI		01/15/2013-07/14/2015	\$187,000 (Total Costs) – Awarded
Research Scholar Grant/American Cancer Society	CaMKK2 Inhibition in Palliative Care of Advanced Prostate Cancer Patients	PI		07/01/13-06/30/17	\$838,039 Total direct costs
Department of Defense CDMRP/PCRP/P C120844	CaMKK2 Inhibition as a Therapeutic Approach in the Treatment for Osteoporosis in Advanced Prostate Cancer Patients on Androgen Deprivation Therapy	PI		02/01/13-01/31/16	\$375,000 total direct costs – Preapplication Invited for a Full Proposal; Awaiting Notification
United Mitochondrial Disease Foundation	Gfer-Drp1 molecular link in the maintenance mitochondrial dynamics and function	PI		07/01/13-06/30/2016	\$200,000 Direct costs – Pre-application submitted. Awaiting

					notification.
Department of Defense CDMRP/PRMRP	CaMKK2 inhibition as a bone anabolic strategy in the treatment of osteoporosis	PI		02/01/13-01/31/16	\$750,000 Total direct costs -Preapplication not Invited
Department of Defense CDMRP/PRMRP	Role of CaMKK2 in the maintenance of hematopoietic stem cell niche	PI		02/01/13-01/31/16	\$750,000 Total direct costs -Preapplication not Invited
NIH/R01/NIAMS	Role of Calmodulin dependent protein kinase kinases in bone remodeling	PI		01/01/13-12/31/17	\$ 1,476,363 Total Costs – Application scored at 30th percentile. Will be resubmitting in June 2013
Department of Defense CDMRP Discovery Award	Accelerated Bone Attachment and Remodeling of Bone-Implant Interfaces	Co-I	Voor	01/01/13-06/30/14	\$125,000 Direct costs – Not Funded
SBIR B4 Tissue Engineering/NSF	Accelerated Bone Attachment and Remodeling of Osseous Implants	Co-I	Voor	01/01/13- 06/30/13	\$32,667 – Not funded
SBIR R43/NIH	Accelerated Bone Attachment and Remodeling of Bone Substitutes			04/01/13- 09/30/13	\$50,000 – Not funded
American Cancer Society Research Scholar Award	Anti-Proliferative Kinases in Hematopoietic Stem Cell Homeostasis.	PI		07/01/1006/30/16	\$928,191 Total costs - <i>Application not funded</i>

Song:

Agency/Number	Title	Role	PI	Project Period	Budget Request
R21 DA034899	Screening and characterizing novel cannabinoid ligands from FDA approved drugs	PI	ZH Song	9/1/2012-8/31/2014	\$412,500
R21 EY023375	Repurposing FDA approved drugs as ligands for	PI	ZH Song	4/1/2013-	\$412,500

	GPR119, a novel drug target for glaucoma			3/31/2015	
R01 EY023288	Regulation of Aqueous Humor Outflow by Endocannabinoids and Novel Cannabinoid Receptors	PI	ZH Song	4/1/2013-3/31/2018	\$1,875,000
R21 DA036095	Experimental and virtual screening for novel GPR119 ligands	PI	ZH Song	7/01/2013-6/30/2015	\$412,500

States:

Agency/Number	Title	Role	PI	Project Period	Budget Request
NIH-NCI / R01CA174981-01	Targeting the Anaphase Promoting Complex	PI	States	4/01/2013 - 3/31/2018	\$1,875,000
NIH-NCI / R21CA176340-01	Lead Compounds to Treat Pancreatic Cancer	PI	States	4/01/2013 - 3/31/2015	\$412,500
NIH-NIEHS / R21ES023045-01	Children and Coal Ash: Heavy Metals and Emotional and Behavioral Functioning	Co-I	Zierold	7/1/13 – 6/30/15	\$412,500
NIH-NIEHS	Gut-liver interaction in arsenic-enhanced obesity-induced liver disease	Co-I	Arteel	07/01/13-03/31/18	\$1,875,000

Invited Scientific Presentations Faculty with Primary Appointments

Arteel:

1. Research seminar, 03/12 “Impaired regeneration and the chronicity of liver disease.” University of Louisville, Dept of Biochemistry, Louisville, KY
2. Research seminar, 03/12 “Fibrin ECM and the balance between (hepatic) life and death.” University of Kentucky, Dept of Microbiology, Lexington, KY.
3. Research seminar, 05/12 “Environmental Factors as Risk Modifiers in Liver Diseases.” University of Louisville, Center for Predictive Medicine, Louisville, KY.
4. Research seminar, 06/12 “How to get your papers published in good journals.” University of Louisville, R25 Cancer Education Program, Louisville, KY.
5. Invited symposium, 06/12 “Integrins and crosstalk between coagulation and injury in alcohol-induced liver injury.” Research Society on Alcoholism, annual meeting, San Francisco, CA.
6. Research symposium, 09/12 “Overview: key interfaces in the pathogenesis of alcoholic/nonalcoholic steatohepatitis,” ISBRA biennial meeting, Sapporo, Japan
7. Research symposium, 09/12 “ECM and ALD: beyond collagen and before fibrosis,” ISBRA2012 satellite meeting, Kyoto, Japan.
8. Research symposium, 11/12 “Hepatic Involvement in VHF,” University of Louisville, Center for Predictive Medicine, Research Retreat.

Beier:

1. Research seminar, 05/21/12, Fatty liver diseases: Convergent mechanisms, University of Louisville, UofL Alcohol Center, University of Louisville, KY.
2. Research seminar, 05/24/12, Fatty liver diseases: Convergent mechanisms, University of Louisville, Dept of Pharmacology and Toxicology, University of Louisville, KY.
3. Research symposium, 09/14/12 Role of ECM/integrin crosstalk in hepatic regeneration: implications for liver disease. ISBRA 2012 Satellite Symposium: Recent Progress in Biomedicine on Alcoholism, Kyoto, Japan.

Ceresa:

1. January 19, 2012 – University of Louisville, Department of Pharmacology and Toxicology, “Modulation of Epidermal Growth Factor Endocytic Trafficking to Enhance Cell Physiology”
2. November 29, 2012 – University of Louisville Brown Cancer Center Poa Pratensis Molecular Targets Program “Spatial Regulation of EGFR Signaling”

Davis:

1. Development of novel cancer chemoprevention agents from soybean. 2012. Albion College, Albion, Michigan
2. Scalable Plant-Based Expression of Alpha-1 Antitrypsin. 2012. Alpha-1 Foundation, Researcher’s Meeting, Miami, Florida

Gupta:

1. Seminar speaker at the Medical College of Wisconsin, Milwaukee, WI, June 2012

Hein:

1. UofL NCI Cancer Education Program: Example Translational Research Project in Cancer Susceptibility. Distinction in Research Program, University of Louisville School of Medicine, Louisville, Kentucky, February 2012.
2. Role of Acetylation Polymorphisms in Tobacco-related Cancer Risk. Department of Microbiology & Immunology, University of Louisville School of Medicine, Louisville, Kentucky, March 2012.

Kang:

1. Nov 21, 2012, Invited Speaker, The XI Congress of International Society for Heart Research Chinese Section (ISHRC), Guangzhou, China, November 20-24. "Tissue injury signaling transduction system and cell-based therapy for ischemic heart disease."
2. Aug 10, 2012, Invited Speaker, China Heart Congress "Summit of Fundamental Research of Cardiovascular Medicine" Beijing, China, Aug 9-12, 2012. "Nuclear copper-proteins promote myocardial regeneration: A novel approach to the therapy for ischemic heart disease."
3. Apr 12, 2012, Invited Speaker, The 14th South China International Congress of Cardiology, Guangzhou, China, April 11-14, 2012. "Copper and hypoxia-inducible factor-1 in myocardial regeneration"
4. Mar 12, 2012, Distinguished Chinese Toxicologist Award Lecture at the 51th annual meeting of the Society of Toxicology, San Francisco, CA, March 11-15, 2012. "Strategies for the selection of biomarkers for cardiotoxicity in drug development".
5. Mar 12, 2012, Invited Speaker, Symposium "Molecular Basis for Prevention of Cardiotoxicity" at the 51th annual meeting of the Society of Toxicology, San Francisco, CA, March 11-15, 2012. "Hypoxia-inducible factor-1 in myocardial toxicity and regeneration".

Lukashevich:

1. 2nd International Conference on Vaccines and Vaccination, Aug 20-22, 2012, Hilton/Northbrook, USA
2. Animal Model Development Workshop, Sept 17-18, 2012, NIH, Bethesda, MD
3. Emerging Viruses: Disease Models and Strategies for Vaccine Development. A Symposium in Honor of CJ Peters, MD. October 23-24, 2012. Moody Gardens Hotel and Conference Center, Galveston, Texas
4. NIH Workshop: Ensuring the quality and integrity of animal model and efficacy studies at BSL4, the Galveston National Laboratory, Oct 25-26, 2012, UTMB, Galveston, TX
5. International Conference: Virus-Like Particle & Nano-Particle Vaccines, 28-30 November 2012, Cannes, France.

Myers:

1. US EPA Technical Qualifications Review Panel Review Board, June, 2012
2. US EPA Technical Qualifications Review Panel Review Board, November, 2012

Palmer:

1. Invitation from NIAID to grant review panel on biodefense vaccine adjuvants – declined invitation.

Sankar:

1. "Regulation of the Mitochondrial Fission GTPase Drp1 by the Sulfhydryl Oxidase GFER". *Keystone Symposia on Mitochondrial Dynamics and Function*, Banff, Alberta Canada, March 19-24, 2012 – *Invited Oral Presentation*.
2. "Ca²⁺/Calmodulin dependent protein kinase kinase □ as a bone anabolic target" – *Invited Seminar at the Kentucky Spinal Cord Injury Research Center* – Originally scheduled for December 13th, 2012 and now postponed to February 28th 2013.

Song:

1. Cannabimimetic activity of FDA approved drugs.
Department of Immunology, School of Basic Medical Sciences, Peking University Health Science Center, Beijing, China, December, 2012

States:

1. Oral Presentation: 'Inhibition of HSP90 Greatly Enhances the Efficacy of Platinum-based Therapies for Ovarian Cancer Including Hyperthermia', Seventh International Symposium on Regional Cancer Therapies, Captiva, FL, February 18-20,2012

Matoba:

1. "Microbicide development based on a mannose cluster-specific lectin" Kentucky BioProcessing, LLC, KY, August 23, 2011.

Myers:

1. "Biomarkers of Environmental Pollution: Polycyclic Aromatic Hydrocarbons", University of Cairo, Cairo, Egypt, January, 2011
2. "Biomarkers of Environmental Pollution to Cancer", Fayoum University, Fayoum, Egypt, January, 2011

Sankar:

1. "Tale of Two Kinases: CaMKs II and IV Feud over Leukemia Cell Proliferation." *The Poa Pratensis Molecular Targets Program and Brown Cancer Center*; University of Louisville, KY, March 2011

States:

1. "Hepatic gene expression changes associated with in utero arsenic exposure accelerated atherosclerosis in the ApoE-Knockout mouse", Department of Molecular and Cellular Craniofacial Biology, University of Louisville, Louisville, KY (9/20/2011)
2. "Translating experimental findings to arsenic exposure induced human health problems", 7th and Final PRAMA Workshop on Arsenic Contamination in Ground Water: Exposure Assessment, Health Effects and Mitigation, Indian Institute of Chemical Biology, Kolkata, India, Nov 18-19, 2011
3. "Arsenic-Induced Keratosis and p53 Mutation", All India Congress of Cytology and Genetics, Magadh University, Bodhgaya, India, November 21-23, 2011

Song:

1. "CB2 polymorphism and cannabinoid-induced immune suppression.", Department of Immunology, School of Basic Medical Sciences, Peking University Health Science Center, Beijing, China, October, 2011

**Inventions disclosures, license/option agreements, patent awards, business startups
Faculty with Primary Appointments****Cai:**

Davis KR, Barnett B, Seber L, and Cai J. Lunasin-Containing Complex and Purification of Lunasin from Plants. (Submitted)

Davis:

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

Gupta:

License Patents: University of Louisville Research Foundation filed the following pending patent applications to protect the valuable technology described in ULRF Research Disclosure, ref. #08046, entitled, *Methods and Compositions for the Controlled Delivery of Phytochemical Agents* ("ULRF Technology"):

- United States Patent Application S/N 12/401,175; filed March 10, 2009. Issued on March 27, 2012.
- Amendment to the original United State Patent Application filed: March 2012

Kidd:

- Genetic Determinants of Prostate cancer Risk, Research Disclosure ref. #10008
 - Impact of Angiogenesis-related sequence variants and prostate cancer risk.
 - provisional application for U.S. patent #61-240089, filed on September 4, 2009.
 - U.S. National Phase Application of International Patent Application No. US2012/0220467 A1, filed August 27, 2010.
 - Publication date: August 30, 2012
(<http://www.google.com/patents/US20120220467>)
- "Genetic Determinants of Prostate Cancer", UofL Research Disclosure ref. #11078.
 - Impact of chemokine-related sequence variants and prostate cancer risk.
 - provisional application for United States Patent #61/655,243, filed on June 4, 2012.

Matoba:

Patent Applications: International Patent Application No. PCT/US12/29072

Title: POLYPEPTIDES HAVING IMMUNOACTIVATING ACTIVITY AND METHODS OF PRODUCING THE SAME

Palmer:

Continued to act as Managing Director of Intrucept Biomedicine LLC (Owensboro, KY).

Sankar:

Invention Disclosure: application as PI for the development of Gfer as a biomarker for environmental toxin-mediated mitochondrial injury at UofL Technology Transfer Office

States:

1. States JC, Taylor BF and Trent JO, of University of Louisville “Compounds For Treating Cancer, For Administering, And For Pharmaceutical Compositions” Patent application 61/479,939 filed 4/22/2012.

Review Activities of Primary Faculty Members**Dr. Arteel**

- Member, editorial board, *Archives of Biochemistry and Biophysics*
- Member, editorial board, *World Journal of Gastroenterology*
- Member, editorial board, *Alcohol*
- Member, *Xenobiotic and Nutrient Disposition and Action [XNDA]* study section (met 3× in 2012)

Ad-hoc manuscript, grant or project reviews

50 Ad hoc manuscript reviews for: *Alcohol* (6), *Alcohol and Alcoholism* (1), *Alcoholism: Clinical and Experimental Research* (5), *Archives of Biochemistry and Biophysics* (9), *Biochemica et Biophysica Acta: Molecular Basis of Disease* (1), *British Journal of Pharmacology* (1), *Experimental and Molecular Pathology* (1), *Experimental Biology in Medicine* (1), *Frontiers in Gastrointestinal Science* (1), *Gastroenterology* (3), *Hepatology* (6), *International Journal of Toxicology* (1), *Journal of Biological Chemistry* (1), *Journal of Hepatology* (3), *Journal of Pharmacology and Experimental Therapeutics* (1), *Liver International* (2), *Molecular Pharmacology* (2), *Nature Protocols* (1), *Toxicological Sciences* (2), and *Toxicology and Applied Pharmacology* (2)

06/12, Reviewed abstracts for AASLD annual meeting.

06/12, External reviewer of intramural research grant application, Heinrich Heine Universität, Düsseldorf, Germany.

07/12, Ad hoc reviewer for NIAAA member conflict special emphasis panel

12/12, Reviewed abstracts for Digestive Disease Week (DDW) annual meeting.

Dr. Beier-Arteel

8 ad hoc manuscript reviews for: *Alcohol* (3), *American Journal of Physiology* (2), *Hepatic Medicine: Evidence and Research* (2), *Journal of Pharmacology and Experimental Therapeutics* (1)

Dr. Benz

Drug Metabolism and Disposition ad-hoc reviewer

Dr. Ceresa

A. Grant review committees, editorial boards or review boards

American Heart Association (ad hoc), Oak Ridge Associated Universities

B. Ad-hoc manuscript, grant or project reviews

Oncogene (2012)

Drug and Food Toxicology (2012)

PLOS One (2012)

Dr. Davis

Grant review committees, editorial boards or review boards

F1000 Research, Editorial Board

ISRN Biotechnology, Editorial Board,

Faculty of 1000, Biotechnology Faculty Member

B. Ad-hoc manuscript, grant or project reviews

Proteome Science (1 review)

Cereal Science (1 review)

PLoS One (5 reviews)

ISRN Biotechnology (6 reviews)

Dr. Gupta

A. Grant review committees, editorial boards or review boards

Editorial Board/Editor:

- International Journal of Oncology (1992 – Present)
- Cancer Letters – Editor Capacity (2008 – Present)
- Oncology Letters (2009 – Present)

B. Ad-hoc manuscript, grant or project reviews

Adhoc Journal Reviewer

- Cancer Letters
- Cancer Research
- Carcinogenesis
- Chemical Research in Toxicology
- Mutation Research
- Nutrition & Cancer
- Cancer Prevention Research

Dr. Hein**Manuscript, grant, or project reviews**

1. Served on editorial boards of *Acta Pharmaceutica Sinica*, *Pharmacogenomics*, *Journal of Ovarian Research*, *World Journal of Clinical Oncology*, *World Journal of Medical Genetics*, *World Journal of Pharmacology*, *The Scientific World Journal*, *World Journal of Translational Medicine*.
2. Served on NIEHS review committee (EHS T3) to review training grants.
3. Reviewed grants for the Pennsylvania Department of Health.
4. Reviewed manuscripts for: *Clinical Pharmacology and Therapeutics*; *Advances in Pharmacology*; *Environmental Toxicology and Pharmacology*; *Biochemical Toxicology*; *Pharmacogenomics and Personalized Medicine*; *Chemical Research in Toxicology*; *International Journal of Hygiene and Environmental Health*; *Expert Opinion on Drug Metabolism and Toxicology*; *Pharmacogenomics*; *PLOS ONE*.
5. Served on the Academy of Pharmacology Educators membership selection committee for the American Society for Pharmacology and Experimental Therapeutics.

Dr. Kang

A. Grant review committees, editorial boards or review boards

Editor-in-Chief, Regenerative Medicine Research (2012-)

Editor-in-Chief, Cardiovascular Toxicology (2000-)

The Editor, *Methods in Pharmacology and Toxicology* series (2001-)

Member of Editorial Board, *Pathology and Laboratory Medicine International* (2009-)

Member of Editorial Board, *Journal of Nutrition and Dietary Supplements* (2009-)

Member of Editorial Board, *Journal of Toxicology* (2008-)

Member of Editorial Board, *Journal of Biomedicine and Biotechnology* (2008-)

Dr. Kidd

R21 and U01 Cancer Health Disparities and Diversity in Basic Cancer Research, November 2012

Dr. Lukashevich

A. Grant review committees, editorial boards or review boards

1. The NIH study section meeting, Small Business Grant Applications in Microbial Vaccine Development. The two day meeting: March 8th to Friday March 9th 2012, the Hyatt Regency Bethesda in downtown Bethesda, MD.
2. The NIH study section meeting, Small Business Grant Applications: Non-HIV

Microbial Vaccine Development. June 15th 2012 at the Hyatt Regency, Bethesda, MD

3. *From the NIH letter dated 7/7/2012: “On the basis of your substantial service to peer review at the National Institutes of Health, you will have the opportunity to submit certain grant applications at any time. Your eligibility is based on having participated in peer review at least six times in the 18 months ending June 30, 2012. This opportunity is available to you from AUGUST 16,2012 to SEPTEMBER 30,2013”*
4. Editorial Board Member: Journal of Vaccine and Immunization
5. Editorial Board Member: Journal of Drug Metabolism and Toxicology
6. Editorial Board Member: OMICS Group eBooks
7. **Igor S. Lukashevich** & Haval Shirwan, Editors: “Novel Technologies for Vaccine Development” (2013). Springer-Verlag GmbH, Wien, Austria

B. Ad-hoc manuscript, grant or project reviews:

7 ad hoc manuscript reviews for: Viruses (4), Virology Journal (1), PLOS Neglected Tropical Diseases (1), Clinical and Vaccine Immunology (1)

Dr. Matoba

- A. Grant review committees, editorial boards or review boards
 1. Associate Faculty Member, Faculty of 1000 Biology (09/2009 – present)
- B. Ad-hoc manuscript, grant or project reviews
 1. Ad-hoc manuscript review for: *J. Antimicrob Chemother* (1 paper); *Mol Biol Rep* (1 paper); *Vaccine* (2 papers); *Molecular Biotechnology* (1 paper)

Dr. Myers

A. Grant review committees, editorial boards or review boards

Journal Editorial Board Memberships	Dates
Polycyclic Aromatic Compounds: Analysis, Chemistry, Metabolism, and Carcinogenicity	1994 – present
Biomarker Insights	2005 – present
Biomarkers of Cancer	2009 - present
Breastfeeding Medicine	2008 - present
European Journal of Toxicological Sciences	2012 - present
Journal of Drug Metabolism and Toxicology	2012 - present

Journal Reviews (2012)	# of Reviews (2012)
Research Communications in Chemical Pathology and Pharmacology	2
Polycyclic Aromatic Compounds: Analysis, Chemistry, Metabolism, and Carcinogenicity (Associate Editor)	10
Biomarker Insights (Editorial Board Member)	4
Biomarkers of Cancer (Editorial Board Member)	4

Chemico- Biological Interactions	2
Breastfeeding Medicine (Editorial Board Member)	3

Dr. Palmer

A. Grant review committees, editorial boards or review boards

04/2012 NIAID Special Review Panel ZAI1-ESB-A (M2) Integrated Preclinical-Clinical Program for HIV Topical Microbicides (IPCP-HTM)
 Member of the University of Louisville School of Medicine Research Committee
 Editor, *Current Topics in Microbiology and Immunology* Plant Viral Vectors Edition

B. Ad-hoc manuscript, grant or project reviews

05/2012 Project Review for University of New Mexico Center of Excellence in Sexually Transmitted Infections U19 Project.

Reviewer of manuscripts for: *Molecular Pharmaceutics* (1 manuscript); *Journal of Biological Chemistry* (1 MS); *Journal of Antimicrobial Chemotherapy* (1 MS); *Clinical and Vaccine Immunology* (2 MSS); *PLoS ONE* (3 MSS)

Dr. Sankar

A. Grant review committees, editorial boards or review boards

NIH Study Section

2012 - Selected as NIH Early Career Reviewer.

B. Ad-hoc manuscript, grant or project reviews

ADHOC REVIEWER

2008 – Present *Journal of Cellular Physiology* (4 manuscripts in 2012)

2008 – Present *Journal of Toxicological Sciences*

2008 – Present *Toxicology and Applied Pharmacology*

2012 - *Stem Cells and Development* (2 manuscripts in 2012)

2012 - *Journal of Biological Chemistry* (2 manuscripts in 2012)

2012 - *European Journal of Cell Biology* (1 manuscript in 2012)

Dr. Song

Manuscripts reviews for *Investigative Ophthalmology and Visual Science*, *Analytical Letters*, *International Journal of Biological Macromolecules*, and *Journal of Separation Science*.

Dr. States

A. Grant review committees, editorial boards or review boards

Toxicology and Applied Pharmacology & Toxicology
Reproductive Toxicology
Journal of Ovarian Research
PLoS ONE (academic editor)

B. Ad-hoc manuscript, grant or project reviews

Grant reviews:

National Institutes of Health:, CIDO Study Section (mail reviewer) (2012)
National Institutes of Health:, CADO Study Section (mail reviewer) (2012)
Medical Research Council (United Kingdom), grant reviewer (2012)

Manuscript reviews (#):

Archives of Toxicology (2)
Chemical Research in Toxicology (1)
Chemico-Biological Interactions (2)
Environmental Health Perspectives (6)
Epigenetics (1)
FEBS Letters (1)
Gene (1)
Microbial Ecology (1)
Reproductive Toxicology (7)
Journal of Toxicology and Environmental Health, Part A (1)
Toxicology and Applied Pharmacology & Toxicology (13)
Toxicological Sciences (2)

DEPARTMENTAL COURSES

- Medical Pharmacology course to second year medical students. Dr. Mike Williams served as course director.
- Pharmacology and Dental Therapeutics course to dental students. Dr. David Hein served as course director.
- Pharmacology course to second year students in the Dental Hygiene Program. Dr. Steve Myers served as course director.
- Basic Pharmacology course for undergraduate students. Dr. Steven Myers served as course director.
- The Department team taught several courses for graduate students. The individual courses and course directors included:

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

KC Huang Annual Lecture

"Innate immunity and alcoholic liver disease" was presented September 17 by Dr. Laura Nagy, PhD, Professor, Department of Nutrition, Case Western Reserve University; Co-director, Cell Biology Graduate Program, Case Western Reserve University; Professor, Department of Molecular Medicine, Cleveland Clinic; and Director, Center for Liver Disease Research, Cleveland Clinic, Cleveland, Ohio.

William J. Waddell Annual Lecture

"The hormesis dose response" was presented October 24 by Edward J. Calabrese, Ph.D., Professor of Toxicology, University of Massachusetts School of Public Health and Health Sciences, Amherst, MA

Standing Committees – 2012

Graduate Student Affairs and Curriculum Committee

Dr. Peter Rowell (Chair)
 Dr. Glenn McGregor (2012)
 Dr. Uma Sankar (2014)
 Dr. Gavin Arteel (2013)
 Student rep: Pritesh Kumar
 Student rep: Akshata Moghe

Graduate Student Admissions and Recruitment Committee

Dr. Chris States (Chair)
Dr. Steve Myers (2012)
Dr. La Creis Kidd (2014)
Dr. Ken Palmer (2013)
Dr. Ramesh Gupta (2015)

SIBUP/Grievance Committee

Dr. Peter Rowell (Chair)
Dr. Joe Song (2012)
Dr. Ramesh Gupta (2014)
Dr. Harrell Hurst (2013)

Teaching Evaluation Committee

Dr. Mike Williams (Chair)
Dr. Harrell Hurst (2012)
Dr. Don Nerland (2014)
Dr. Fred Benz (2013)

Seminar Committee

Dr. Don Nerland (Chair)
Dr. Gavin Arteel (2012)
Dr. Fred Benz (2013)
Dr. Igor Lukashevich (2014)

Core Laboratories/Research Development Committee

Dr. Gavin Arteel (Chair)
Dr. Jian Cai (2012)
Dr. Glenn McGregor (2014)
Dr. Theresa Chen (2013)

Events Committee

Dr. Glenn McGregor (Chair)
Dr. Nobuyuki Matoba (2013)
Dr. LaCreis Kidd (2012)
Dr. Keith Davis (2014)

Information Technology Committee

Dr. Gavin Arteel
Dr. Fred Benz
Dr Harrell Hurst

Faculty Search Committee

Dr. David Hein
Dr. La Creis Kidd
Dr. Russ Prough
Dr. Chris States

Students in the NCI Cancer Education Program 2012



April F. Alloway

Roosevelt University graduate
Accepted into PhD program in Pharmacology
and Toxicology
University of Louisville School of Medicine
Email: a0alow01@louisville.edu
Faculty Mentor: La Creis R. Kidd, PhD, MPH
Research Project: Micro RNA expression in
cancer research



Divine-Favour Anene

University of Louisville undergrad
Email: deanen01@louisville.edu
Faculty Mentor: La Creis R. Kidd, PhD, MPH
Research Project: Impact of Inflammatory and
immune response sequence variants in relation
to prostate cancer outcomes



Ryan J. Anderson

Rising second year medical student
University of Louisville School of Medicine
Email: rjande06@louisville.edu
Faculty Mentor: Robert C.G. Martin, MD, PhD
Research Project: Clinical evaluation of optimal
hepatic surgery in the management of primary
and metastatic liver cancer



Praise O. Anene

University of Houston undergrad
Email: praise1302@yahoo.com
Faculty Mentor: La Creis R. Kidd, PhD, MPH
Research Project: Identification of microRNA
that can serve as biomarkers for prostate cancer
metastasis



Harrison M. Black

Rising third year dental student
University of Louisville School of Dentistry
Email: hmlac02@louisville.edu
Faculty Mentor: David A. Scott, PhD
Research Project: Tobacco-induced dysregulation of matrix metalloproteinases in immune cells



Nicolas P. Burnett

Rising second year medical student
University of Louisville School of Medicine
Email: npburn01@louisville.edu
Faculty Mentor: Robert C.G. Martin, MD, PhD
Research Project: Clinical evaluation of somatostatin use in pancreatic resections: Clinical efficacy or limited benefit?



James A. Bradley

Morehead State University graduate
Accepted into University of Louisville School of Medicine
Email: jabrad07@louisville.edu
Faculty Mentor: John W. Eaton, PhD
Research Project: Detection of anti-tumor antibodies as biomarkers of early stage lung cancer



Adrienne M. Bushau

University of Louisville undergrad
Email: ambush03@louisville.edu
Faculty Mentor: James L. Wittliff, PhD
Research Project: Racial discrepancies in breast cancer



Samantha M. Carlisle

University of Louisville graduate
Accepted into PhD program in Pharmacology
and Toxicology
University of Louisville School of Medicine
Email: smcarl06@louisville.edu
Faculty Mentor: David W. Hein, PhD
Research Project: In silico screening for novel
arylamine N-acetyltransferase inhibitors



Noura E. Estephane

Rising second year medical student
University of Louisville School of Medicine
Email: neeste01@louisville.edu
Faculty mentor: Yong Li, PhD
Research Project: Prognostic significance of
sequence variation in the TP53 gene in diffuse
large B-cell lymphoma



Laura E. Conrad

Rising Second year medical student
University of Louisville School of Medicine
Email: leconr01@louisville.edu
Faculty Mentor: Douglas C. Dean, PhD
Research Project: Zeb-1 and lung cancer stem
cells



Jeffrey (Brett) Farmer

Middle Tennessee State Univ. undergrad
Email: jbf3b@mtmail.mtsu.edu
Faculty Mentor: Lacey R. McNally, PhD
Research Project: Evaluation of microRNA 671
in pancreatic adenocarcinoma



John D. Gettelfinger

Rising second year medical student
University of Louisville School of Medicine
Email: jdgett01@louisville.edu
Faculty Mentor: John O. Trent, PhD
Research Project: Drug discovery with unique virtual chemical libraries



Christina L. Hickey

Western Kentucky University graduate
Accepted into MPH program
University of Louisville
Email: Christina.hickey848@topper.wku.edu
Faculty Mentor: La Creis R. Kidd, PhD, MPH
Research Project: Role of variant carcinogen metabolism genes and breast cancer risk



Farrah L. Harden

Rising second year medical student
University of Louisville School of Medicine
Email: flhard02@louisville.edu
Faculty Mentor: Robert C.G., Martin, MD, PhD
Research Project: Outcomes in patients treated surgically for medullary thyroid carcinoma



Gretchen E. Holz

Indiana University graduate
Accepted into PhD program in Pharmacology and Toxicology
University of Louisville School of Medicine
Email: geholz01@louisville.edu
Faculty Mentor: Levi J. Beverly, PhD
Research Project: Understanding how ubiquitin proteins regulate IGF1R in lung cancer



Allison H. Hunter

Rising second year medical student
University of Louisville School of Medicine
Email: amhunt01@louisville.edu
Faculty Mentor: Anthony E. Dragun, MD
Research Project: A phase 2 study of accelerated hypo-fractionated radiotherapy (AHF-RT) after breast conserving surgery



Daniel J. Kmetz

Rising second year medical student
University of Louisville School of Medicine
Email: djkm01@louisville.edu
Faculty Mentor: Kelly M. McMasters, MD, PhD
Research Project: Identifying microRNA in melanoma patients



Nicole M. Jackson

Cheyney University of Pennsylvania graduate
Accepted into PhD program in Pharmacology and Toxicology
University of Louisville School of Medicine
Email: nmjack05@louisville.edu
Faculty Mentor: David W. Hein, PhD
Research Project: Inhibition of human arylamine N-acetyltransferase I to decrease cell invasion and metastasis



Callie A. Linden

Rising second year medical student
University of Louisville School of Medicine
Email: calind04@louisville.edu
Faculty Mentor: Rebecca A. Redman, MD
Research Project: Plant exosomes as potential abrogators of chemotherapy and radiation-induced oral mucositis in head and neck cancer



Joshua M. Mitchell

University of Louisville graduate
Accepted into University of Louisville School of Medicine
Email: jmmitc06@louisville.edu
Faculty Mentor: Hunter N. Moseley, PhD
Research Project: Developing computational tools for the characterization of FT-ICR-MS/identified uncharacterized metabolic



Sabrina S. Schatzman

University of Louisville undergrad
Email: ssscha02@louisville.edu
Faculty Mentor: Teresa Fan, PhD
Research Project: Exploring cancer metabolism for potential drug discovery



Douglas J. Saforo

University of Louisville undergrad
Email: djsafo01@louisville.edu
Faculty Mentor: J. Christopher States, PhD
Research Project: Candidate drugs for inhibition of the anaphase promoting complex



R. Jennifer Siow

University of Louisville undergrad
Email: rjsiow01@louisville.edu
Faculty Mentor: Ramesh Gupta, PhD
Research Project: Sustained delivery of chemopreventives by biodegradable polymeric implants



McKinley D. Soult

Rising second year dental student
University of Louisville School of Dentistry
Email: mdsoul01@louisville.edu
Faculty Mentor: Douglas S. Darling, PhD
Research Project: Immortalization of parotid acinar cells



Lauren M. Strait

Rising second year medical student
University of Louisville School of Medicine
Email: l0stra02@louisville.edu
Faculty Mentor: Uma Sankar, PhD
Research Project: Anti-proliferative kinases in hematopoietic stem cells



Vanessa A. R. States

University of Louisville undergrad
Email: yastat02@louisville.edu
Faculty Mentor: Robert C.G. Martin, MD, PhD
Research Project: Identification of cancer stem cells (CSC) derived HCC from the H411E cell line



Jara N. Vega Velez

Rising second year medical student
University of Louisville School of Medicine
Email: jnvega01@louisville.edu
Faculty Mentor: Levi J. Beverly, PhD
Research Project: Determining mechanisms of drug resistance to BCL2 antagonists in human leukemia