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I. DEPARTMENT HIGHLIGHTS

FACULTY APPOINTMENTS

Matoba, Nobuyuki, Ph.D. was appointed as Assistant Professor of Pharmacology and Toxicology, effective October 1, 2008. Dr. Matoba received his Ph.D. in Applied Life Sciences from Kyoto University (Japan) in 2001. He subsequently was appointed Visiting Scientist (2001-2002), Postdoctoral Research Associate (2002-2004) and Research Assistant Professor (2006-present) at Arizona State University. Dr. Matoba has been recruited to the James Graham Brown Cancer Center to serve as a member of the Owensboro Cancer Research Program, a satellite of the Brown Cancer Center.

C. William Helm, MD was appointed as Associate in the Department of Pharmacology and Toxicology effective March 1, 2008. Dr. Helm received his BA in medical sciences and his MB, Bchir from Cambridge University. Following additional training and faculty appointments at University of Alabama Hospital in Birmingham and Temple University School of Health Sciences, he was recruited to the University of Louisville School of Medicine in 2000 as Associate Professor in the Department of Obstetrics, Gynecology and Women’s Health.
ADMINISTRATIVE APPOINTMENTS

William M. Pierce, Jr. PhD was appointed Vice Provost for Graduate Affairs in addition to his continuing role as Interim Dean of the School of Graduate and Interdisciplinary Studies.

David W. Hein, PhD was appointed Special Assistant to the Provost for Strategic Planning.

FACULTY PROMOTION AND TENURE

Jason Chesney, MD/PhD was promoted to associate professor with tenure.
Teresa Whei-Mei Fan, PhD was promoted to professor of chemistry.

Michal Hetman, PhD was promoted to associate professor with tenure.

Chin Ng, PhD was awarded tenure.

Irene Litvan, MD was awarded tenure.
Binks Wattenberg, PhD was awarded tenure.

FACULTY DEPARTURES

- Mary Jayne Kennedy, PharmD, Joint Appointment
- John Wong, PhD, Associate Appointment

IN MEMORIUM

- Calvin Lang, PhD, former associate faculty member
- James Jumblatt, PhD, former associate faculty member

FACULTY AWARDS AND HONORS

Frederick W. Benz, Ph.D.
- Honored for 30 years of service to UofL

David W. Hein, PhD
- Visiting Professor at Universite Paris 7- Denis Diderot, Paris, France.

Harrell E. Hurst, Ph.D.
- Honored for 30 years of service to UofL.

Y James Kang, PhD, DVM
- Daniel J. Zaffarano Lecture Award, Iowa State University, Ames, Iowa.

Uma Sankar, PhD
- Second Place, Roger H. Herzig Junior Faculty Research Award, 7th Annual JGBCC Retreat.

Walter M. Williams, PhD
- Thomas B. Calhoon Teaching Award, University of Louisville School of Medicine, fourth year class
- Golden Apple Award, University of Louisville School of Medicine, second year class
FACULTY PATENTS

Nobuyuki Matoba, PhD
- A patent issued from the U.S. Patent Office (Patent Number: 7438914; Title: Composition and Method for Enhancing Immune Response).

Kenneth Palmer, PhD
- Inventor on two patent applications “Compositions and Methods for Treatment of Papillomavirus Infection” licensed by the University of Louisville to Advanced Cancer Therapeutics LLC.
- Awarded United States Patent 7,432,049 “Plant virus coat protein fusions with GDF8 epitope and vaccines thereof”

William Pierce, PhD and Len Waite, PhD
- Pierce WM Jr., Waite LC, Taylor KG. Bone targeting compounds for delivering agents to bone for interaction therewith (II) US Patent 7,399,789.

GRADUATE STUDENT AWARDS

Lori Millner
- Received an AACR travel award and independent predoctoral fellowship funded by Department of Defense.

Clarisse Muenyi
- Batelle Award for Best Presentation by a Minority or Woman, Ohio Valley Chapter Society of Toxicology

Ntube Ngalame
- 1st Place Masters Basic Science, Ohio Valley Chapter Society of Toxicology
- Best Poster by a Masters Student, Research!Louisville.

Jean-Claude Nzimulinda
- Received a travel award from National Institute of Drug Abuse.

Erica Rogers
- Best Oral Presentation, Ohio Valley Chapter Society of Toxicology.

Frazier Taylor
- Second place award at James Graham Brown Cancer Center Retreat

Jason Walraven
- KC Huang Outstanding Graduate Student Award.

Nick Watson
- Received the John Houchens Outstanding Dissertation Award at the UofL commencement.

Xiaoyan Zhang
- Received Graduate Dean’s Citation.
POSTDOCTORAL AWARDS

Julianne (Beier) Arteel

- Abstract selected for Travel Award, 3rd International Symposium on ALPD, Bilbao, Spain.
- Abstract selected for Travel Award, SLB 41st annual meeting, 2008, Denver, CO.

II. MISSION STATEMENT

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.
III. FACULTY WITH PRIMARY APPOINTMENTS

Gavin E. Arteel, PhD
Associate Professor and Graduate Director: Program and Student Affairs
502-852-5157; gearte01@gwise.louisville.edu
www.uofl.edu/~gearte01

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

Frederick W. Benz, PhD
Professor
502-852-5611; benz@louisville.edu
www.louisville.edu/~fwbenz01

Research Interests
Biochemical pharmacology and toxicology; biochemical mechanisms of drug action and toxicity.
Jian Cai, PhD
Assistant Professor
502-852-5164
j0cai001@gwise.louisville.edu

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.

Theresa S. Chen, PhD
Professor
502-852-7887
tschema01@gwise.louisville.edu

Research Interests

Biochemical toxicology; role of glutathione in aging toxicology; general and specific toxicity of environmental pollutants.
Keith R. Davis, PhD  
Professor  
270-688-3694  
krdavi16@gwise.louisville.edu

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  
502-852-3682  
rcgupta@louisville.edu

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
502-852-5141; d.hein@louisville.edu
www.louisville.edu/faculty/dwhein01

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
502-852-5797; h.hurst@louisville.edu
http://louisville.edu/faculty/hehurs01

Research Interests
Analytical toxicology and kinetics with emphasis on qualitative and quantitative techniques, including gas chromatography, high pressure liquid chromatography and GC/mass spectrometry.
La Creis R. Kidd, PhD, MPH  
Assistant Professor and Our Highest Potential Endowed Chair in Cancer Research  
502-852-3465; lrkidd01@louisville.edu

Research Interests

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

Nobuyuki Matoba, PhD  
Assistant Professor  
270-691-5955; n.matoba@louisville.edu

Research Interests

Development of vaccines and antivirals, mucosal immune response to foreign substances, and plant biotechnology for human health.
W. Glenn McGregor, MD
Professor
502-852-2564; wgmcgr01@gwise.louisville.edu

Research Interests
Molecular biology of DNA damage, repair and mutagenesis; molecular mechanisms of mutagenesis induced by model carcinogens; molecular mechanisms of replication of DNA templates containing well-defined site specific damage.

Steven R. Myers, PhD
Associate Professor
502-852-0928; sr.myers@louisville.edu

Research Interests
Drug metabolism, metabolism of xenobiotics and chemical carcinogens; use of hemoglobin as biomarker in exposure to xenobiotics.
Donald E. Nerland, PhD
Professor
502-852-5560; denerl01@gwise.louisville.edu

Research Interests

Biochemical toxicology; metabolism of drugs and environmental pollutants.

Kenneth E. Palmer, PhD
Associate Professor
270-691-5960; kepalm02@gwise.louisville.edu

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 Vice Chair for Graduate Education
502-852-7424; pierce@louisville.edu
www.louisville.edu/~wmpier01/

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
502-852-5579; rowell@louisville.edu
www.louisville.edu/~pprowe01

Research Interests

Neuropharmacology; effect of drugs on brain neurotransmitters and receptors.
Uma Sankar, PhD
Assistant Professor
270-691-5957
u0sank01@gwise.louisville.edu

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

Zhao-Hui (Joe) Song, PhD
Associate Professor
502-852-5160; z0song01@gwise.louisville.edu

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
502-852-5347; jcstates@louisville.edu
www.louisville.edu/~jcstat01/

Research Interests

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

Leonard C. Waite, PhD
Professor Vice-Chair for Education
502-852-5163; lcwait01@gwise.louisville.edu

Research Interests

Endocrine pharmacology; mechanism of action of hormones; pharmacological modulation of hormone action; mineral homeostasis.
Research Interests

Studies of drug elimination (metabolism and excretion).
IV. FACULTY WITH JOINT APPOINTMENTS

George R. Aronoff, MD
Professor of Medicine and Professor of Pharmacology and Toxicology
502-852-5760; gra@louisville.edu

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
502-852-5245; ssbarv01@gwise.louisville.edu

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
502-852-4883; aruni@louisville.edu
www.louisville.edu/medschool/medicine/cardiology/Bhatnagar.htm

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
502-852-7503; h0bodd01@gwise.louisville.edu

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
502-852-3402; jasonchesney@louisville.edu

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
502-852-3346; al.cunningham@louisville.edu

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
502-852-1075; eatonredox@aol.com

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
502-852-2655; pnepst01@gwise.louisville.edu

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
502-629-6950; richard.goldstein@louisville.edu

Research Interests

Surgical endocrinology; surgical oncology.

David Gozal, MD
Professor of Pediatrics and Professor of Pharmacology and Toxicology
Director, Kosair Children's Research Institute
502-852-2323; d0goza01@gwise.louisville.edu

Research Interests

Signal transduction mechanisms underlying ventilatory response to hypoxia; neuronal adaptions to intermittent hypoxia: growth factors, intracellular signaling, and genomic implications.
Evelyne Gozal, PhD
Associate Professor of Pediatrics and Associate Professor of Pharmacology and Toxicology
502-852-2213; e0goza01@gwise.louisville.edu

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 and Endowed Chair of Neurological Surgery and Professor of Pharmacology & Toxicology
502-852-8058; theo.hagg@louisville.edu
www.kscirc.org/hagg/Hagg.html

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, PhD
Associate Professor of Neurological Surgery
Associate Professor of Pharmacology and Toxicology
Endowed Professor of Molecular Signaling
502-852-3619; m0hetm01@gwise.louisville.edu

Research Interests

Role of signaling kinases in neuronal repair and demise.

Y. James Kang, PhD
Professor of Medicine and Professor of Pharmacology and Toxicology
502-852-8677; yjkang01@louisville.edu

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.
Mary Jayne Kennedy, PharmD
Assistant Professor of Pediatrics and Assistant Professor of Pharmacology and Toxicology
502-629-5608; mjkenn07@louisville.edu

Research Interests
Pediatric clinical pharmacology; pharmacodynamics, pharmacokinetics; pharmacogenetics, and biotransformation.

Chi Li, PhD
Assistant Professor of Medicine and Assistant Professor of Pharmacology and Toxicology
502-852-0600; chi.li@louisville.edu

Research Interests
Mechanisms of apoptotic pathways initiated from different intracellular organelles. Molecular and cellular mechanisms that affect inflammation and immunity.
Irene Litvan, MD  
Professor of Neurology and Professor of Pharmacology and Toxicology  
Raymond Lee Lebby Professor of Parkinson Disease Research  
502-561-3025; i.litvan@louisville.edu  
louisville.edu/medschool/neuro/academics/faculty/litvan_2.html

Research Interests

Etiology and treatment of Parkinsonian, Dementia, and Dystonia movement disorders.

Manuel Martinez, MD  
Professor of Medicine and Professor of Pharmacology and Toxicology  
Executive Vice President for Research  
502-852-8373; m0mart10@gwise.louisville.edu

Research Interests

Hypertension and its effects on the kidney.
Craig J. McClain, MD  
Professor of Medicine and Professor of Pharmacology and Toxicology  
Vice President for Translational Research  
502-852-6189; craig.mcclain@louisville.edu

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 and Professor of Pharmacology and Toxicology  
502-852-5447; kmmcma01@gwise.louisville.edu

Research Interests

Donald M. Miller, MD, PhD
James Graham Brown Professor of Medicine Professor of Pharmacology and Toxicology
Director, James Graham Brown Cancer Center James Graham Brown Foundation Chair
502-562-4369; donaldmi@ulh.org

Research Interests

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

Chin K. Ng, PhD
Associate Professor of Radiology and Associate Professor of Pharmacology and Toxicology
502-852-5875; chin.ng@louisville.edu

Research Interests

Development, evaluation, and kinetic studies of radiopharmaceuticals; the use of molecular imaging for biomedical research.
M. Michele Pisano, PhD  
Professor of Molecular, Cellular and Craniofacial Biology and Professor of Pharmacology and Toxicology  
502-852-7507; pisano@louisville.edu  

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  
502-852-3720; gcrodgers@pol.net  

Research Interests  
Toxicokinetics in drug overdoses and pharmacokinetics in pediatric disease states.
Janice E. Sullivan, MD  
Professor of Pediatrics and Professor of Pharmacology and Toxicology  
502-852-3720;  sully@louisville.edu  

Research Interests

Clinical pharmacology with a focus on developmental pharmacokinetics and pharmacodynamics.

Yang Wang, MD, PhD  
Associate Professor of Pediatrics and Associate Professor of Pharmacology and Toxicology  
502-852-8420;  y.wang@louisville.edu  

Research Interests

Molecular and cellular regulation of genes implicated in hypoxic/ischemic injury and protection in the cardiovascular system.
Brian (Binks) W. Wattenberg, PhD  
Associate Professor of Medicine; Associate Professor of Biochemistry & Molecular Biology  
Associate Professor of Pharmacology & Toxicology  
502-852-7762; bwatt01@gwise.louisville.edu  
browncancercenter.org/research/researcher.aspx?id=1650

**Research Interests**

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

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Hong Ye, PhD  
Assistant Professor of Medicine and Assistant Professor of Pharmacology and Toxicology  
502-852-4047; hong.ye@louisville.edu

**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
502-852-2579; w0zach01@gwise.louisville.edu

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.

Wayne S. Zundel, PhD
Assistant Professor of Radiation Oncology and Assistant Professor of Pharmacology and Toxicology
502-852-3445; w0zund01@gwise.louisville.edu

Research Interests

Molecular oncology.
V. FACULTY WITH ASSOCIATE, EMERITUS & ADJUNCT APPOINTMENTS

Michael E. Brier, PhD
Professor of Medicine

Lu Cai, MD, PhD
Associate Professor of Medicine and Radiation Oncology

Daniel J. Conklin, PhD
Assistant Professor of Medicine (Cardiology)
Teresa Whi-Mei Fan, PhD
Professor of Chemistry

C. William Helm, MD
Associate Professor of Obstetrics, Gynecology and Women’s Health

James W. Lillard, Jr. PhD, MBA
Associate Professor of Microbiology & Immunology
Smith & Lucile Gibson Endowed Chair in Medicine
David A. Scott, PhD
Associate Professor of Periodontics, Endodontics & Dental Hygiene

David J. Tollerud, MD
Professor of Environmental and Occupational Health
VI. FACULTY LISTINGS

Faculty with Primary Appointments

- **Arteel, Gavin E.**, Associate Professor; Ph.D., Toxicology, University of North Carolina-Chapel Hill (1997).

- **Benz, Frederick W.**, Professor; Ph.D., Pharmacology, University of Iowa (1970).

- **Cai, Jian**, Assistant Professor; Ph.D., Pharmacology and Toxicology, University of Louisville (1999).

- **Chen, Theresa S.**, Professor; Ph.D., Pharmacology, University of Louisville (1971).

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

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

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

- **Hurst, Harrell E.**, Professor; Ph.D., Toxicology, University of Kentucky (1978).

- **Kidd, LaCreis R.**, Assistant Professor, Ph.D., Toxicology, Massachusetts Institute of Technology (1997).

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

- **McGregor, W. Glenn**, Professor; M.D., University of Michigan (1976).

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

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

- **Palmer, Kenneth E., Associate Professor**; Ph.D., Microbiology, University of Cape Town (1997)

- **Pierce, William M., Jr.**, Professor and Vice Chair for Graduate Education; Ph.D., Pharmacology and Toxicology, University of Louisville (1981).
• **Rowell, Peter P.**, Professor; Ph.D., Pharmacology and Therapeutics, University of Florida (1975).

• **Sankar, Uma**, Assistant Professor, Ph.D., MCD Biology, Ohio State University (2003).

• **Song, Zhao-Hui (Joe)**, Associate Professor; Ph.D., Pharmacology, University of Minnesota (1992).

• **States, J. Christopher**, Professor; Ph.D., Molecular Biology and Pathology, Albany Medical College/Union University (1980).

• **Waite, Leonard C.**, Professor and Vice Chair for Professional Education; Ph.D., Pharmacology, University of Missouri (1969).

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

**Faculty with Joint Appointments**

• **Aronoff, George R.**, Professor of Medicine, and Pharmacology and Toxicology; M.D., Indiana University (1975).

• **Barve, Shirish**, Professor of Medicine (Gastroenterology), and Pharmacology and Toxicology; Ph.D., Molecular Pathogenesis, University of Kentucky (1990).

• **Bhatnagar, Aruni**, Professor of Medicine (Cardiology), and Pharmacology and Toxicology; Ph.D., Chemistry, University of Kanpur (1985).

• **Bodduluri, Hari**, Professor of Microbiology and Immunology, and Pharmacology and Toxicology; Ph.D., Biochemistry, Indian Institute of Science (1983).

• **Chesney, Jason A.**, Associate Professor of Medicine (Hematology/Oncology), and Pharmacology and Toxicology; Ph.D., Biomedical Sciences/Immunology, University of Minnesota (1997); M.D., University of Minnesota (1998).

• **Eaton, John W.**, James Graham Brown Professor of Cancer Biology, Department of Medicine, and Professor of Pharmacology and Toxicology; Ph.D., Biological Anthropology and Human Genetics, University of Michigan (1969).

• **Epstein, Paul N.**, Carol B. McFerran Chair in Pediatric Diabetes Research and Professor of Pediatrics, and Pharmacology and Toxicology; Ph.D., Pharmacology, Baylor College of Medicine (1981).
• **Goldstein, Richard E.**, Professor of Surgery, and Pharmacology and Toxicology; M.D., Thomas Jefferson University (1982); Ph.D., Molecular Physiology and Biophysics, Vanderbilt University School of Medicine (1994).

• **Gozal, David***, Children’s Hospital Foundation Pediatric Research Chair, Professor of Pediatrics, and Pharmacology and Toxicology; M.D., Hebrew University of Jerusalem, Hadassah Medical School (1979).

• **Gozal, Evelyne***, Associate Professor of Pediatrics, and Pharmacology and Toxicology; Ph.D., Toxicology, University of Southern California (1997).

• **Hagg, Theo**, Professor and Endowed Chair of Neurological Surgery, and Professor of Pharmacology and Toxicology; M.D., University of Leiden (1985), Ph.D., Neurosciences, University of California-San Diego (1998).

• **Hetman, Michal**, Associate Professor of Neurological Surgery, and Pharmacology and Toxicology; M.D., Warsaw Medical School (1994); Ph.D., Experimental and Clinical Medicine, Polish Academy of Sciences (1997).

• **Kang, Y. James***, Professor of Medicine, and Pharmacology and Toxicology; Ph.D., Cell Biology and Zoology, Iowa State University (1989).

• **Kennedy, Mary Jayne**, Assistant Professor of Pediatrics, and Pharmacology and Toxicology; Pharm.D, Medical University of South Carolina (1998).

• **Li, Chi**, Assistant Professor of Medicine (Hematology/Oncology) and Pharmacology and Toxicology; Ph.D, Molecular Biology, Columbia University (1998).

• **McClain, Craig J***, Professor of Medicine (Gastroenterology), and Pharmacology and Toxicology; M.D., University of Tennessee-Memphis (1972).

• **McMasters, Kelly M.**, Professor of Surgery, and Pharmacology and Toxicology; Ph.D., Cell and Developmental Biology, Rutgers University (1988); M.D., UMDNJ R.W. Johnson Medical School (1989).

• **Martinez-Maldonado, Manuel**, Professor of Medicine, and Pharmacology and Toxicology, M.D., Temple Medical School (1961).

• **Miller, Donald M.**, James Graham Brown Professor of Oncology, and Professor of Pharmacology and Toxicology; M.D., Duke University (1973); Ph.D., Biochemistry, Duke University (1973).

• **Pisano, M. Michele**, Professor of Molecular, Cellular and Craniofacial Biology, and Pharmacology and Toxicology; Ph.D., Anatomy, Thomas Jefferson University (1985).
• **Rodgers, George C., Jr.**, Professor of Pediatrics, and Pharmacology and Toxicology; Ph.D., Organic Chemistry, Yale University (1964); M.D., State University of New York (1975).

• **Sullivan, Janice E.**, Professor of Pediatrics, and Pharmacology and Toxicology; M.D., University of Minnesota (1988).

• **Wang, Yang**, Associate Professor of Pediatrics, and Pharmacology and Toxicology; M.D., Jiangxi Medical College (1982); Ph.D., Physiology, University of Toronto (1993).

• **Wattenberg, Brian (Binks) W.**  Associate Professor of Medicine (Hematology/Oncology), and Pharmacology and Toxicology; Ph.D., Biological Chemistry, Washington University (1981)

• **Ye, Hong**, Assistant Professor of Medicine (Hematology/Oncology), and Pharmacology and Toxicology; Ph.D., Biophysics, Keele University (1998).

• **Zacharias, Wolfgang**, Professor of Medicine (Oncology), and Pharmacology and Toxicology; Ph.D., Biochemistry, Philipps-University, Marburg, Germany (1980).

• **Zundel, Wayne S.**, Assistant Professor of Radiation Oncology, and Pharmacology and Toxicology; Ph.D., Cancer Biology, Stanford University (2000).

*Partial salary from Department of Pharmacology and Toxicology

**Faculty with Associate Appointments**

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

• **Cai, Lu**, Associate Professor of Medicine; Ph.D., Radiation Biology/Oncology, Norman Bethune University of Medical Sciences (1987).

• **Conklin, Daniel J.**, Assistant Professor of Medicine (Cardiology); Ph.D., University of Notre Dame (1995).

• **Fan, Teresa**, Professor of Chemistry, Biochemistry, University of California-Davis (1983).

• **Helm, Cyril William**, Associate Professor of Obstetrics and Gynecology, Division of Gynecologic Oncology; MB, BChir, Cambridge University (1977).

• **Lillard, James**, Associate Professor of Microbiology and Immunology; Ph.D., Microbiology and Immunology, University of Kentucky (1999).
• **Scott, David A.** Associate Professor of Periodontics, Endodontics & Dental Hygiene; Ph.D., Microbiology and Immunology, McGill University (1997)

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

• **Wong, John L.** Professor of Chemistry; Ph.D., Chemistry, University of California at Berkeley (1966).

**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).

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

• **Waddell, William J.** Professor and Chair Emeritus; M.D., University of North Carolina (1955).

• **Zimmerman, Thom J.** Professor Emeritus of Ophthalmology and Visual Sciences, and Pharmacology and Toxicology; Ph.D., Pharmacology, University of Florida (1976); M.D., University of Illinois (1968).

**Faculty with Adjunct Appointments**

• **Friedman, Marvin A.** Adjunct Professor of Pharmacology and Toxicology; Ph.D., Massachusetts Institute of Technology (1967).

• **Hayes, A. Wallace** Adjunct Professor of Pharmacology and Toxicology; Ph.D., Auburn University (1967).

• **Hong, Jun-Yan** Adjunct Professor of Pharmacology and Toxicology; Ph.D., University of Medicine and Dentistry of New Jersey (1987).

**VII. STAFF AND STUDENTS**

**Research Staff**

• **Barker, David**, Research Scientist

• **Belcher, Christopher**, Student Assistant
• Benford, Marnita, Laboratory Assistant
• Burke, Tom, Research Technologist II
• Carpenter, Sharon, Administrative Assistant
• Doll, Mark, Research Scientist
• Greca, Edie, Business Manager Intermediate III
• Greenwell, John, Student Assistant
• Guo, Luping, Senior Research Associate
• Hodges, Amanda, Student Assistant
• Holloman, Temporary Lab Assistant
• Howarth, Ashley L., Student Assistant
• Liu, Marcia, Senior Research Associate
• Massey, Veronica, Temporary Summer Lab Assistant
• Miller, Heather, Senior Research Technologist
• Rubin-Teitel, Heddy, Administrative Assistant
• Schlierf, Thomas, Student Assistant
• Sils, Brian, Student Assistant
• Skaggs, Robert, Student Assistant
• Smith, Anthony, Student Assistant
• Smith, Ned, Technical Director Mass Spectrometry Lab
• Taylor, Kevin G., Research Technician IV
• Templeton, Tiva, Research Technologist II
• Turner, Delano, Lab Research Technician III

Postdoctoral Fellows

• Arteel, Juliane
• Bendaly, Jean
• Kouokam, Joseph
• Qiao, Zhuanhong
• Zhu, Yuanqi

New Graduate Students

Adcock, Robert Scott (MS program)
Cheng, Pei-hsin (Penny) (Ph.D. program)
Clark, Sarah (MS program)
Eno, Colins (Ph.D. Program)
Harrison, Kristen (Ph.D. program)
Leggett, Carmine (Ph.D. program)
Moghe, Akshata (Ph.D. program)
Schmidt, Robin (Ph.D. program)
Zajack, Matt (Ph.D. program)
## Graduate Students

<table>
<thead>
<tr>
<th>Name</th>
<th>Advisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scott Adcock</td>
<td>Andrew Lane</td>
</tr>
<tr>
<td>Sheila Arnold</td>
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</tr>
<tr>
<td>Aisha Bagshaw</td>
<td>William M. Pierce, Jr.</td>
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<td>Katie Bourcy</td>
<td>Y. James Kang</td>
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<td>Pengxiao Cao</td>
<td>Ramesh Gupta</td>
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<td>Alex Carrasquer</td>
<td>Zhao-hui Song</td>
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<td>Elaina Chambers</td>
<td>Shirish Barve</td>
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<td>Pei-Hsin (Penny) Cheng</td>
<td>Kelly McMasters</td>
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<td>Christina Wiegand Clark</td>
<td>Evelyne Gozal</td>
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<td>Sarah Clark</td>
<td>David W. Hein</td>
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<td>Colin Enos</td>
<td>Chi Li</td>
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<td>Emily Esposito</td>
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<td>Kristen Harrison</td>
<td>Evelyne Gozal</td>
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<td>Philip Kaiser</td>
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<td>Christelle Komguem Kamga</td>
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<td>Nicole Lavender</td>
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<td>Stephanie Mathews</td>
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<td>Mildred Menchu-Johnson</td>
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<td>Olive Ngalame</td>
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<td>Jean Claude Nzimulinda</td>
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<td>Madhu Patil</td>
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<td>Nason Schooler</td>
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<td>Shyam Sunder</td>
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<td>Paul E. Epstein</td>
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<tr>
<td>Nick Watson</td>
<td>W. Glenn McGregor</td>
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### VIII. GRADUATES

#### Pharmacology and Toxicology Graduates

<table>
<thead>
<tr>
<th>Last name</th>
<th>First name</th>
<th>Mentor</th>
<th>Degree</th>
<th>Dissertation/Thesis Title</th>
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<tr>
<td>Bourcy</td>
<td>Katherine</td>
<td>Y. James Kang, Ph.D.</td>
<td>M.S.</td>
<td>The role of vascular endothelial growth factor receptors in copper-induced regression of cardiac hypertrophy</td>
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<td>Carasquer</td>
<td>Carl Alexander</td>
<td>Zhao-Hui (Joe) Song, Ph.D.</td>
<td>Ph.D.</td>
<td>Activation and regulation of cannabinoid receptors</td>
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<td>Chambers</td>
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<td>M.S.</td>
<td>Immune dysregulation and diabetes: A potential role of phosphodiesterases</td>
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<td>Clark</td>
<td>Christina Blume</td>
<td>Evelyne Gozal, Ph.D.</td>
<td>Ph.D.</td>
<td>The role of HSP90 in PC-12 cell survival</td>
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<td>Esposito</td>
<td>Emily Roberts</td>
<td>Michele Pisano, Ph.D.</td>
<td>Ph.D.</td>
<td>In vivo and in vitro models for cigarette smoke-induced low birth weight and other adverse developmental outcomes</td>
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<td>Lavender</td>
<td>Nicole</td>
<td>LaCreis R. Kidd, Ph.D.</td>
<td>M.S.</td>
<td>Joint modifying effects of variant oxidative stress factors in relation to prostate cancer</td>
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<tr>
<td>Ma</td>
<td>Shankang</td>
<td>Y. James Kang, Ph.D.</td>
<td>M.S.</td>
<td>Metallothionein gene therapy for chemically-induced liver fibrosis</td>
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<td>Martin, III</td>
<td>Robert C.G.</td>
<td>David W. Hein, Ph.D.</td>
<td>Ph.D.</td>
<td>Polymorphisms in manganese superoxide dismutase as a risk factor for cancer</td>
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<tr>
<td>Mathews</td>
<td>Stephanie</td>
<td>Shirish Barve, Ph.D.</td>
<td>M.S.</td>
<td>Impaired SAM metabolism and IFNα antiviral signaling: Relevance to hepatitis C virus</td>
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<td>Millner</td>
<td>Lori</td>
<td>David W. Hein, Ph.D.</td>
<td>M.S.</td>
<td>Effect of N-acetyltransferase (NAT1) polymorphism on mutagenesis and DNA adduct formation</td>
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<td>Muenyi</td>
<td>Clarisse</td>
<td>J. Christopher States, Ph.D.</td>
<td>M.S.</td>
<td>Improving the efficacy of platinum chemotherapy against ovarian cancer</td>
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<td>Nzimulinda</td>
<td>Jean-Claude</td>
<td>Zhao-Hui (Joe) Song, Ph.D.</td>
<td>M.S.</td>
<td>Residues accessible in the binding site crevice of transmembrane helix 2 of CB2 cannabinoid receptor</td>
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<td>Richardson</td>
<td>Katharine</td>
<td>Wayne Zundel, Ph.D.</td>
<td>Ph.D.</td>
<td>Regulation of placental ribonuclease inhibitor by tumor suppressor Von Hippel-Lindau</td>
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<td>Rogers</td>
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<td>J. Christopher States, Ph.D.</td>
<td>M.S.</td>
<td>The modulation of DNA damage by curcumin</td>
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<td>Schlierf</td>
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<td>M.S.</td>
<td>Role of N-acetyltransferase 1 (NAT1) and 2 (NAT2) polymorphisms in breast cancer risk with exposure to aromatic and heterocyclic amine carcinogens</td>
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<td>Schooler</td>
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<td>John W. Eaton, Ph.D.</td>
<td>M.S.</td>
<td>The use of the reducing agent N-(2-mercaptopropionyl)glycine to detoxify</td>
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<td>Stallons</td>
<td>Lindsey Jay</td>
<td>W. Glenn McGregor, M.D.</td>
<td>M.S.</td>
<td>Mutagenic and tumor suppressor functions of DNA polymerase iota in mammalian cells</td>
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<td>Watson</td>
<td>Nicholas</td>
<td>W. Glenn McGregor, M.D.</td>
<td>Ph.D.</td>
<td>RAD18 is recruited to stalled DNA replication forks and is required for recruitment of accessory translesion synthesis proteins</td>
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<td>Zhang</td>
<td>Xiaoyan (Susan)</td>
<td>David W. Hein, Ph.D.</td>
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<td>Characterization of N-acetyltransferase 1 (NAT1) expression in breast cancer</td>
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<td>Zhou</td>
<td>Yang</td>
<td>Y. James Kang, Ph.D.</td>
<td>Ph.D.</td>
<td>Copper-induced regression of cardiomyocyte hypertrophy through alteration of VEGF/VEGFR pathways</td>
</tr>
</tbody>
</table>

IX. PUBLICATIONS (SALARIED FACULTY AND STAFF)


97. Spruyt, K. and Gozal, D. Mr. Pickwick and his child went on a field trip and returned almost empty handed....What we do not know and imperatively need to learn about obesity and breathing during sleep in children! Sleep Medicine Review. 2008. 12:335-338.


**In Press or E-pub:**

**Gavin Arteel, PhD**


**Jian Cai, PhD**


**Theresa Chen, PhD**


Paul Epstein, PhD


David Gozal, MD


referred to pediatric ENT or Sleep clinics. *Sleep Medicine* 2009; (in press)


Hambrecht VS, Vlisides PE, Row BW, **Gozal** D, Baghdoyan HA, Lydic R. G Proteins in the prefrontal cortex (PFC) of Sprague-Dawley rat are differentially activated as a function of oxygen status and PFC region. *J Chem Neuroanatomy* 2009; (in press)


Simakajornboon N, Kheirandish-Gozal L, **Gozal** D. Diagnosis and management of restless legs syndrome in children. *Sleep Med Rev* 2009; (in press)

**Evelyne Gozal, PhD**


**Ramesh Gupta, PhD**


**David Hein, PhD**


**Y James Kang, PhD, DVM**


**LaCreis Kidd, PhD, MPH**


**Nobuyuki Matoba, PhD**


**Craig McClain, MD**


W Glenn McGregor, MD


Kenneth Palmer, PhD


William Pierce, PhD


Owen, Joshua; Di Domenico, Fabio; Sultana, Rukhsana; Perluigi, Marzia; Cini, Chiara; Pierce, William; Butterfield, D. Allan "Proteomics-determined differences in the Concanavalin-A fractionated proteome of hippocampus and inferior parietal lobule in subjects with Alzheimer's disease and mild cognitive impairment: Implications for progression of AD" Journal of Proteome Research Accepted, Dec. 2008. PMID: 19072283


**Uma Sankar, PhD**

Sharma S. M., Sif S., Ostrowski M. C and Sankar U*. Defective Co-activator Recruitment in Osteoclasts from *Microphthalmia-Oak Ridge* Mutant Mice. *(Journal of Cellular Physiology: Accepted).* (*Corresponding Author).*

**J Christopher States, PhD**


Helm, CW and States, JC. Enhancing the efficacy of cisplatin in ovarian cancer treatment – could arsenic have a role, J Ovarian Res. 2:2 (2009), Jan 14, [Epub ahead of print]


**Leonard Waite, PhD**


**X. ABSTRACTS (SALARIED FACULTY AND STAFF)**

**Gavin Arteel, PhD**

National/International

Local/Regional


Frederick Benz, PhD


Jian Cai, PhD


Theresa Chen, PhD

1. Deaciuc IV, Song Z, Kripich I, Chen TS, McClain CJ. Redox state of the NAD⁺/NADH system modulates the intracellular S-adenosylmethionine and S-adenosylhomocysteine levels in the isolated, perfused rat liver. *Hepatology* 48 (4 Suppl), 1021A, 2008.

2. Song M, Deaciuc I, Song Z, Barve S, Zhang J, Liu M, Chen T, McClain CJ. Loss of hypoxia-inducible factor-1α attenuates bile duct ligation-induced liver fibrosis. (Control ID 593873)


Evelyne Gozal, PhD

Presented at: Joint AOHUPO (Asian Oceania Human Proteome Organization) and PRICPS (Pacific Rim International Conference on Protein Science), June 22-26, 2008. Cairns, Australia.


Ramesh Gupta, PhD

Published

David Hein, PhD

2. Zhang, X., Barker, D.F., Doll, M.A., Martin, R.C., States, J.C., Klinge, C.M. and


Harrell Hurst, PhD


Y James Kang, PhD, DVM


La Creis Kidd, Ph.D., M.P.H.


Abstracts Accepted/Poster Presentations

Craig McClain, MD

Research Louisville, 2008, Louisville, KY
2. Ming Song1, Zhenyuan Song4, George Brewer5, and Craig J, McClain1,2,3. Copper Modulates Collagen I α 1 mRNA Expression in Human Stellate Cells through p38 MAPK Signaling Pathway. 1Department of Medicine, 2Department of Pharmacology and Toxicology, University of Louisville School of Medicine, Louisville, KY. 3Department of Veterans Affairs Medical Center, Louisville, KY. 4Department of Human Nutrition, University of Illinois at Chicago, Chicago, IL and 5Department of Internal Medicine, University of Michigan, Ann Arbor, Michigan.
3. M. Patel1, K.C. Falkner1, L. Reynolds3, C.J. McClain1,2,3, M. Cave1,2,3. Industrial Toxicant Associated Steatohepatitis (TASH) Develops In The Absence Of Obesity And Is Associated With Many Of The Traditional Biomarkers And Mechanisms Of NASH. 1University of Louisville Departments of Medicine and Pharmacology and Toxicology, 2Jewish Hospital Liver Transplant Program, 3Louisville Veterans Administration Medical Center
4. L. Gobejishvili, J. Zhang, Y. Li, S. Joshi-Barve, M. Song, C.J. McClain and S. Barve. Phosphodiesterase 4 Isozymes Play a Critical Role in the Pathogenesis of Cholestatic Liver Injury and Fibrosis. Department of Internal Medicine, Department of Pharmacology & Toxicology, University of Louisville Medical Center and Jewish Hospital Liver Disease Program Louisville VA Medical Center, Louisville, Kentucky

5. Smita Ghare, Swati Joshi-Barve, Craig McClain and Shirish Barve. Epigenetic Modifications of Histones Play a Critical Role in Ethanol Dependent Enhancement of FasL Gene Expression and Cell Death in CD4+ T Lymphocytes: Relevance to Alcohol Induced Immune suppression. University of Louisville, Department of Medicine, Division of Hepatology and Gastroenterology, Louisville, KY 40202.

6. E. Chambers, L. Gobejishvili, S. Joshi-Barve, C. McClain, S. Mokshagundam and S. Barve. A Potential Pathogenic Role for Phosphodiesterases (PDEs) in the Development of Diabetic Complications. University of Dept. of Medicine, Pharmacology and Toxicology, Univ. of Louisville Medical Center

7. Ion V. Deaciuc1, Zhenyuan Song1, Irina A. Kirpich1, Theresa Chen2, and Craig J. McClain1,2,3. Redox State Of The Nad+-Nadhs System Modulates The Intracellular S-Adenosylmethionine And S-Adenosylhomocysteine Levels In The Isolated, Perfused Rat Liver. 1Division of Gastroenterology/Hepatology, Department of Medicine, 2Department of Pharmacology and Toxicology, University of Louisville School of Medicine, Louisville, KY, USA, and 3Veterans Medical Center, Louisville, KY, USA

8. Stephanie Mathews1, Folasade Ademosu2, Swati Joshi-Barve2, Craig McClain1,2, Shirish Barve1,2. Epigenetic Modifications of Histones Play a Critical Role in Regulating IFNα-mediated Anti-HCV Gene Expression. University of Louisville, Departments of Pharmacology/Toxicology1 and Medicine2

9. Folasade Ademosu2, Stephanie Mathews1, Swati Joshi-Barve2, Craig McClain1,2, Shirish Barve1,2. Histone Deacetylase Activity is Essential for Interferon-α (IFN) Induced Anti-Hepatitis C Gene Expression in Hepatocytes. Departments of Pharmacology/Toxicology1 and Medicine2

AASLD, October 31 – November 4, 2008, San Francisco, CA

10. Ming Song1, Zhenyuan Song1, George Brewer4, and Craig J, McClain1,2,3. Copper Modulates Collagen I α 1 mRNA Expression in Human Stellate Cells through p38 MAPK Signaling Pathway. 1Department of Medicine, 2Department of Pharmacology and Toxicology, University of Louisville School of Medicine, Louisville, KY. 3Department of Veterans Affairs Medical Center, Louisville, KY. 4Department of Human Nutrition, University of Illinois at Chicago, Chicago, IL, 5Department of Internal Medicine, University of Michigan, Ann Arbor, Michigan.

11. Ming Song1, Zhenyuan Song1, George Brewer4, and Craig J McClain1,2,3. Anti-copper Therapy Protects Against Hepatic Fibrosis by Down-regulating Collagen I α 1 mRNA Expression in Hepatic Stellate Cells. 1Division of Gastroenterology/Hepatology, 2Department of Internal Medicine, Department of Pharmacology and Toxicology, University of Louisville School of Medicine, Louisville, KY 40202; 3Veterans Administration, Louisville, KY, 4Department of Internal Medicine, University of Michigan,Ann Arbor, Michigan.

12. L. Gobejishvili, R. Khan, S. Joshi-Barve, S. Barve, C.J. McClain, D. Hill. Misoprostol, a Potential Therapeutic Agent for Alcoholic Hepatitis, Modulates Cytokine Activity through cAMP Pathway. Departments of Medicine and Pharmacology & Toxicology, University of Louisville

16. M. Patel1, K. Falkner1, C. McClain1,2, G. Brock3, S. Appana3, M. Cave1. Pesticide And Heavy Metal Exposures Are Associated With Liver Disease. 1Department of Medicine, 2 Department of Pharmacology & Toxicology, 3 Department of Biostatistics and Bioinformatics, School of Public Health and Information Sciences, University of Louisville. Louisville, KY, 40202.


19. Kirpich, N.Solov'eva, S.Lechter, N.Bagjykova, S.Barve, C.McClain. Effect Of Probiotic Therapy On The Liver Enzyme Activity In Patient With Alcoholic Withdrawal Syndrome. 1Northern State Medical University, School of Medicine, Arkhangelsk, Russian Federation, 2University of Louisville, School of Medicine, Louisville, KY, USA. Alcoholism Clinical and Experimental Research. 2008;32(S1): 100A

20. Craig McClain1, Kalpana Ghoshal2, Shirish Barve1, Ion Deaciuc1, Sam Jacobs2. Epigenetics and Alcoholic Liver Disease. 1University of Louisville, 2Ohio State University

21. I. A. Kirpich; I. V. Deaciuc; Z. Song; Y. Li; and C. J. McClain. Time Course Of Extracellular Matrix (Ecm) And Adhesion Molecule (Am) Expression Changes In The Liver Of A Mouse Model Of Chronic Alcohol Exposure. University of Louisville School of Medicine, Louisville, KY 40292. FASEB, April 5-9, 2008, San Diego, CA

22. Swati Joshi-Barve1, Kiranmayi Amancherla1, Madhuvanti Patil2, Aruni Bhatnagar1, Sanjay Srivastava1, Leila Gobejishvil1, Craig J. McClain1,2,3 and Shirish S. Barve1,2 Environmental pollutant and lipid peroxidation product, acrolein, inhibits interferon-alpha mediated antiviral signaling in human hepatocytes: relevance for HCV therapy. 1Department of Internal Medicine, 2Department of Pharmacology & Toxicology, University of Louisville Medical Center and 3Louisville VA Medical Center, Louisville, Kentucky


23. Matt Cave, Rehan Khan, Arpana Mahalingashetty, Swati Joshi-Barve, Lark Reynolds, Craig J. McClain. Vinyl Chloride Induced Hepatic Angiosarcoma: An Update of the Louisville Experience. Department of Medicine, University of Louisville

24. Matt Cave, Arpana Mahalingashetty, Swati Joshi-Barve, Lark Reynolds, Craig J. McClain. Elevated serum cytokeratin 18 identifies nonalcoholic steatohepatitis in chemical workers with normal routine liver enzymes. Department of Medicine, University of Louisville

25. Cave, M., Falkner, K.C., Joshi-Barve, S., Khan, R., Ray, M., Reynolds, L., McClain, C.J. Industrial toxin associated steatohepatitis (TASH) develops in the absence of obesity and is
associated with many of the traditional biomarkers and mechanisms of NASH [abstract].

Hepatology. 2008; 48(4): 805A.

DDW, May 17-20, 2008, Boston, MA

26. L. Gobejishvili, R. Khan, S. Joshi-Barve, S. Barve, C.J. McClain, D. Hill. Misoprostol, a Potential Therapeutic Agent for Alcoholic Hepatitis, Modulates Cytokine Expression through cAMP Dependent Signaling Pathway

University of Louisville School of Medicine, Louisville, KY 40292.

27. Ming Song¹, Zhenyuan Song¹, George Brewer⁴, and Craig J McClain¹,²,³ Anti-copper Therapy Protects Against Hepatic Fibrosis by Down-regulating Collagen I α 1 mRNA Expression in Hepatic Stellate Cells

¹Division of Gastroenterology/Hepatology, ²Department of Internal Medicine, Department of Pharmacology and Toxicology, University of Louisville School of Medicine, Louisville, KY 40202; ³the Veterans Administration, Louisville, KY and ⁴the Department of Internal Medicine, University of Michigan, Ann Arbor, Michigan.

28. Irina A. Kirpich, Zhenyuan Song, Ion V. Deaciuc, and Craig J. McClain. Liver Microarray Analysis Reveals Genes Potentially Involved In The Progression Of Nonalcoholic Liver Steatosis To Steatohepatitis

University of Louisville School of Medicine, Department of Medicine, Louisville, KY 40202

29. Ming Song¹, Zhenyuan Song¹, Ion V Deaciuc¹, Marcia Liu², Theresa Chen², George Brewer⁴, and Craig McClain¹,²,³ Tetrathiomolybdate Protects Against Hepatic Fibrosis induced by Bile Duct Ligation in Mice

¹Division of Gastroenterology/Hepatology, ²Department of Internal Medicine, Department of Pharmacology and Toxicology, University of Louisville School of Medicine, Louisville, KY 40202; ³the Veterans Administration, Louisville, KY and ⁴the Department of Human Genetics and Internal Medicine, University of Michigan, Ann Arbor, Michigan.

W Glenn McGregor, MD


Steven Myers, PhD


Donald Nerland, PhD


William Pierce, PhD

1. Bendaly, Jean1; Zhao, Shuang1; Metry, Kristin J.1; Doll, Mark A.1; States, J. Christopher1; Smith, Ned B.1; Pierce, William M.1; Hein, David W.1 Role of human cytochrome P4501a1 and N-acetyltransferase 2 genetic polymorphism on the mutagenicity and DNA damage of the environmental carcinogens 2-amino-phenylimidazo[4,5-B]pyridine and 4 aminobiphenyl. Society of Toxicology Annual Meeting, 2008.
2. Metry, Kristin J.1; Doll, Mark A.1; Smith, Ned B.1; Zhao, Shuang1; States, J. Christopher1; McGregor, W. Glenn1; Pierce, William M.1; Hein, David W.1 Role Of Human N-Acetyltransferase 2 Acetylation Polymorphism In Mutagenesis And DNA Adduct Formation By The Aromatic Amine Carcinogens 2-Aminofluorene And 4-Aminobiphenyl. Society of Toxicology Annual Meeting, 2008.

Uma Sankar, PhD


Zhao-Hui (Joe) Song, PhD

1. Ya Fatou Njie, Fang He, Zhuanhong Qiao, and Z H Song. 2-Arachidonylglycerol-Induced Increase in Aqueous Humor Outflow. World Ophthalmology Congress, 2008
XI. RESEARCH GRANTS FUNDED

Grant Activity—Funded

### Gavin Arteel, PhD

<table>
<thead>
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<th>Agency/Number</th>
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<tr>
<td>R01 AA003624</td>
<td>Control of drug and ethanol metabolism</td>
<td>PI</td>
<td>Arteel</td>
<td>05/02/06-04/30/11</td>
<td>1,364,794 (total)</td>
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<td>UofL IRIG</td>
<td>Priming of liver disease by arsenic exposure</td>
<td>PI</td>
<td>Arteel</td>
<td>08/01/07-07/31/08</td>
<td>15,000 (total)</td>
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<td>R21 AA015611</td>
<td>Matrix Metalloproteinases in Alcoholic Liver Injury</td>
<td>*Co-I/PI</td>
<td>*Deaciuc /Arteel</td>
<td>08/01/06-05/31/09</td>
<td>250,000 (direct)</td>
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<tr>
<td>F 31AA017346</td>
<td>The role of PKCε in alcoholic liver disease</td>
<td>Mentor</td>
<td>Kaiser</td>
<td>11/01/07-10/31/10</td>
<td>84,894 (total)</td>
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<td>R21 ES015812</td>
<td>Transplacental Arsenic Induced Hepatic Dysfunction and Vascular Disease</td>
<td>Co-I</td>
<td>States</td>
<td>04/01/08-03/31/10</td>
<td>250,000 (direct)</td>
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<tr>
<td>P01 AA017103</td>
<td>Alcohol liver disease and alcohol-nutrient interactions</td>
<td>Member and Animal Core Director</td>
<td>McClain</td>
<td>09/30/08-08/31/11</td>
<td>1,350,000 (total)</td>
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*NIH awarded Arteel PI status on this R21 after the death of the PI in July, 2008

### Frederick W. Benz, PhD

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<tr>
<td>Department of Defense (DOD)</td>
<td>High Technology Mass Spectrometry Laboratory</td>
<td>Col</td>
<td>Pierce, W.M.</td>
<td>One Year</td>
<td>$942,352.20</td>
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### Jian Cai, PhD

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<tr>
<td>KSTC IB080452</td>
<td>Pharmacodynamics of Bone Targeted Drugs.</td>
<td>PI</td>
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<td>10/07-5/09</td>
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<td>DOD 07233001</td>
<td>High Technology Mass Spectrometry Lab</td>
<td>CoPI</td>
<td>WM Pierce</td>
<td>10/07-5/09</td>
<td>942,352 total costs</td>
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<tr>
<td>NIH R01 EY13813-05A1</td>
<td>TNF-alpha in Cell Death &amp; Neuroprotection in Glaucoma</td>
<td>Col</td>
<td>G Tezel</td>
<td>8/1/07-7/31/12</td>
<td>1,850,000 total costs</td>
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### Theresa Chen, PhD

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<tr>
<td>NIH/NIAAA R01 AA015970</td>
<td>S-adenosylchomocysteine and S-adenosylmethionine in Alcoholic Liver Disease</td>
<td>Co-I</td>
<td>McClain</td>
<td>09/30/05-6/30/10</td>
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<td>NIH/NIAAA R01 AA014371-04</td>
<td>Mechanisms of alcohol-induced immunosuppression</td>
<td>Co-I</td>
<td>Barve</td>
<td>9/1/04-6/30/09</td>
<td>298,000</td>
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<td>NIH R01 DK072032-03</td>
<td>Podocytes and oxidative stress in diabetic kidney</td>
<td>Co-I</td>
<td>Epstein</td>
<td>9/1/06-8/31/09</td>
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### Paul Epstein, PhD

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<tr>
<td>NIH R01 DK077624, B-cells in pups of mild and severe STZ diabetic mothers; antioxidant protection</td>
<td>Co-I</td>
<td>YQ Liu</td>
<td>9/15/06-9/14/10</td>
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<tr>
<td>NIH P20 RR024489 COBRE Center of Excellence in Diabetes and Obesity Research</td>
<td>Mentor</td>
<td>Bhatnagar</td>
<td>10/1/08-9/30/13</td>
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<td>NIH DK072032 Podocytes and Oxidative Stress in Diabetic Kidney</td>
<td>PI</td>
<td>Epstein</td>
<td>9/30/05-8/31/10</td>
<td>$218,000 direct costs per year</td>
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<tr>
<td>NIH DK073586 Prolonged diabetic damage to cardiac mitochondria</td>
<td>PI</td>
<td>Epstein</td>
<td>12-2005-9/30/2009</td>
<td>$244,000 direct costs per year</td>
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### David Gozal, MD

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<tr>
<td>NIH RO1-HL69932 Postnatal Brain Susceptibility to Intermittent Hypoxia</td>
<td>PI</td>
<td>Gozal</td>
<td>6/1/2002-5/31/2008</td>
<td>$200,000 annual direct costs—1 year no cost extension</td>
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<tr>
<td>NIH RO1 HL65270-09 Neurocognitive Function in Snoring Children</td>
<td>PI</td>
<td>Gozal</td>
<td>9/1/2003-6/30/2008</td>
<td>$240,000 annual direct costs</td>
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<td>NIH R01 HL086662 Oxidative stress in a murine model of sleep apnea</td>
<td>PI</td>
<td>Gozal</td>
<td>7/2008-6/2012</td>
<td>$250,000 annual direct costs</td>
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<tr>
<td>NIH R01 HL083075 Tonsillectomy and Adenoidectomy in Children with Sleep Disordered Breathing</td>
<td>Site PI</td>
<td>Redline</td>
<td>2006-2011</td>
<td>$190,000 annual direct costs</td>
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<tr>
<td>NIH SCOR HL60296-06, Project 2 MCT, Intermittent Hypoxia, and Stroke</td>
<td>PI, Project 2</td>
<td>Siegel</td>
<td>6/1/03-3/31/08</td>
<td>$200,000 annual direct costs</td>
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<td>NIH Monocarboxylate Transporter in Hypoxic Pre-Conditioning</td>
<td>Co-I</td>
<td>Wang</td>
<td>02/01/04-01/31/08</td>
<td>$250,000 annual direct costs</td>
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<td>DOD DARPA BAA Surviving blood loss</td>
<td>Co-I</td>
<td>Wang</td>
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<td>NIH R01 HL070911 Sleep and Sleep Disorders in Children</td>
<td>Co-I</td>
<td>Molfese</td>
<td>7/2004-6/2009</td>
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<td>NIH R01 AG21020-01 Aging, Episodic Hypoxia, and Vagal Cardiac Projections</td>
<td>Co-I</td>
<td>Cheng</td>
<td>5/1/03-4/30/08</td>
<td>$250,000 annual direct costs</td>
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<tr>
<td>NIH/NCI R25 CA044789 Cancer Education Grant Program</td>
<td>Mentor</td>
<td>Burzynski</td>
<td>9/01/2002-8/31/2008</td>
<td>$86,024 annual direct costs</td>
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### Evelyne Gozal, PhD

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<tr>
<td>NIH/NCCR 2 P20 RR15576-06 Mechanisms of Plasticity and repair after SCI</td>
<td>PI</td>
<td>E Gozal</td>
<td>7/1/05-6/30/10</td>
<td>$902,020</td>
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<tr>
<td>NIH- NIAID R01AI075212 “Modulation of Neutrophil Apoptosis by Akt-Hsp27 Signalosome”</td>
<td>Co-investigator</td>
<td>08/08/2008-07/30/2012</td>
<td>$1,397,000</td>
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### Ramesh Gupta, PhD

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<td>NIH CA-90892  Breast Cancer Etiology</td>
<td>PI</td>
<td>Gupta</td>
<td>12/01-11/08</td>
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<td>NIH R01-CA34627</td>
<td>Pharmacogenetics of drug and carcinogen metabolism</td>
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<td>Hein</td>
<td>7/1/03-6/30/09</td>
<td>$1,724,900 total</td>
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<td>NIH T32 ES011564</td>
<td>UofL Environmental Health Sciences Training Program</td>
<td>PI</td>
<td>Hein</td>
<td>7/1/04-6/30/09</td>
<td>$697,188 total</td>
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<td>NIH P20 CA97942</td>
<td>James Graham Brown P20 Application</td>
<td>Program Leader</td>
<td>Miller</td>
<td>8/2/02-7/31/08</td>
<td>$1,328,613 total</td>
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<td>NIH R25 CA 44789</td>
<td>Cancer Education Grant Program</td>
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<td>Burzynski</td>
<td>8/1/02-1/01/09</td>
<td>$557,437 total</td>
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<tr>
<td>NIH R01 ES11594</td>
<td>Metabolism and Detoxification of Base Propenals</td>
<td>Consultant</td>
<td>Srivastava</td>
<td>6/1/03-3/31/08</td>
<td>$1,559,485 total</td>
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<td>NIH PO1 ES011860</td>
<td>Cardiovascular toxicity of environmental aldehydes</td>
<td>Co-I on Proj 1</td>
<td>Bhatnagar</td>
<td>7/1/03-6/30/08</td>
<td>$6,986,060 total</td>
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<tr>
<td>MD Anderson Cancer Center</td>
<td>NAT1 and NAT2 Genotype Determinations in Cancer Patients &amp; Controls</td>
<td>PI</td>
<td>Hein</td>
<td>1/1/04-12/31/09</td>
<td>$60,000 total</td>
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<tr>
<td>NIH R01-CA34627-19S to 22S</td>
<td>Pharmacogenetics of drug and carcinogen metabolism (minority supplement for Dr. La Creis Kidd)</td>
<td>PI</td>
<td>Hein</td>
<td>7/1/04-6/30/08</td>
<td>$509,635 total</td>
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<tr>
<td>NIH U10-HD045934</td>
<td>Center for Pediatric Clinical Pharmacology Research</td>
<td>Dir. Pharmacogenetics lab</td>
<td>Sullivan</td>
<td>1/1/04-12/31/08</td>
<td>$1,845,463 total</td>
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<td>NIH T35 ES014559</td>
<td>Summer Environmental Health Sciences Training Program</td>
<td>Mentor</td>
<td>Prough</td>
<td>4/1/06-3/31/11</td>
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<td>Vanderbilt University (NCI subcontract to R01 CA100374)</td>
<td>Nashville Breast Health Study</td>
<td>Subproj PI</td>
<td>Zheng</td>
<td>5/3/07-4/31/09</td>
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<td>NIH P20 RR023523</td>
<td>Planning Grant for Louisville Clinical and Translational Science Award</td>
<td>Mentor</td>
<td>McClain</td>
<td>10/1/06-9/30/08</td>
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<td>NIH P30-ES014443</td>
<td>Center for Environmental Genomics and Integrative Biology</td>
<td>Investigator</td>
<td>Ramos</td>
<td>6/4/07-3/31/11</td>
<td>$4,400,000 total</td>
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<td>NCI R03- CA128028</td>
<td>A pharmacogenetic approach to</td>
<td>Co-I</td>
<td>Kidd</td>
<td>6/12/07-5/31/09</td>
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<td>NIH-NHLBI, 2R01 HL063760</td>
<td>Oxidative stress and heart failure by copper restriction</td>
<td>PI</td>
<td>Kang</td>
<td>07/01/07-06/30/11</td>
<td>$1,480,000</td>
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<td>NIH-NIAAA, R01 AA014623</td>
<td>Zinc and alcohol-induced oxidative liver injury</td>
<td>Co-PI</td>
<td>Zhou, Z</td>
<td>08/10/05-05/31/09</td>
<td>$1,139,252</td>
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<td>NIH-NIAAA, P01 AA017103</td>
<td>Alcohol Liver Disease and Alcohol-Nutrient Interaction</td>
<td>Co-I</td>
<td>McClain C</td>
<td>10/01/08-09/30/12</td>
<td>$450,000 yearly total award</td>
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<td>NIH 1R03CA128028-01</td>
<td>A pharmacogenetic Approach to prostate cancer susceptibility</td>
<td>PI</td>
<td>Kidd</td>
<td>6/1/2007-5/31/2009</td>
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<td>JGBCC Pilot 2007</td>
<td>Genomic Approach to Predicting Breast Cancer Recurrence</td>
<td>PI</td>
<td>Kidd</td>
<td>02/01/07-01/31/08</td>
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<td>Prostate Cancer Foundation</td>
<td>Combined Genetic Assessment of Angiogenesis Pathway Variants Predictive of Prostate Cancer Risk.</td>
<td>PI</td>
<td>Kidd</td>
<td>2/1/07-1/31/08</td>
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<td>NIH 3R01 CA034627-19S</td>
<td>Polymorphic N-acetyltransferase Genes and Prostate Cancer Susceptibility among African-</td>
<td>PI</td>
<td>Kidd</td>
<td>9/15/04-6/30/08</td>
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<td>07/01/04-06/30/09</td>
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**Nobuyuki Matoba, PhD**

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<tr>
<td>NIH NIAID/1R03AI073157-01A1</td>
<td>Expression of Deconstructed Virus-Like Particles in Bioengineered Plants.</td>
<td>PI</td>
<td>Matoba</td>
<td>03/15/07-02/28/09</td>
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**Craig McClain, M.D.**

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<td>NIH 1P01 AA017103-01</td>
<td>Alcohol Liver Disease and Alcohol-Nutrient Interactions</td>
<td>PI</td>
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<td>10/1/08-9/30/11</td>
<td>$450,000 yearly total award</td>
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<td>NIH 1P01 AA017103-015419</td>
<td>Administrative Core</td>
<td>PI</td>
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<td>10/1/08-9/30/11</td>
<td>$450,000 yearly total award</td>
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<td>NIH 5R01 AA 015970-04</td>
<td>S-adenosylhomocysteine and S-adenosylmethionine in Alcoholic Liver Disease</td>
<td>PI</td>
<td>McClain</td>
<td>09/30/2005-06/30/2010</td>
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<td>NIH 1R01AA018016-01</td>
<td>The role of Alcohol in HIV Therapy Hepatotoxicity</td>
<td>PI</td>
<td>Multiple (McClain, Barve, Eaton)</td>
<td>12/1/08-11/30/13</td>
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<td>NIH R01 DK071765-04</td>
<td>Mechanisms of S-adenosylmethionine in NASH</td>
<td>PI</td>
<td>McClain</td>
<td>09/15/2005-07/31/2010</td>
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<td>NIH R37 AA010762-14</td>
<td>TNF and Mitochondrial Dysfunction in ALD</td>
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<td>McClain</td>
<td>03/01/1996-07/31/2011</td>
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<td>VA Merit</td>
<td>Dysregulated TNF/Fas signaling in Alcoholic Liver Disease</td>
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<td>McClain</td>
<td>04/01/2004-03/31/2009</td>
<td>$149,300 yearly total award</td>
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<td>NIH K23DK073750</td>
<td>Evaluation of the Effect of Green Tea Polyphenols on IBD</td>
<td>Mentor</td>
<td>Dryden</td>
<td>9/15/05-8/41/10</td>
<td>$102,330 yearly direct costs</td>
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<td>NIH K01AA015344-01A1</td>
<td>Mechanisms of Sensitization to TNF hepatotoxicity in ALD</td>
<td>Mentor</td>
<td>Song</td>
<td>9/15/05-08/31/10</td>
<td>$92,813 yearly direct costs</td>
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<td>1K23DK080953-01A1</td>
<td>Dietary Fructose and Redox Effects in Pediatric Nonalcoholic Fatty Liver Disease</td>
<td>Mentor</td>
<td>Vos</td>
<td>9/20/08-8/31/13</td>
<td>$110,000 yearly direct costs</td>
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<td>AASLD</td>
<td>Sheila Sherlock Award</td>
<td>Mentor</td>
<td>Cave</td>
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<td>Planning Grant for Louisville Clinical and Translational Science Award</td>
<td>PI</td>
<td>McClain</td>
<td>10/1/06-9/30/08</td>
<td>$220,000 total</td>
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**W. Glenn McGregor, MD**

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<tr>
<td>NIH/NCI 1R01 CA112197-04</td>
<td>Mutagenesis as a novel target for cancer prevention</td>
<td>PI</td>
<td>McGregor</td>
<td>04/01/05-02/28/09 (No cost extension until 2/28/10)</td>
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<td>NIH/NCI 1R03 CA112664-01A1</td>
<td>Novel strategies to prevent lung cancer</td>
<td>PI</td>
<td>McGregor</td>
<td>07/01/05-6/30/07 (no-cost extension)</td>
<td>$50,000 annual direct costs</td>
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<td>PI</td>
<td>Project Period</td>
<td>Budget Award</td>
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<td>NIH/NCI R25 CA044789</td>
<td>Cancer Education Grant Program</td>
<td>Mentor</td>
<td>Burzynski</td>
<td>9/1/2002-8/31/2008</td>
<td>$86,024 annual direct costs</td>
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<td>NIH NCRR</td>
<td>Biacore 3000 shared Instrument Grant</td>
<td>Participating Investigator</td>
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<td>NIH 1P30ES014443-01A1</td>
<td>Center for Environmental Genomics and Integrative Biology (CEGIB)</td>
<td>Participating Investigator</td>
<td>Ramos</td>
<td>06/04/2007-03/31/2011</td>
<td>$600,000 Annual Direct Cost</td>
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### Steven Myers, PhD

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<tr>
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<tbody>
<tr>
<td>University of California Tobacco Related Disease Research Program</td>
<td>Measuring prenatal tobacco exposure in newborn blood spots</td>
<td>Co-Principal Investigator</td>
<td>10%</td>
<td>07/01/2008 – 06/30/2011</td>
<td>$506,927</td>
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### Donald Nerland, PhD

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<tr>
<td>Competitive Enhancement Grant/VP Research</td>
<td>Transcriptional Control Mechanisms in Chemoprevention</td>
<td>PI</td>
<td>Nerland</td>
<td>2/1/07-2/28/08</td>
<td>$5,400</td>
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<tr>
<td>Department of Defense (DOD)</td>
<td>High Technology Mass Spectrometry Laboratory</td>
<td>Col</td>
<td>Pierce W.M.</td>
<td>4/1/08-1/31/09</td>
<td>$942,352</td>
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### Kenneth Palmer, PhD

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<tbody>
<tr>
<td>NIH/ R01AI076169-01</td>
<td>Antiviral Lectins as Microbicides</td>
<td>PI</td>
<td>Palmer</td>
<td>04/15/2008 – 03/31/2012</td>
<td>$1,760,628 (total costs)</td>
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<tr>
<td>Advanced Cancer Therapeutics/OICB080771</td>
<td>Preclinical research on HPV vaccine candidate OCRP3302</td>
<td>PI</td>
<td>Palmer</td>
<td>10/01/2008 – 07/01/2009</td>
<td>$199,357</td>
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### William Pierce, PhD

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<tbody>
<tr>
<td>U.S. Department of Defense W81XWH-08-1-0047</td>
<td>High Technology Mass Spectrometry Laboratory for the Identification of Chemical Signatures</td>
<td>PI</td>
<td>Pierce</td>
<td>2008-2009</td>
<td>$944,000 total costs</td>
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<tr>
<td>National Science Foundation - EPSCoR</td>
<td>Center for Regulatory Metabolomics: From Molecules to Communities</td>
<td>Co-I</td>
<td>Fan</td>
<td>2005 – 2008</td>
<td>$940,229 total costs</td>
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<tr>
<td>NIH 5U10HD045934</td>
<td>Center for Pediatric</td>
<td>Co-I</td>
<td>Sullivan</td>
<td>3/08/04 – 02/28/08</td>
<td>$257,250 annual</td>
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<td>Agency/Number</td>
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<td>Role</td>
<td>PI</td>
<td>Project Period</td>
<td>Budget Award</td>
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<tr>
<td>NIH 1P01ES011860-01A19001</td>
<td>Cardiovascular Toxicity of Environmental Aldehydes</td>
<td>Co-I/Core Lab Dir.</td>
<td>Bhatnagar</td>
<td>7/1/2003 – 6/30/2008</td>
<td>$287,444 annual direct costs</td>
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<tr>
<td>NIH R01DA11551-07</td>
<td>Structure and Function of CB2 Cannabinoid Receptor</td>
<td>Co-I</td>
<td>Z-H Song</td>
<td>3/08/04 – 02/29/09</td>
<td>$257,250 annual costs</td>
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<tr>
<td>NIH 1P30ES014443-01A1</td>
<td>Center for Environmental Genomics and Integrative Biology (CEGIB)</td>
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<td>06/04/2007-03/31/2011</td>
<td>$ 600,000 Annual Direct Cost</td>
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<td>NIH R01 EY13813-05A1</td>
<td>TNF-a in Cell Death &amp; Neuroprotection in Glaucoma</td>
<td>Consultant</td>
<td>Tezel</td>
<td>8/1/2007 - 7/31/2012</td>
<td>$250,000 annual direct costs</td>
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<tr>
<td>NIH R01 EY017131-01A2</td>
<td>Proteomic Analysis of Retinal Ganglion Cell Death in Glaucoma</td>
<td>Consultant</td>
<td>Tezel</td>
<td>12/1/2007 - 1/31/2012</td>
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**Uma Sankar, PhD**

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<th>Budget Award</th>
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<tbody>
<tr>
<td>NIH R01AI076169</td>
<td>Antiviral lectins as microbicides</td>
<td>Co-I</td>
<td>Palmer</td>
<td>4/1/08-3/31/12</td>
<td>$1,760,728 total direct costs</td>
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<tr>
<td>James Graham Brown Cancer Center Pilot</td>
<td>Role of Impaired Calmodulin-Dependent Protein Kinase Signaling in Lung Cancer</td>
<td>PI</td>
<td>Sankar</td>
<td>5/1/07-5/31/09</td>
<td>$50,000 total direct costs</td>
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**Zhao-Hui (Joe) Song, Ph. D.**

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<tbody>
<tr>
<td>NIH R01DA11551-07</td>
<td>Structure and Function of CB2 Cannabinoid Receptor</td>
<td>P-I</td>
<td>Z-H Song</td>
<td>3/08/04 – 02/29/09</td>
<td>$257,250 annual costs</td>
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<tr>
<td>NIH R01DA11551-09S1</td>
<td>minority supplement for Jean-Claude Nzimulinda to Structure and Function of CB2 Cannabinoid Receptor</td>
<td>P-I</td>
<td>Z-H Song</td>
<td>3/08/04 – 02/29/09</td>
<td>$257,250 annual costs</td>
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<td>NIH R01EY13632</td>
<td>Cannabinoid Receptors-Potential Targets for Novel Antiglaucoma Drugs</td>
<td>P-I</td>
<td>Z-H Song</td>
<td>August 1, 2003 - July 31, 2008</td>
<td>$1,174,166</td>
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<tr>
<td>NIH T32ES11564</td>
<td>Molecular Epidemiology - Environmental/Occupational Diseases</td>
<td>Faculty mentor</td>
<td>Hein</td>
<td>July 1, 2004 – June 30, 2009</td>
<td>$ 1,240,452</td>
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**J Christopher States, PhD**

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<tr>
<td>NIH R01 ES011314</td>
<td>Arsenic Induced Miotic Arrest Associated Apoptosis</td>
<td>PI</td>
<td>States</td>
<td>8/03-4/09</td>
<td>$1,385,850 total costs</td>
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<tr>
<td>NIH R03 CA119295</td>
<td>Effects of chemopreventive agents on DNA damage</td>
<td>PI</td>
<td>States</td>
<td>9/05-8/08</td>
<td>$147,000 total costs</td>
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<tr>
<td>NIH R21 ES015812-01A1</td>
<td>Transplacental arsenic induced hepatic dysfunction and vascular disease</td>
<td>PI</td>
<td>States</td>
<td>4/08-3/10</td>
<td>$407,000 total costs</td>
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<tr>
<td>NIH R01 CA34627</td>
<td>Pharmacogenetics of drug and carcinogen metabolism</td>
<td>Co-I</td>
<td>Hein</td>
<td>4/1/03-3/31/08</td>
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<td>NIH R01 ES011594</td>
<td>Metabolism and detoxification of</td>
<td>Co-I</td>
<td>Srivastava</td>
<td>6/1/03-3/31/08</td>
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<td>Agency/Number</td>
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<td>NIH P30 ES014443-01A1</td>
<td>Center of Environmental Genomics and Integrative Biology</td>
<td>Deputy Director</td>
<td>Ramos</td>
<td>6/4/07-3/31/11</td>
<td>$4,410,000</td>
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<tr>
<td>NIH F30ES013372</td>
<td>Arsenite inhibition of mitotic progression</td>
<td>Mentor</td>
<td>B Frazier Taylor</td>
<td>7/1/04-6/14/08</td>
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<tr>
<td>NIH F32 ES016719</td>
<td>Curcumin inhibits BPDE-induced damage by lowering the threshold of p53 activation</td>
<td>Mentor</td>
<td>E. Rogers</td>
<td>5/1/08-3/31/11</td>
<td>$78,147</td>
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<td>NIH T32 ES011564</td>
<td>UofL Environmental Health Sciences Training Program</td>
<td>Mentor</td>
<td>Hein</td>
<td>7/1/04-6/30/09</td>
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<td>NIH T35 ES014559</td>
<td>Summer Environmental Health Sciences Training Program</td>
<td>Mentor</td>
<td>Prough</td>
<td>4/1/06-3/31/11</td>
<td>$158,355</td>
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### XII. RESEARCH GRANTS SUBMITTED

#### A. Research Grants Submitted or Pending

**Gavin Arteel, PhD**

<table>
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<tr>
<th>Agency/Number</th>
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<th>Project Period</th>
<th>Budget Request</th>
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<tbody>
<tr>
<td>NIAAA</td>
<td>Zinc inhibition of endotoxemia in alcoholic liver injury</td>
<td>Co-I</td>
<td>Zhao</td>
<td>12/01/07-11/30/12</td>
<td>1,837,500 (total)</td>
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<tr>
<td>NIAAA</td>
<td>TNFα and recovery from alcoholic liver injury</td>
<td>Subcontract PI</td>
<td>Diehl (Duke)</td>
<td>08/01/09-07/31/14</td>
<td>140,256 (total subcontract costs)</td>
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**Jian Cai, PhD**

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<th>Project Period</th>
<th>Budget Request</th>
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<tbody>
<tr>
<td>NIH</td>
<td>O-GlcNAc Signaling in Heart Failure.</td>
<td>Co-I</td>
<td>SJ</td>
<td>7/1/09-6/30/14</td>
<td>$1,250,000</td>
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<tr>
<td>NIH</td>
<td>Arsenic Induced Mitotic Arrest Associated Apoptosis</td>
<td>Co-I</td>
<td>JCS</td>
<td>7/1/10-6/30/15</td>
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**Theresa Chen, PhD**

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<th>Project Period</th>
<th>Budget Request</th>
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<tbody>
<tr>
<td>NIH/NIAAA/NIAI</td>
<td>Epigenetic regulation of CD4+T cell survival by S-adenosylmethionine</td>
<td>Co-I</td>
<td>Barve</td>
<td>4/1/08-3/31/13</td>
<td>$1,250,000</td>
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<tr>
<td>NIH</td>
<td>Priming of liver disease by arsenic exposure.</td>
<td>Co-I</td>
<td>States</td>
<td>12/01/08-11/30/10</td>
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**Keith R Davis, PhD**

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<th>Budget Request</th>
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<tr>
<td>Pending</td>
<td>Development of Novel Vaccines and Therapeutics Using Plant-Based Expression Systems</td>
<td>PI</td>
<td>K. R. Davis</td>
<td>~3/1/09 – 2/28/12</td>
<td>$1,680,000</td>
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<tr>
<td>Komen for the Cure</td>
<td>Targeting Aggressive Breast Cancer Phenotypes Utilizing</td>
<td>Collaborator</td>
<td>Brian Czerniec</td>
<td>4/1/09-3/31/11</td>
<td>Subcontract $100,221</td>
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### Activated Innate Transfer

Univ. of Pennsylvania

**Submitted, not funded**

Kentucky Lung Cancer Research Program, Cycle 8

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<tr>
<td>The Role of Cadmium in Lung Cancer Initiation and Progression</td>
<td>PI</td>
<td>K. R. Davis</td>
<td>1/1/09-12/31/11</td>
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### Evelyne Gozal, PhD

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<tr>
<td>NIH – RO1</td>
<td>Role of Hsp 25 in the astrocyte response and recovery from spinal cord injury</td>
<td>PI</td>
<td>12/01/08 – 11/30/13</td>
<td>$1,250,000</td>
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### Ramesh Gupta, PhD

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<tr>
<td>CA125152-02</td>
<td>Breast Cancer Chemoprevention Potential of Common Spices</td>
<td>PI</td>
<td>Gupta</td>
<td>07/07-05/12</td>
<td>$219,626</td>
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<tr>
<td>CA-138395-01</td>
<td>Nano-curcumin for Breast Cancer Prevention</td>
<td>PI</td>
<td>Gupta</td>
<td>04/09-03/11</td>
<td>$138,574</td>
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<td>CA-140930-01</td>
<td>Nano-EGCG for Breast Cancer Prevention</td>
<td>Co-PI</td>
<td>Gupta/ RaviKumar</td>
<td>07/09-06/11</td>
<td>$138,574</td>
</tr>
<tr>
<td>CA-123416-01</td>
<td>Susceptibility to Ovarian Cancer is Related to Biotransformation Capacity</td>
<td>Co-I</td>
<td>Luderer</td>
<td>04/09-03/14</td>
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<tr>
<td>UofL</td>
<td>UofL Translational Oncology Training Program</td>
<td>Mentor</td>
<td>Miller</td>
<td>07/09-06/14</td>
<td>$0.00</td>
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<td></td>
<td>A Novel Mouse Model for Colon Cancer Studies</td>
<td>Co-I</td>
<td>Bodduluri</td>
<td>07/09-06/14</td>
<td>$1,373,315</td>
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### David Hein, PhD

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<th>Project Period</th>
<th>Budget Award</th>
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<tbody>
<tr>
<td>UofL; CEGIB</td>
<td>Polymorphic genes of detoxification enzymes as risk factors for PSP</td>
<td>Co-PI</td>
<td>Litvan and Hein</td>
<td>04/01/2008 - 03/31/2009</td>
<td>$30,000</td>
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<td>NCI R25CA011564</td>
<td>University of Louisville Cancer Education Program</td>
<td>PI</td>
<td>Hein &amp; Burzynski</td>
<td>04/01/2009 - 03/31/2014</td>
<td>$1,490,617</td>
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<td>NIEHS T32 ES011564</td>
<td>UofL Environmental Health Sciences Training Program</td>
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<td>Hein</td>
<td>07/01/2009 - 06/30/2014</td>
<td>$2,117,610</td>
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<td>NCI R01CA034617</td>
<td>Pharmacogenetics of drug and carcinogen metabolism</td>
<td>PI</td>
<td>Hein</td>
<td>07/01/2009 - 06/30/2014</td>
<td>$1,842,381</td>
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<td>American Association for Cancer Research</td>
<td>Arylamine N-acetyltransferase type 1 in breast cancer</td>
<td>PI</td>
<td>Hein</td>
<td>07/01/2009 - 06/30/2011</td>
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<td>NCI</td>
<td>UofL Translational Oncology</td>
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<td>07/01/2009 -</td>
<td>$1,268,151</td>
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<tr>
<td>NIH-1U54RR026087</td>
<td>University of Louisville's Clinical and Translational Sciences Institute</td>
<td>Investigator</td>
<td>McClain</td>
<td>07/01/2009 - 06/30/2014</td>
<td>$20,000,000</td>
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### Y James Kang, PhD, DVM

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<tr>
<td>NIH-NHLBI, 1R01 HL084450</td>
<td>Copper nutrition and heart failure</td>
<td>PI</td>
<td>5 years</td>
<td>$1,850,000</td>
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<tr>
<td>NIH-NIAAA, R01 AA016013</td>
<td>Zinc Inhibition of Alcoholic Liver Injury</td>
<td>Co-PI</td>
<td>Zhou, Z</td>
<td>5 years</td>
<td>$1,653,750</td>
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<tr>
<td>NIH-R01</td>
<td>Cruciferous dithiolethione: Intervention of chronic heart failure and mechanisms</td>
<td>PI (Sub-contr)</td>
<td>Li, Y; EV Virginia Col Osteopathic Medicine</td>
<td>4 years</td>
<td>$78,396 (5% Effort as consultant)</td>
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### La Creis Kidd, PhD, MPH

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<th>Project Period</th>
<th>Budget Request</th>
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<tr>
<td>NCI R21</td>
<td>Apoptosis Predictors of Breast Cancer Detection, Prognosis and Drug Response</td>
<td>PI</td>
<td>Kidd</td>
<td>7/01/09-6/30/09</td>
<td>$407,000</td>
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<tr>
<td>DOD Breast Cancer Concept Award</td>
<td>Apoptosis Predictors of Breast Cancer Detection, Prognosis and Survival Outcomes following Chemotherapy</td>
<td>PI</td>
<td>Kidd</td>
<td>10/01/09-9/30/10</td>
<td>$112,119</td>
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<td>DOD New Investigator Award</td>
<td>Pathway-wide approach to finding apoptosis-related predictors of prostate cancer risk and prognosis</td>
<td>PI</td>
<td>Kidd</td>
<td>10/01/08-9/30/12</td>
<td>$225,000</td>
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<tr>
<td>Prostate Cancer Foundation 2008 Competitive Award</td>
<td>Comprehensive Approach to Finding Predictors of PCA progression</td>
<td>PI</td>
<td>Kidd</td>
<td>7/01/08-6/30/11</td>
<td>$2,185,740</td>
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<td>Prostate Cancer Foundation 2008 Creativity Award</td>
<td>Apoptosis Predictors of Prostate Cancer Detection and Prognosis</td>
<td>PI</td>
<td>Kidd</td>
<td>2/1/09-1/31/10</td>
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<tr>
<td>American Cancer Society</td>
<td>Apoptosis Predictors of Breast Cancer Outcomes</td>
<td>PI</td>
<td>Kidd</td>
<td>7/1/09-6/30/13</td>
<td>$395,421</td>
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<tr>
<td>Center for Environmental &amp; Integrative Biological Award</td>
<td>Integrative Approach to Finding Predictors of PCA Prognosis</td>
<td>PI</td>
<td>Kidd</td>
<td>5/1/08-4/31/09</td>
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<tr>
<td>T32/ES011564</td>
<td>UofL Environmental Health Mentor</td>
<td>Kidd</td>
<td>07/01/09-06/30/14</td>
<td>$1,999,550</td>
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83
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<thead>
<tr>
<th>NIH, NIEHS</th>
<th>Science Training Program</th>
<th>Mentor</th>
<th>Hein/Burzynski</th>
<th>4/1/02-3/31/14</th>
<th>$1,490,617</th>
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<tbody>
<tr>
<td>NCI R25CA044789</td>
<td>Cancer Education Grant</td>
<td>Mentor</td>
<td>Hein/Burzynski</td>
<td>4/1/02-3/31/14</td>
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<tr>
<td>P20</td>
<td>Center for Action Research in Disparities Science – Center of Excellence</td>
<td>Fellow</td>
<td>Miles</td>
<td>5/5/09-4/30/14</td>
<td>6,891,752</td>
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<tr>
<td>Pre-doctoral Research Fellowship</td>
<td>Joint Modifying Effects of Variant Oxidative Stress and Apoptosis Markers and Smoking in Relation to Prostate Cancer Risk in African-American Men</td>
<td>Mentor</td>
<td>Lavender</td>
<td>09/1/08-07/31/10</td>
<td>$99,526</td>
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**Nobuyuki Matoba, PhD**

<table>
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<tr>
<th>Agency/Number</th>
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<th>Role</th>
<th>PI</th>
<th>Project Period</th>
<th>Budget Request</th>
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<tbody>
<tr>
<td>Grand Challenges in Global Health/Grand Challenges Explorations Round 2</td>
<td>A plant-made mucosal vaccine targeting HIV-1 surface glycans.</td>
<td>PI</td>
<td>Matoba</td>
<td>03/01/09 – 02/28/10</td>
<td>$100,000 (total costs)</td>
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**Craig McClain, MD**

<table>
<thead>
<tr>
<th>Agency/Number</th>
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<tr>
<td>NIH 1U54 RR026087-01</td>
<td>University of Louisville’s Clinical and Translational Sciences Institute</td>
<td>PI</td>
<td>McClain</td>
<td>7/1/09-6/30/14</td>
<td>$20,000,000</td>
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<tr>
<td>NIH CA R25134283-01</td>
<td>University of Louisville Cancer Education Program R25 application</td>
<td>Mentor</td>
<td>Hein</td>
<td>07/01/08 - 06/30/13</td>
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<td>T32/ES011564 NIH, NIEHS</td>
<td>UofL Environmental Health Science Training Program</td>
<td>Mentor</td>
<td>Kidd</td>
<td>07/1/09-06/30/14</td>
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**Steven Myers, PhD**

<table>
<thead>
<tr>
<th>Agency/Number</th>
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<th>PI</th>
<th>Project Period</th>
<th>Budget Request</th>
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<tr>
<td>National Instituted of Health (R01ES016324-01)</td>
<td>Chemorevention of Dibenzo(a,l)pyrene Induced Mammary Carcinogenesis</td>
<td>Principal Investigator</td>
<td>Myers</td>
<td>11/01/2007 - 10/31/2010</td>
<td>$750,000</td>
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<tr>
<td>National Instituted of Health (1R03CA131594-01)</td>
<td>Characterization of Tobacco Smoke Hemoglobin Adducts by LCMS</td>
<td>Principal Investigator</td>
<td>Myers</td>
<td>12/01/2007 - 11/30/2009</td>
<td>$100,000</td>
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<tr>
<td>National Instituted of Health (1R21CA132009-01)</td>
<td>Assessment of Tobacco Carcinogen Protein Adducts</td>
<td>Principal Investigator</td>
<td>Myers</td>
<td>12/01/2007 - 11/30/2009</td>
<td>$250,000</td>
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<td>NIH OGM13081369</td>
<td>Preclinical model to study the molecular effects of smoke in reflux induced Barrett’s Esophagus</td>
<td>Co-I</td>
<td>Martin</td>
<td>6/1/08-5/31/11</td>
<td>$1,811,600</td>
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### Uma Sankar, PhD

<table>
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<tr>
<th>Agency/Number</th>
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<th>Project Period</th>
<th>Budget Request</th>
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<tr>
<td>American Cancer Society</td>
<td>Research Scholar Award</td>
<td>PI</td>
<td>Sankar</td>
<td>07/01/2009-06/30/2013</td>
<td>$786,044 Total direct costs</td>
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<td>UofL School of Med. Basic Grant Program</td>
<td>Hematopoietic Stem Cells as Targets of Cadmium Toxicity</td>
<td>PI</td>
<td>Sankar</td>
<td>4/1/09-4/1/10</td>
<td>$15,000—Not funded</td>
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<td>NIH. R01DK083353-01</td>
<td>Regulation of Stem Cell Function by a Molecular Pathway Containing CaMKIV and Gfer</td>
<td>PI</td>
<td>Sankar</td>
<td>04/01/2009-03/31/2014</td>
<td>$1,200,000 Total direct costs—not funded</td>
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<td>KY Lung Cancer Program</td>
<td>Calcium/Calmodulin-Dependent Survival Pathway in Small Cell Lung Cancer</td>
<td>PI</td>
<td>Sankar</td>
<td>10/1/2008-09/30/2010</td>
<td>$150,000 Total direct costs—not funded</td>
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<tr>
<td>DOD Congressionally Directed Med. Res. Prog. (PRMRP)</td>
<td>CaMKIV in Normal Hematopoiesis and Myelodysplasia</td>
<td>PI</td>
<td>Sankar</td>
<td>05/01/2009-04/30/2012</td>
<td>$900,000 Total direct costs—not funded</td>
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<tr>
<td>UofL CEG</td>
<td>Regulation of Stem Cell Function by a Molecular Pathway Containing CaMKIV and Gfer</td>
<td>PI</td>
<td>Sankar</td>
<td>12/01/08-12/01/09</td>
<td>$15,000 Total costs—not funded</td>
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### Zhao-Hui (Joe) Song, Ph. D

<table>
<thead>
<tr>
<th>Agency/Number</th>
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<tr>
<td>NIH R01 DA11551-09</td>
<td>Structure and Function of CB2 Cannabinoid Receptor</td>
<td>PI</td>
<td>Song</td>
<td>5/1/09-4/30/14</td>
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<tr>
<td>NIH R01EY13632</td>
<td>Cannabinoid Receptors-Potential Targets for Novel Antiglaucoma Drugs</td>
<td>PI</td>
<td>Song</td>
<td>8/1/09-7/31/14</td>
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<tr>
<td>NIH R01 DA11551</td>
<td>Structure and Function of CB2 Cannabinoid Receptor</td>
<td>PI</td>
<td>Song</td>
<td>7/1/09-6/30/14</td>
<td>$1,665,000</td>
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<td>NIH R01EY13632</td>
<td>Cannabinoid Receptors-Potential Targets for Novel Antiglaucoma Drugs</td>
<td>PI</td>
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<td>4/1/09-3/31/14</td>
<td>$1,850,000</td>
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<td>NIH R21NS 66474</td>
<td>Assay Development for High Throughput Screening of Ligands for Novel Cannabinoid Receptor GPR55</td>
<td>PI</td>
<td>Song</td>
<td>6/1/09-5/31/10</td>
<td>$185,000</td>
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### J Christopher States, PhD

<table>
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<tr>
<th>Agency/Number</th>
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<th>Project Period</th>
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<tbody>
<tr>
<td>NIH R01 ES011314 (competitive renewal)</td>
<td>Arsenic induced miotic arrest associated apoptosis</td>
<td>PI</td>
<td>States</td>
<td>7/09-6/14</td>
<td>$1,250,000 total direct costs</td>
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<td>CEGIB biomarker pilot project</td>
<td>miRNA biomarkers for ovarian cancer</td>
<td>Co-I</td>
<td>Helm</td>
<td>1/1/09-12/31/09</td>
<td>$60,000, funded with $20,000 match from School of Med</td>
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<td>DOD Ovarian Cancer Research Program, OC080319</td>
<td>Plasma microRNA biomarkers for metastatic ovarian cancer</td>
<td>Co-PI</td>
<td>States, Helm</td>
<td>7/1/09-6/31/12</td>
<td>$750,000 direct costs—not funded</td>
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</table>
XIII. INVITED SCIENTIFIC PRESENTATIONS (SALARIED FACULTY)

Gavin Arteel, PhD

1. Research seminar, 05/08, “New role of PAI-1 in mediating acute and chronic liver injury,” University of Louisville, Pulmonary Grand Rounds.
2. Research symposium, 07/08, “PAI-1 at the crossroads of the innate immunity and coagulation.” Research Society of Alcoholism, annual meeting, Washington, DC.

Frederick Benz, PhD

1. Acrylonitrile: An Industrial Chemical, What it does, doesn’t and could do. Dept. Pharmacology and Toxicology, UofL, 3/12/2008

Jian Cai, PhD

1. Research seminar, 03/08. “Mass Spectrometry: Techniques and Applications” Biophysical and Structural Biology Meetings (BCC), Louisville, KY.

Keith R Davis, PhD

1. The Owensboro Cancer Research Program. 2008. Seventh Annual Retreat, James Graham Brown Cancer Center, University of Louisville, Louisville, Kentucky

Paul Epstein, PhD

1. American Heart Association November 2008

David Gozal, MD

1. Keynote Speaker, Sleep 2008, June 2008, Baltimore, MD

Evelyne Gozal, PhD

1. *Hsp25, a Multitasking Protein: Multiple Functions in Different Pathologies.* Invited research seminar, Department of Cell Biology, University of Geneva, February 22 2008
2. *Astroglial Cells in Injury Role in CNS Function, Adaptation, and Metabolism* Invited research seminar, Department of Physiology and Biophysics, University of Louisville, November 25, 2008.

Ramesh Gupta, PhD

1. 2008 Linda H. Chen Symposium on Nutrition and Oxidative Stress, University of Kentucky, Lexington, KY, May 19, 2008 (Plenary Speaker)
2. 2nd International Conference on New developments in Drug Discovery from Natural Products and Traditional Medicines, NIPER, Chandigarh, India, November 2008 (Plenary Speaker as well as Chair of an afternoon session)

David Hein, PhD

5. Role of N-acetyltransferase Polymorphisms in Cancer Susceptibility. Pulmonary, Critical Care and Sleep Disorders Medicine, Department of Medicine, University of Louisville School of Medicine, Louisville, Kentucky, August 2008.

Harrell Hurst, PhD

1. Feb. 26, 3008, Brown Cancer Center Cancer Prevention and Control Seminar, “Alkene air pollutants in Louisville: Environmental monitoring and biomarker research”

Y James Kang, PhD, DVM

4. Apr 26, 2008 2008 Daniel J. Zaffarano Lecture Award, Iowa State University, Ames, Iowa “Cardiac Toxicology, a new ‘species’ in Toxicology”
5. Apr 3, 2008, Invited Plenary Lecture, Joint Scientific Meeting of Microscopy Society (Singapore) and Singapore Neuroscience Association, April 3-4, 2008, “Metallothionein regulation of zinc trafficking and neurodegenerative disease”
6. Apr 1, 2008 Invited Seminar, Department of Anatomy, National University of Singapore Yong Loo Lin School of Medicine, “Regression of hypertrophic cardiomyopathy by dietary copper supplementation”
LaCreis Kidd, PhD, MPH

2. Pre-matriculation Medical Students, University of Louisville, School of Medicine, Louisville, KY, Lecturer, “A Multi-faceted Approach to Analyzing Gene-Gene Interactions”, January 22, 2008

Craig McClain, MD

2. 16th Annual Pre-Derby University of Louisville Alumni Conference, “Chronic Hepatitis to Hepatocellular Carcinoma”, Louisville, KY, April 26, 2008.
3. NIH Peer Review Advisory Committee (PRAC, Bethesda, MD, April 30, 2008.
8. University of Cincinnati Liver Forum, “Fatty Liver: Up to Date in Diagnosis and Management,” Mason, OH, August 1, 2008.
16. AASLD Liver Wrap-up Symposium, Jewish Hospital, “Drug-Induced Liver Disease”, Louisville, KY, November 15, 2008

W Glenn McGregor, MD


Steven Myers, PhD

1. February, 2008, University of Louisville Department of Pediatrics Pediatric Neonatal Fellows, “Application of Breast Milk as a Biomarker of Exposure to Environmental Carcinogens”
3. February 28, 2008. University of Louisville, Department of Pharmacology and Toxicology Department Seminar, "It all started with a chimney sweep (Analysis, metabolism and biomarkers of polycyclic aromatic hydrocarbons)"

Donald Nerland, PhD

1. Use of HaCaT Cells to Evaluate the Chemopreventive Properties of Coumarin Analogs. Seventh Annual James Graham Brown Cancer Center Retreat, Louisville, KY, 2008.

Kenneth Palmer, PhD


William Pierce, PhD


Uma Sankar, PhD

Zhao-Hui (Joe) Song, Ph. D.

2. Novel Cannabinoid Receptors---Structure, Function, and Potentials as Therapeutic Targets, School of Pharmacy, Southern Medical University, Guangzhou, China, July, 2008.
3. Cannabinoid Receptor Structure and Function-An Update, Department of Pharmacology and Toxicology, University of Louisville, July 2008.
4. 2-Arachidonoylglycerol-Induced Increase in Aqueous Humor Outflow, World Ophthalmology Congress, 2008
6. Residues accessible in the binding site crevice of Transmembrane helix 2 of CB2 cannabinoid receptor, Society of Neuroscience Annual Meeting, 2008

J Christopher States, PhD

1. 10/9/08, "Molecular Determinants of Arsenic Induced Mitotic Arrest Associated Apoptosis", Department of Applied Medical Sciences, University of Southern Maine, Portland, ME
2. Transplacental arsenic induced changes in liver gene expression. 14th Alexander Hollaender Course on Genetic Toxicology, Indian Institute of Chemical Biology, Kolkata, India, December 10 - 12, 2008
3. Molecular Determinants of Arsenic Induced Mitotic Arrest Associated Apoptosis. International Conference of Translational Pharmacology & 41st Annual Conference of Indian Pharmacological Society, All India Institute of Medical Sciences, New Delhi, India, December 18 - 20, 2008

XIV. DEPARTMENTAL TEACHING

School of Medicine

The Department team-taught the Medical Pharmacology course to second year medical students. Dr. Mike Williams served as course director.

School of Dentistry

The Department team-taught the Dental Pharmacology and Therapeutics course and a Dental Review Course to dental students. Dr. Leonard Waite served as course director.

The Department team-taught a Pharmacology course to second year students in the Dental Hygiene Program. Dr. Leonard Waite served as course director.

School of Nursing

The Department team-taught an Advanced Pharmacology course to graduate nursing students. Dr. Leonard Waite served as course director.
The Department provided an online pharmacology course in basic pharmacology for undergraduate nursing students. The Department provided online Neonatal and Geriatric Pharmacology courses for graduate nursing students. Dr. Steve Myers developed and served as course director for each of these courses.

**College of Arts and Sciences**

The Department team-taught a Basic Pharmacology course cross-listed as Biology 390 and is taken by other undergraduate students. Dr. Leonard Waite served as course director.

**Graduate School**

The Department team taught several courses for graduate students. The individual courses and course directors were as follows:

- Scientific Writing (Dr. Gavin Arteel)
- Principles of Drug and Chemical Action (Dr. Frederick Benz)
- Research Methods (Dr. Chris States and Dr. Joe Song)
- Pharmacology Seminar (Dr. Donald Nerland)
- Neuropharmacology (Dr. Peter Rowell)
- Selective Toxicity and Chemotherapeutics (Drs. Don Nerland and Harrell Hurst)
- Cardiovascular and Renal Pharmacology (Drs. Mike Williams and James Kang)
- Endocrine and Metabolic Pharmacology (Drs. Bill Pierce and Gavin Arteel)
- Molecular Toxicology (Dr. W. Glenn McGregor and Russell Prough)

**XV. DEPARTMENTAL STANDING COMMITTEES**

**Graduate Program Committee**

Dr. William Pierce (Chair)

<table>
<thead>
<tr>
<th>Student Affairs</th>
<th>Student Admissions</th>
</tr>
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<tbody>
<tr>
<td>Dr. Gavin Arteel</td>
<td>Dr. Chris States</td>
</tr>
<tr>
<td>Dr. Uma Sankar (2011)</td>
<td>Dr. LaCreis Kidd (2011)</td>
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Jay Stallons (student representative)

**SIBUP/Grievance Committee**

Dr. Peter Rowell (Chair)

Dr. Don Nerland (2011)

Dr. Harrell Hurst (2010)

Dr. Joe Song (2009)
Teaching Evaluation Committee

Dr. Mike Williams (Chair)
Dr. Len Waite (2011)
Dr. Fred Benz (2010)
Dr. Harrell Hurst (2009)

Seminar Committee

Dr. Don Nerland (Chair)
Dr. Fred Benz (2011)
Dr. Steve Myers (2010)
Dr. Ramesh Gupta (2009)

Core Laboratories/Research Development Committee

Dr. Chris States (Chair)
Dr. Glenn McGregor (2011)
Dr. Theresa Chen (2010)
Dr. Jian Cai (2009)

Events Committee

Dr. Len Waite (Chair)
Dr. Nobuyuki Matoba (2011)
Dr. LaCreis Kidd (2010)
Dr. Glenn McGregor (2009)
Student- Phillip Kaiser

Information Technology Committee

Dr. Gavin Arteel
Dr. Fred Benz
Dr Harrell Hurst