

# CURRICULUM VITA

July 2020

## Brett T. Spear

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University of Kentucky College of Medicine  
Lexington, KY 40536  
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DATE AND PLACE OF BIRTH: 1/10/58, Niagara Falls, NY

### EDUCATION:

Southampton College of Long Island Univ., Southampton, NY	B.A., Biology/B.S., Chemistry 9/76 -5/80
University of Wisconsin-Madison, Madison, WI	Biochemistry, no degree 9/80 - 5/81
University of Pennsylvania, Philadelphia, PA	Ph.D., Immunology 9/81 - 11/85
Princeton University, Princeton, NJ	Post-doctorate, Molecular Biology 12/85 - 8/89

### TRAINING:

Doctoral Dissertation: Characterization of MHC-encoded human class I and class II molecules. Advisor: Dr. Darcy Wilson, Univ. of Pennsylvania (Current: Torrey Pines Inst. for Molec. Studies, San Diego, CA)

Postdoctoral Training: Isolation of genes encoding transcriptional regulators of  $\alpha$ -fetoprotein.  
Advisor: Dr. Shirley M. Tilghman, Department of Molecular Biology, Princeton University

### HONORS:

Magna Cum Laude, Southampton College of Long Island University, 05/80  
NIH Postdoctoral Training Grant, 12/85 - 6/86  
NIH Postdoctoral NRSA Fellowship, 12/86 (declined)  
American Cancer Society Postdoctoral Fellowship, 7/86 -6/89  
Great Teacher Award, University of Kentucky Alumni Association, 2015  
Nominee, College of Medicine Diversity Champion Award, 2018  
Sturgill Award for Outstanding Contributions to Graduate Education at the University of Kentucky, 2019

### POSITIONS:

9/89 - 7/96	Assistant Professor Departments of Microbiology & Immunology and Pathology & Laboratory Medicine University of Kentucky Medical Center
9/90 – present	Director, University of Kentucky Transgenic Mouse Facility
7/96 – 6/02	Associate Professor Departments of Microbiology & Immunology and Pathology & Laboratory Medicine University of Kentucky Medical Center
8/98 – present	Joint Faculty Member, Graduate Center for Nutritional Sciences, Univ. of Kentucky
12/00 – present	Joint Faculty Member, Graduate Center for Toxicology, University of Kentucky
07/02 – present	Professor Departments of Microbiology, Immunology & Molecular Genetics and Pathology & Laboratory Medicine, University of Kentucky Medical Center
10/06	Visiting Faculty, Institute of Immunology, Shandong Medical School, Jinan, CHINA
09/11 – present	Director of Graduate Studies, University of Kentucky Medical Center Integrated Biomedical Sciences Graduate Program
10/12	Visiting Faculty, Institute of Immunology, Shandong Medical School, Jinan, CHINA

## **RESEARCH:**

### **GRANT SUPPORT:**

#### **Past:**

- UKMC Small Research Project Award  
"Isolation of cDNAs Encoding Transcription Factors by Genetic Complementation"  
\$10,000  
11/89 - 11/90
- UKMC Major Equipment Grant  
"Isolation of cDNAs Encoding Transcription Factors by Genetic Complementation"  
\$19,258  
11/89
- BRSG Equipment Grant  
\$6360  
11/89
- UKMC Small Research Project Award  
"Alpha-fetoprotein Expression During Liver Regeneration"  
\$10,000  
11/90 - 11/91
- American Cancer Society Institutional Grant  
"Peroxisomal Proliferator Induced Genes and Environmental Carcinogenesis in Transgenic Mice"  
\$7,500  
4/91 - 3/92
- University-wide Major Equipment Grant  
\$3,453 (automated microinjection machine for transgenic facility)  
11/91
- National Institutes of Health  
"Genetic Schemes to Clone Mammalian Transcription Factors"  
Brett Spear, P.I. (50% effort)  
\$350,000 total direct costs  
7/91 - 6/96 (One-year no cost extension 7/96-6/97)  
Specific Aims: 1) To develop an *in vivo* genetic selection strategy to clone regulators of the mouse  $\alpha$ -fetoprotein (AFP) enhancers and 2) to characterize how factors identified in this screen can regulate AFP. (R29 grants are not renewable; the NIH grant "AFP Enhancers and Liver Specific Transcription" is an extension of this grant.)
- Council for Tobacco Research #3512  
"Establishment and Maintenance of Immunological Tolerance in Transgenic Mice"  
Brett Spear, P.I. (15% effort)  
\$127,500 total direct costs  
12/92 - 11/95  
Specific Aims: 1) to define the basis of a neuromuscular defect in our A4 transgenic mouse line.
- National Institutes of Health RO1 ES05815  
"Peroxisomal Genes and Environmental Carcinogenesis"  
Howard Glauert, P.I., Brett Spear, co P.I. (20% effort)  
\$444,548 total direct costs  
9/92 - 8/96 (One-year no cost extension, 9/96-8/97)  
Specific aims: 1) To produce transgenic mice with elevated hepatic expression of peroxisome proliferator-induced genes and 2) to determine the biochemical effects of this overexpression.
- National Institutes of Health, RFA on Peroxisome Proliferators (RO3)  
"Peroxisome Proliferator-Induced Transcription Factors"  
Howard Glauert, P.I.; B. Spear, co-P.I. (10% effort)  
\$100,000 total direct costs  
09/30/98 - 09/29/99 (one year no-cost extension until 9/29/00)  
Specific aims: The goal of this project is to identify genes that are activated by peroxisome proliferators.
- National Institutes of Health, NCI, RO1 CA74147-01  
"Hepatic Tumor Promotion and NF- $\kappa$ B Activation"  
Brett Spear, P.I. (20% effort)  
\$567,728 total direct costs  
04/01/97 - 03/31/02  
Specific aims: 1) Test if NF- $\kappa$ B activation is mediated by active oxygen, 2) Determine how NF- $\kappa$ B activation affects hepatic gene expression, 3) To determine hepatic cell types where NF- $\kappa$ B activation occurs, and 4) Develop transgenic mouse models to study the role of NF- $\kappa$ B in hepatic cell proliferation, apoptosis, and tumor promotion.

- National Institutes of Health, NCI, RO1 CA74147-01  
 "Hepatic Tumor Promotion and NF- $\kappa$ B Activation"  
 Brett Spear, P.I. (20% effort)  
 \$567,728 total direct costs  
 04/01/97 - 03/31/02  
 Specific aims: 1) Test NF- $\kappa$ B activation mediated by active oxygen, 2) Determine how NF- $\kappa$ B activation affects hepatic gene expression, 3) To determine hepatic cell types where NF- $\kappa$ B activation occurs, and 4) Develop transgenic mouse models to study the role of NF- $\kappa$ B in hepatic cell proliferation, apoptosis, and tumor promotion.
- National Institutes of Health, NIDDK, RO1 DK51600  
 "Alpha-fetoprotein Enhancers and Liver Specific Transcription"  
 Brett T. Spear, P.I. (35% effort)  
 \$504,862 total direct costs  
 06/01/98 - 5/31/02 (one-year no cost extension, 6/02-5/03)  
 Specific aims: 1) Study zonal gene regulation in adult mouse livers, 2) Identify factors that reactivate AFP during liver regeneration, and 3) Test AFP enhancer-control of both AFP and albumin promoters.
- National Institutes of Health, RO3 ES/DK11480 (NIH/NIEHS)  
 "Dietary Antioxidants, NF- $\kappa$ B, and Carcinogenesis"  
 P.I. - Howard Glauert (B. Spear, co-P.I.; 5% effort)  
 \$50,000 current year direct costs  
 09/30/01 - 08/31/03 (one-year no-cost extension)  
 Specific aims: To determine whether dietary antioxidants can block liver carcinogenesis and the potential role of NF- $\kappa$ B in this process.
- National Institutes of Health, R03 ES/DK11526 (NIH/NIEHS)  
 "Oxidative Stress and I $\kappa$ B $\kappa$  Modification"  
 B. Spear, P.I. (5% effort)  
 \$50,000 current year direct costs  
 09/30/01 - 08/31/04 (one-year no-cost extension)  
 Specific aims: To determine the molecular basis for a modified form of I $\kappa$ B $\kappa$  that is found in the liver of peroxisome proliferator-treated mice, and determine the potential role of this modified I $\kappa$ B $\kappa$ .
- National Institutes of Health, NCI, RO1 CA92528-03  
 "Generation of Rev1 antisense transgenic mice"  
 B. Spear, P.I. (5% effort)  
 Total direct costs: \$68,532  
 07/01/04 - 03/31/06  
 Specific aims: Generate transgenic mice in which Rev1 expression has been reduced, in order to study the role of this enzyme in several mouse models of carcinogenesis.
- Kentucky Lung Cancer Research Fund  
 "Antioxidants, NF- $\kappa$ B, and cigarette smoke"  
 H.P. Glauert and B. Spear, co-investigators (5% effort)  
 Total direct costs: \$270,711  
 02/01/03 - 01/31/07  
 The aim of this proposal is to determine whether NF- $\kappa$ B has a role in oxidative-stress induced lung injury in response to cigarette smoke.
- National Institutes of Health, RO1 DK59866  
 "*Afr1* - gene cloning and its role in liver gene regulation"  
 B. Spear, P.I. (25% effort)  
 Total direct costs: \$717,501  
 07/15/02 - 04/30/08 (no-cost extension)  
 Specific aims: The aims of this project are 1) To identify the region of the AFP gene that is the target of *Afr1*, 2) To clone *Afr1*, and 3) To determine the mechanism by which *Afr1* controls AFP repression.
- National Institutes of Health, RO1 DK59866-03S1  
 "*Afr1* - gene cloning and its role in liver gene regulation"  
 Morford, P.I. (B. Spear, co-P.I.)  
 Total direct costs: \$211,943  
 05/01/04 - 04/30/08 (no-cost extension)  
 Specific aims: Supplement to my grant DK59866 to provide support for Dr. Morford as a reentry grant.
- National Institutes of Health, NCRR, R21 RR19693 (response to PA-03-017)  
 "A Non-surgical Method for Producing Gene-Modified Mice"  
 Brett T. Spear, P.I. (15% effort)  
 Total direct costs: \$275,000  
 09/15/04 - 07/31/08 (no-cost extension)

- Specific aims: Develop a novel non-surgical alternative to producing genetically modified mice.
- Broad Foundation (IBD-816BR)  
"Adiponectin in Crohn's Disease: Phenotype-genotype correlations and implications in management"  
Arsenescu, R, P.I. (B. Spear, co-investigator)  
Total Direct Costs: \$234,000  
12/01/05 – 05/31/08  
The aim of this grant is genetic polymorphisms in the adiponectin gene and severity of Crohn's Disease.
- Innexus Biotechnology, Inc.  
"Production of IgG1 knock-in Mouse"  
Brett T. Spear, P.I. (3% effort)  
Total Direct costs: \$50,999  
04/01/08 – 12/31/08  
The aim of this grant is to generate a IgG1 knock-in using Cre-lox technology in mouse ES cells.
- National Institutes of Health, P01 CA092372 (Bondada)  
"Growth Regulation and Therapy of Leukemias and Lymphomas"  
S. Bondada, P.I. (B. Spear, Director of Core A; 10% effort)  
Total direct costs: \$3,870,639  
11/1/03 - 08/31/09 (no-cost extension)  
Develop and maintain genetically modified mice for the projects of the PPG grant.
- National Institutes of Health, NCRR, R43 RR025737-01A1  
"A Non-Surgical Embryo Transfer (NSET) device for producing gene-modified mice"  
B. Spear and S. Bass, PIs (Spear, 10% effort)  
Total Direct Costs: \$100,000  
09/01/09 – 2/31/10  
The goal of this grant is to commercialize a novel device to transfer embryos into female mice.
- National Institutes of Health, NIDDK, RO1 DK074816-01A2  
"Albumin-AFP gene Family Regulation in Fetal and Adult Liver"  
Brett T. Spear, P.I. (20% effort)  
Total Direct Costs: \$800,000  
09/01/07 – 06/30/11 (No cost extension, 07/01/11 – 06/30/12)  
The aim of this grant is to understand the role of the AFP enhancer region in the control of AFP and albumin gene expression in the developing liver.
- Children's Miracle Network (CMN), Ped 991  
"The influence of maternal diet on tumor development in offspring"  
Brett T. Spear, PI (5% effort)  
Total Direct Costs: \$40,000  
10/01/09 – 03/31/12  
The goal of this pilot study is to determine in maternal diet (high choline) influences liver tumor development in offspring; an epigenetic grant.
- American Heart Association, 10PRE4250000  
"Zhx2 – a new gene for hyperlipidemia"  
B. Spear, Sponsor, Hui Ren, grant recipient  
07/01/10 – 06/30/12  
TDC: \$46,000  
This is a predoctoral fellowship awarded to Hui Ren, a graduate student in Dr. Spear's lab.
- National Institutes of Health/NCRR, 5P20RR021954-04  
"Center for Research in Obesity and Cardiovascular Disease"  
L. Cassis, PI (B. Spear, PI of pilot project)  
02/28/12 – 06/30/12  
TDC: \$50,000  
The goal of this pilot project is to determine the basis of cardiovascular disease due to mutations in the Zhx2 and Zhx3 genes using mouse models.
- National Institutes of Health, NCRR, 2R44RR025737-02  
"A non-surgical embryo transfer (NSET) device for producing gene-modified mice"  
Spear and A. Fath-Goodin, shared PI (Spear, 10% effort)  
Total Direct Costs to UK: \$29,092  
03/15/11 – 02/28/13  
The goal of this SBIR grant is to develop further the NSET device for embryo transfer in mice.

- National Institutes of Health, NCI, RO1 CA131075  
 "The role of Mc1r in melanocytic UV-induced DNA damage and repair responses"  
 D'Orazio, J.A., P.I. (1% effort in years 2 and 3)  
 Total Direct Costs: \$1,037,500  
 07/01/10 – 04/30/15  
 The goal of this grant is to study DNA damage by UV light and subsequent repair pathways. Dr. Spear assists in EMSA and ChIP experiments proposed in this study.
- American Cancer Society (ACS), IRG-85-001-22  
 "Institutional Research Grant (IRG)"  
 B. Spear, P.I. (0% effort)  
 Total Direct Costs: \$270,000  
 01/01/2013-12/31/15  
 This ACS IRG grant provides funds for pilot projects in cancer research for junior faculty/new investigators, supporting 3 projects/year at \$30,000/project. Dr. Spear serves as PI of this grant and chairs the ACS IRG review panel. The ACS does not allow salary support for Dr. Spear.
- National Institutes of Health, NIDCD, 1K18DC014050-01  
 "Odorant receptor expression and sensitivity to odorants"  
 T. McClintock, PI (B. Spear, Mentor, 0% effort)  
 Total Direct Costs: \$1,918,891  
 07/01/14 – 12/31/15  
 The goal of this grant is to help Dr. McClintock develop training in the areas of gene regulation, Chromatin immunoprecipitation, NexGen sequencing, and statistics. Dr. Spear is primary mentor; Drs. Jinze Liu, Jamie MacLeod, and Arnie Stromberg or co-mentors.
- Kentucky Science and Engineering Foundation, KSEF-3116-RDE-017  
 "Novel Treatment of hepatocellular carcinoma"  
 B. Spear, PI (5% effort, no salary support)  
 Total Costs: \$29,996  
 07/01/14 – 12/31/15  
 The goal of this grant is to develop novel devices for the transfer of chemotherapeutic drugs to liver tumors in collaboration with Twin Star Biomedical, Inc.
- National Science Foundation (NSF), MCB-1158234  
 "A novel post-transcriptional regulatory mechanism mediated by Zhx2"  
 Peterson, M.L., P.I. (B. Spear, co-P.I., 5% effort)  
 Total Direct Costs: \$417,447  
 06/15/12 - 05/31/17 (no-cost extension)  
 The role of this grant is to determine the mechanism by which Zhx2 controls gene expression at the level of RNA processing in a promoter-dependent manner. (ended June 2017)
- University of Kentucky Igniting Research Collaborations (IRC)  
 Role of Zhx2 in Non-alcoholic steatohepatitis (NASH) and Hepatocellular carcinoma (HCC)  
 B. Spear, P.I.  
 Total Direct Costs: \$30,000  
 06/15/16 – 06/30/17  
 The goal of this grant is to test the hypothesis that the Zinc fingers and homeoboxes 2 (Zhx2) gene contributes to NAFLD and its progression to NASH, fibrosis, and HCC. (ended June 2017)
- National Institutes of Health, NIGMS, 1R25GM102776  
 "Kentucky Bridge to a Biomedical Doctorate for Appalachian Students"  
 B. Spear, P.I. (10% effort)  
 Total Direct Costs: \$1,918,891  
 09/01/12 – 08/31/18  
 The goal of this grant is to provide graduate level training in biomedical sciences to under-represented students, focusing primarily those students from Appalachian regions. (ended August 2018)
- UK Markey Cancer Center Support Grant  
 Zinc fingers and homeoboxes 2 (Zhx2): A potential suppressor of hepatocellular carcinoma  
 B. Spear, P.I.  
 Total Direct Costs: \$50,000  
 01/01/17 – 06/30/18  
 The goal of this grant is to test the hypothesis that Zinc fingers and homeoboxes 2 (Zhx2) functions as a tumor suppressor in the development of hepatocellular carcinoma.

## Current:

- National Institutes of Health, NIDDK, 5R01 DK074816  
“RORalpha and Hepatic Zonal Regulation”  
B. Spear, PI (25% effort)  
Total Costs: \$1,337,000  
09/01/07 – 06/30/22  
This purpose of this grant is to investigate aspects of zonal gene regulation controlled by  $\beta$ -catenin and orphan nuclear receptors in the adult liver, using alpha-fetoprotein as a model gene.
- National Institutes of Health, NIGMS, 1R25 GM125680  
“Interactive Mentoring to Enhance Research Skills (IMERS)”  
B. Spear and D. Frazier, shared PI (20% effort for B. Spear)  
Total Costs: \$2,224,800  
09/01/18 – 08/31/23  
This goal of this grant is to provide grant-writing training to faculty at minority serving institutions to enhance the research infrastructure at these institutions. This training will take place at workshops held at the UK and off-site locations.
- National Science Foundation.  
“LSAMP Bridge to Doctorate: University of Kentucky, KY-WV LSAMP”  
D. Blackwell, PI (B. Spear, co-investigator)  
Total Costs: \$1,074,997  
06/01/20 – 05/31/22  
The goal of this multi-institutional training grant, centered at the University of Kentucky, is to provide UMR undergraduates with a research-extensive experience to prepare them for PhD programs in STEM fields.

## Pending:

- National Institutes of Health, NIDDK, R21 ES032013-01  
“Zhx2: a genetic contributor to liver fibrosis caused by an environmental hepatotoxin”  
B. Spear, PI (10% effort)  
07/01/20 – 06/30/22  
Total Direct Costs: \$275,000  
This grant will test the hypothesis that Zhx2 is responsible for the hFib1 liver fibrosis phenotype in mice.

## PATENTS:

U.S. Patent # 12/454,805: “Non-surgical embryo transfer method and apparatus”. Awarded to Michael A. Green and Brett Thomas Spear

## PEER-REVIEWED PUBLICATIONS:

### Submitted:

Nail, A.N., **B.T. Spear** and M.L. Peterson. (2020). Highly homologous mouse Cyp2a4 and Cyp2a5 genes are differentially expressed in the liver and both express long non-coding antisense RNAs. *Gene*. Submitted, June, 2020.

### Published or Accepted:

- Nail, A.N., J. J. Smith, M.L. Peterson and **B.T. Spear**. (2020). Evolutionary analysis of the Zinc Finger and Homeoboxes family of proteins identifies multiple conserved domains and a common early chordate ancestor. *Genome Biology and Evolution*. 12(3):174-184.
- Zhang, W., V.M. Sviripa, L.M. Kril, T. Yu, Y. Xie, W.B. Hubbard, P.G. Sullivan, X. Chen, C-G. Zhan, Y. Yang-Hartwich, B.M. Evers, **B.T. Spear**, R. Gedaly, D.S. Watt and C. Liu. (2019). An underlying mechanism of dual Wnt inhibition and AMPK activation: Mitochondrial uncouplers masquerading as Wnt inhibitors. *J. Medicinal Chemistry*. 62(24):11348-11358.
- Clinkenbeard, E.L., C. Turpin, J. Jiang, M.L. Peterson and B.T. Spear. (2019). Liver size and lipid content differences between BALB/c and BALB/cJ mice on a high fat diet are due, in part, to Zhx2. *Mammalian Genome*, 30(7-8):226-236.
- Turcios, L., E. Chacon, C. Garcia, P. Eman, J. Jiang, **B. Spear**, C. Liu, D.S. Watt, F. Marti and R. Gedaly (2019). Autophagic Flux Modulation by Wnt/ $\beta$ -catenin Pathway in Hepatocellular Carcinoma, *PLOS One*, 14(2):e0212538.

- Song, X., S. Tan, Z. Wu, L. Xu, Z. Wang, Y. Xu, T. Wang, C. Gao, Y. Gong, X. Liang, L. Gao, **B.T. Spear**, and C. Ma. (2018) HBV suppresses ZHX2 expression to promote proliferation of HCC through miR-155 activation. *Int. J. Cancer*. 143:3120-3130.
- Jiang, J, K.T. Creasy, J. Purnell, M.L. Peterson, **B.T. Spear** (2017) Zinc fingers and homeoboxes 2 (Zhx2) regulates Major Urinary Protein gene expression in the mouse liver. *J. Biol. Chem*. 292:6765-6774. PMID: 28258223 PMCID:PMC5399123
- Creasy, K.T., J. Jiang, H. Ren, M.L. Peterson, **B.T. Spear** (2016) Zinc fingers and homeoboxes 2 (Zhx2) regulates sexually dimorphic Cyp gene expression in the adult mouse liver. *Gene Expression* 17:7-17. PMID: 27197076 PMCID:PMC5518317
- Kril, L.M., V. Vilchez, J. Jiang, L. Turcios, C. Chen, V.M. Sviripa, W. Zhang, C. Liu, **B.T. Spear**, D.W. Watt, and R. Gedaly. 2015. N-Aryl benzenesulfonamide inhibitors of [3H]-thymidine incorporation and  $\beta$ -catenin signaling in human hepatocyte-derived Huh-7 carcinoma cells. *Bioorg. Med. Chem. Lett.* 25:3897-3899.
- Zhang, H., D. Cao, L. Zhou, Y. Zhang, X.Guo, H. Li, Y. Chen, **B.T. Spear**, J.W. Wu, Z. Xie, and W.J. Zhang. 2015. ZBTB20 is a sequence-specific transcriptional repressor of the alpha-fetoprotein gene. *Sci. Rep.* 15:11979.
- Ma, H., X. Yue, L. Gao, X. Liang, W. Yan, Z. Zhang, H. Shan, H. Zhang, **B.T. Spear** and C. Ma. 2015. ZHX2 enhances the cytotoxicity of chemotherapeutic drugs in liver tumor cells by repressing MDR1 via interfering with NF-YA. *Oncotarget*. 6(2):1049-1063.
- Gedaly, R., R. Galuppo, M.F. Daily, M. Shah, E. Maynard, G. Chen, X. Zhang, D.A. Cohen, B.M. Evers, J. Jiang, and **B.T. Spear**. 2014. Targeting the Wnt/beta-catenin signaling pathway in Liver and Stem Cells and Hepatocellular Carcinoma Cell Lines with FH535. *PLoS One*, 9(6)e99272.
- Galuppo, R., E. Maynard, M. Shah, M.F. Daily, C. Chen, **B.T. Spear** and R. Gedaly. 2014. Synergistic inhibition of HCC and Liver Cancer Stem Cell proliferation by targeting res/raf/MAPK and beta-catenin pathways. *Anticancer Research*, 34(4):1709-1713.
- Gedaly, R., R Galuppo, Y Musgrave, P. Angulo, J Hundley, M. Shah, MF Daily, C Chen, DA Cohen, **BT Spear** and BM Evers. 2013. PKI-587 and Sorafenib Targeting PI3K/AKT/mTOR and Ras/Raf/MAPK Pathways Synergistically Inhibit Liver Cancer Stem Cells and Hepatocellular Carcinoma Cell Proliferation. *J. Surgical Research*, 185:225-230.
- Steele, K.H., J.M. Hester, B.J. Stone, K.M. Carrico, **B.T. Spear** and A. Fath-Goodin. 2013. Nonsurgical embryo transfer device compared with surgery for embryo transfer in mice. *J. Amer. Lab Animal Science* 52: 17-21.
- E.L. Clinkenbeard, J.E. Butler and **B.T. Spear**. 2012. Pericentral activity of AFP enhancer E3 and glutamine synthetase upstream enhancer in the adult liver are regulated by  $\beta$ -catenin. *Hepatology* 56:1892-1901.
- Gedaly, R., P. Angulo, C. Chen, K.T. Creasy, **B.T. Spear**, J. Hundley, M. F. Daily, M. Shah, and B.M. Evers. 2012. The Role of PI3K/mTOR Inhibition in Combination with Sorafenib on Hepatocellular Carcinoma Treatment. *Anticancer Research*, 32:2531-2536.
- Yue, X., Z. Zhang, X. Liang, L. Gao, Z. Zhang, D. Zhao, X. Liu, H. Ma, M. Guo, **B.T. Spear**, Y. Gong, and C. Ma. 2012. Zinc fingers and homeoboxes 2 inhibits cell proliferation and represses cyclin A and cyclin E expression. *Gastroenterology* 142:1559-1570.
- Bunaciu, R.P., J.C. Tharappel, H.-J. Lehmler, E.Y. Lee, L.W. Robertson, G. Bruckner, **B.T. Spear** and H.P. Glauert. 2011. Role of oil vehicle on hepatic cell proliferation in PCB-treated rats. *Journal of Environmental Pathology, Toxicology and Oncology*, 30:73-82,
- Zhao, Y., R. Burikhanov, J. Brandon, S. Qiu, B.J. Shelton, **B. Spear**, S. Bondada, S. Bryson and V.M Rangnekar. 2011. Systemic Par-4 inhibits non-autochthonous tumor growth. *Cancer Biol Ther.* 12:152-157.
- Li, Jun, C. Harp, J.C. Tharappel, **B.T. Spear**, and H.P. Glauert. 2011. Effect of vitamin E on hepatic cell proliferation and apoptosis in mice deficient in the p50 subunit of NF- $\kappa$ B after treatment with phenobarbital. *Food & Chemical Toxicology*, 49:2706-2709.
- Peterson, M., C. Ma, and **B.T. Spear**. 2011. Zhx2 and Zbtb20, novel regulators of postnatal alpha-fetoprotein expression and their potential role in gene reactivation during liver cancer. *Seminars in Cancer Biology* 21:21-27.
- Liu, H., H. Ren, and **B.T. Spear**. 2011. The mouse alpha-albumin (Afamin) promoter is differentially regulated by HNF1 $\alpha$  and HNF1 $\beta$ . *DNA & Cell Biology*, 30:137-147.
- Tharappel, J.C., J. Cholewa, P. Espandiar, **B.T. Spear**, C.G. Giarola and H.P. Glauert. 2010. Effects of cigarette smoke on the activation of oxidative stress-related transcription factors in female A/J mouse lung. *J. Tox. & Env. Health.* 73:1288-1297.
- Glauert, H.P., K. Calfee-Mason, D.N. Stemm, J.C. Tharappel and **B.T. Spear**. 2010. Dietary antioxidants In the prevention of hepatocarcinogenesis. *Molec. Nutr. Food Res* 54:875-896.

- Gargalovic, P.S., A. Erbilgin, O. Kohanim, J. Pagnon, X. Wang, L. Castellani, R. LeBeouf, M.L. Peterson, **B.T. Spear** and A.J. Lusis. 2010. Quantitative trait locus mapping and identification of *Zhx2* as a novel regulator of plasma lipid metabolism. *Cir. Cardiovasc. Genetics*. **3**:60-67.
- Naidu, S., M.L. Peterson and **B.T. Spear**. 2010. *Alpha-fetoprotein related gene (ARG)*: A new member of the albumin gene family that is no longer functional in primates. *Gene* **449**:95-102.
- Jin, L., L. Long, M.A. Green and **B.T. Spear**. 2009. The alpha-fetoprotein enhancer region facilitates RNA polymerase loading and activates the albumin and alpha-fetoprotein promoters during liver development. *Dev. Biol.*, **336**:294-300
- Green, M.A., S. Bass and **B. Spear**. 2009. A device for the simple and rapid transcervical transfer of mouse embryos eliminates the need for surgery and potential post-operative complications. *Biotechniques*, **47**:919-924.
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#### **CONFERENCE PROCEEDINGS:**

- Glauert, H.P., K. Calfee-Mason, Y. Li, Z. Lu, V. Nilakantan, M. O'Brien, J. Tharappel, E.Y. Lee, L.W. Robertson and B.T. Spear. Role of Oxidative Stress in the Promotion of Hepatocarcinogenesis by Environmental Chemicals. Presented at the 44th Annual Meeting of the Polish Chemical Society in Katowice, Poland, September 9-13, 2001. *Annals of the Polish Chemical Society*.
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#### **BOOK CHAPTERS:**

- Spear, B.T.** Alpha-fetoprotein. Invited chapter in: Brenner's Online *Encyclopedia of Genetics*, 2<sup>nd</sup> Ed. Stanley Maloy and Kelly Hughes, editors, Academic Press, London, UK, 2013.
- Spear, B.T.** Alpha-fetoprotein. Invited chapter in: *Encyclopedia of Genetics*. Sydney Brenner and Jeffrey Miller, editors-in-chief., Academic Press, London, UK, 2001.
- Lu, Z., **B.T. Spear**, E.Y. Lee, L.W. Robertson, and H.P. Glauert. Activation of Rat Hepatic Transcription Factor NF- $\kappa$ B by PCBs. In: *Recent Advances in the Environmental Toxicology and Health Effects of PCBs*, L. Robertson and L. Hansen, editors. University of Kentucky Press, Lexington, KY.
- Calfee-Mason, K.G., **B.T. Spear**, and H.P. Glauert. Effect of Dietary Vitamin E on Cellular Antioxidant Defense Systems in Phenobarbital-treated Rats. In: *Recent Advances in the Environmental Toxicology and Health Effects of PCBs*, L. Robertson and L. Hansen, editors. University of Kentucky Press, Lexington, KY.
- Tharappel, J.C., L.W. Robertson, E.Y. Lee, **B.T. Spear**, and H.P. Glauert. Effect Of 2,2',4,4',5,5'-Hexachlorobiphenyl (PCB-153) and 3,3',4,4'-Tetrachlorobiphenyl (PCB-77) on NF- $\kappa$ B and AP-1 activation, altered hepatic foci formation, cell proliferation, and apoptosis in rats. In: *Recent Advances in the Environmental Toxicology and Health Effects of PCBs*, L. Robertson and L. Hansen, editors. University of Kentucky Press, Lexington, KY.
- Klyczek, K.K., **B.T. Spear**, and K.J. Blank. 1985. Expression of  $\beta$ 2-microglobulin associated molecules in murine leukemia virus-transformed cells. In: *Genetic Control of Host Resistance to Infection and Malignancy*. E. Skamene, editor. Alan R. Liss, NY, NY.

#### **MEETING ABSTRACTS (Partial list, From 2013 - 2019):**

Name of meeting participant(s) is underlined

Poster presentation, \*Oral presentation

- Peterson, M.L., S. Qiu, J. Jiang, A.N. Nail, B.T. Spear. 2019. Zinc fingers and homeoboxes 2 (Zhx2), a member of the Zhx family of proteins, regulates genes in the developing and adult liver. Cold Spring Harbor Meeting on Mechanisms of Eukaryotic Transcription. Cold Spring Harbor, NY
- Spear, B.T., E. L. Clinkenbeard, J. Jiang, and M.L. Peterson. 2019. The role of ROR $\alpha$  in hepatic zonal regulation and hepatocyte stem cell properties. Cold Spring Harbor Meeting on Mechanisms of Eukaryotic Transcription. Cold Spring Harbor, NY
- Jiang, J., L. Bennett, M.L. Peterson, G. Graf, B.T. Spear. 2018. Role of Zinc fingers and homeoboxes 2 (Zhx2) in obesity and non-alcoholic fatty liver disease. FASEB Summer Research Conferences: Fundamental Biology and Pathophysiology of the Liver. Scottsdale, AZ
- Nail, A., J. Jiang, M.L. Peterson, B.T. Spear. 2017. E3- $\beta$ globin-D<sup>d</sup> mice: A new model to study hepatic zonal regulation of sex-biased cytochrome p450 mRNA expression. FASEB/ASBMB meeting, Chicago, IL.
- Grimes, Z., **B.T. Spear**, M.L. Peterson, R. Seipelt-Thiemann. 2017. Towards the molecular identification of

*Afr2*, a gene implicated in liver cancer. FASEB/ASBMB meeting, Chicago, IL.

Nail, A., K.T. Creasy, **B.T. Spear** and M. Peterson. 2016. *Zhx2*: a potential regulator of sex-biased liver gene regulation. FASEB/ASBMB meeting, San Diego, CA.

Qiu, G, M. Dixon, **B.T. Spear** and M. Peterson. 2016. *Zhx2* and the regulation of AFP anti-sense RNAs in mouse liver. FASEB/ASBMB meeting, San Diego, CA.

Dixon, M, G. Qiu, **B.T. Spear** and M. Peterson. 2016. AFP anti-sense transcripts in mouse liver and their potential role in gene regulation. FASEB/ASBMB meeting, San Diego, CA.

CA.Creasy, KT and **B.T. Spear.** 2014. Hepatic *Zhx2* expression regulates lipid metabolism genes and affects risk of cardiovascular disease, fatty liver and hepatocellular carcinoma. FASEB Summer Research Conference on Mechanisms of Liver Growth, Differentiation and Molecular Pathogenesis of Hepatic Diseases, Keystone, CO, 08/2014.

Jiang, J., J. Purnell, K.T. Creasy, X. Lu, M.L.Peterson and **B.T. Spear.** 2014. Regulation of mouse Major Urinary Protein (MUP) genes by *Zhx2* and *Afr2*. FASEB Summer Research Conference on Mechanisms of Liver Growth, Differentiation and Molecular Pathogenesis of Hepatic Diseases, Keystone, CO, 08/2014.

M.L.Peterson, G. Qiu, M. Dixon, L. Turcios and **B.T. Spear.** 2014. AFP anti-sense transcripts in mouse liver and their potential role in gene regulation. FASEB Summer Research Conference on Mechanisms of Liver Growth, Differentiation and Molecular Pathogenesis of Hepatic Diseases, Keystone, CO, 08/2014.

Clinkenbeard, E., M.L.Peterson and **B.T. Spear.** 2014. Pericentral gene expression in the adult liver is controlled by beta-catenin and RORalpha. FASEB Summer Research Conference on Mechanisms of Liver Growth, Differentiation and Molecular Pathogenesis of Hepatic Diseases, Keystone, CO, 08/2014.

Gallupo, R.R., Gedaly, R., Angulo, P., Daily, M., Shah, M., Chen, C., Esser, K., Evers, M., Jiang, J., **Spear, B.T.** “FH535 inhibits Wnt/beta-catenin signaling pathway in liver cancer stem cells and HCC cell lines. American Association for the Study of Liver Disease Annual Mtg, Washington, DC, 11/13.

Galuppo, R.R., Chen, C., Shah, M., Daily, M., Evers, **Spear, B.T.**, Angulo, P., Gedaly, R. “Synergistic Inhibition of liver cancer stem cells and HCC cell lines targeting wnt/beta-catenin and Ras/Raf/MAPK pathways. American Association for the Study of Liver Disease Annual Mtg, Washington, DC, 11/13.

K.T. Creasy, E. Clinkenbeard and **B.T. Spear.** *Zhx2* and the balance between cardiovascular and hepatic health. Experimental Biology, Boston MA, 05/13.

#### **INVITED SEMINARS:**

University of Louisville, Division of Gastroenterology, Hepatology and Nutrition, 10/18  
 “The Role of *Zhx2* in Liver Development and Disease”

Univ. of Kentucky, Gluck Equine Research Institute, 10/14

Eastern Kentucky University. 04/13. “The Joy of Genetics: Studying Liver Gene Regulation Leads to Unexpected Findings”

Shandong University, Institute of Immunology, Jinan, China. 10/12 “*Zhx2*: A novel regulator of liver gene expression and its role in liver and cardiovascular disease”

Shandong University, Institute of Immunology, Jinan, China. 10/12 “Alpha-fetoprotein regulation by  $\beta$ -catenin and orphan receptors in the adult mouse liver”

University of Kentucky, Dept. of Molecular and Biomedical Pharmacology. 01/12 “*Zhx2*: A novel regulator of gene expression associated with cardiovascular and liver disease.”

Albert Einstein College of Medicine, Dept. of Pathology, 12/10. *Zhx2*: A global regulator of gene expression in the liver.”

University of Kentucky, Dept. of Microbiology, Immunology and Molecular Genetics Dept. Retreat, 10/10  
 “What do McDonald Big Macs and Alpha-fetoprotein have in common?”

University of Louisville, Liver Research Group, 04/10 “Alpha-fetoprotein: A model for understanding liver gene regulation during development and disease”

University of Kentucky, Dept of Pathology and Laboratory Medicine, 02/10 “Regulation of alpha-fetoprotein expression: Zinc fingers, nuclear receptors and  $\beta$ -catenin”

Gluck Equine Research Institute, University of Kentucky, 09/09 “The Joys and Frustrations of Positional Cloning: Lessons from *Zhx2*”

University of Kentucky, Markey Cancer Center, 09/09 “Positional cloning and functional analysis of *Zhx2*: A novel regulator of gene expression in the adult liver”

University of California, Los Angeles, Dept. of Human Genetics, 02/09 “*Zhx2*: A novel regulator of gene expression in the liver”

University of Illinois, Chicago, Dept. of Biochemistry and Genetics, 03/07 “*Afr1*: its identification and role in

postnatal AFP and H19 repression" (invited speaker for symposium in honor of Rob Costa)  
Shandong University, Dept. of Immunology, Xinan, CHINA, 10/06 "Analysis of alpha-fetoprotein regulation during liver development"  
Shandong University, College of Medicine, Xinan, CHINA, 10/06 "Afr1: its identification and role in postnatal AFP and H19 repression"  
Morehead State University, 2/06 "Afr1: a novel regulator of alpha-fetoprotein and H19 expression in the developing mouse liver"  
University of Michigan, Department of Human Genetics, 2/05 "Genetic Analysis of Mouse Alpha-fetoprotein Expression During Development"  
University of Kentucky, Department of Veterinary Sciences, 11/04 "Genetic Analysis of Mouse Alpha-fetoprotein Expression During Development"  
FASEB Summer Conference on Liver Gene Regulation during Development and Disease, 7/04 "Genetic analysis of AFP regulation during development"  
Middle Tennessee State University, Biology Department, 10/03 "A genomic approach to the study of Alpha-fetoprotein Gene Regulation"  
University of Kentucky, Department of Pathology, 9/03 "A genomic approach to the study of Alpha-fetoprotein Gene Regulation"  
University of Kentucky, Department of Pathology, 11/01 "Multiple mechanisms control postnatal repression of alpha-fetoprotein expression"  
University of Kentucky, Toxicology Graduate Program, 11/00 "Peroxisome Proliferators, Reactive Oxygen Species, and Hepatic NF- $\kappa$ B Activation"  
University of Kentucky, Department of Physiology, 8/00 "Alpha-fetoprotein as a model for liver-specific gene regulation"  
Univ. of Kentucky, Department of Nutrition and Food Science, 3/00  
"Peroxisome Proliferators and NF- $\kappa$ B Activation in Transgenic Mice"  
St. Louis University, Pediatric Research Institute, 3/99  
"The mouse AFP Gene as a Model for Liver-Specific Transcriptional Control"  
Univ. of Kentucky, Department of Pathology, 2/99  
"Hepatic Tumor Promoters, Active Oxygen, and NF- $\kappa$ B"  
Univ. of Kentucky, Department of Nutrition and Food Science, 9/98  
"Transgenic Mice: *In vivo* systems for biological analysis"  
Univ. of Illinois at Chicago Medical School, Dept. of Molecular Biology and Biochem., 10/97  
"The mouse alpha-fetoprotein gene as a model for liver-specific gene regulation"  
Human Genome Sciences, Rockville, MD, 9/97  
"The mouse alpha-fetoprotein gene as a model for liver-specific gene regulation"  
University of Kentucky, Department of Pharmacology, 11/96  
"The mouse alpha-fetoprotein gene as a model for liver-specific gene regulation"  
University of Kentucky, Department of Anatomy and Neurobiology, 2/96  
"Characterization of a novel sodium channel associated with the *med* mouse"  
University of Kentucky, Department of Pathology, 1/95  
"Developmental Genetic Analysis of Transgenic Mice with Unexpected Phenotypes"  
University of Kentucky Dept. of Neurology Grand Rounds, 8/93  
"A Transgenic Mouse Model of Neuromuscular Disease"  
Hahnemann University Medical Center, Department of Pathology, 7/93  
"Dissection of Regulatory Domains of the Alpha-fetoprotein Gene in Transgenic Mice"  
University of Michigan Medical Center, Department of Human Genetics, 6/93  
"Dissection of Regulatory Domains of the Alpha-fetoprotein Gene in Transgenic Mice"  
SUNY Health Sciences Center-Brooklyn, Department of Biochemistry, 5/93  
"Regulation of Alpha-fetoprotein Gene Expression in Transgenic Mice"  
Univ. of Kentucky, Department of Biochemistry, 1/92  
Univ. of Kentucky, Department of Pathology Research Conference, 2/91  
Univ. of Cincinnati, Graduate Program in Developmental Biology, 10/90  
"Genetic schemes to clone mammalian transcription factors"  
Univ. of Kentucky, Department of Pathology Research Conference, 3/90

## **EDUCATION, TEACHING AND TRAINING:**

### **TRAINEES:**

#### **Postdoctoral Trainees:**

- Alma Ferrier, 10/97– 5/98 (Lab Instructor, Dept. of Biology, University of Kentucky)
- Aysegul Nalca, 1/99 – 9/99 (Chief, Center for Aerobiological Sciences, USAMRIID, Frederick, MD)
- Simon Cooper, 4/99 – 7/01 (Director, Educational Develop., Medical Affairs, Imedex, Alpharetta, GA)
- David Peyton, 10/00 – 8/01 (Professor at Morehead State Univ., Morehead, KY; worked as a KBRIN grant visiting scholar, 05/02 – 08/02, visiting scholar 06/03-08/03)
- Terry Vale, 01/01 – 12/01
- Aysegul Eyigor, 10/02 – 7/03 (Professor, Uludag University, Bursa, Turkey)
- Chunhong Ma, 02/04 – 2/05 (Professor, Shandong University, China)
- Lorri Morford, 02/04 – 11/08 (Research Assistant Prof, Univ. of Kentucky College of Dentistry)
- Lingyun Long, 5/04 – 5/05 (Senior Lab Manager for Meng Chen, Duke University)
- Aneta Dobierzewska – 2/06 – 01/08 (Assistant Professor, Universidad de los Andes, Santiago, Chile)
- Lin Jin – 6/08 – 12/08
- Jeyun Jiang – 12/12 - present

#### **Graduate Students – Thesis Advisor:**

- Tammi Jo Liles, Microbiology and Immunology, 6/90 - 12/92 (M.S. in 1992; faculty member at Lexington Community College)
- Kelli Ke Li, Microbiology and Immunology, 9/92 - 7/96 (Ph.D. in 1996; Senior Scientist at Applied Biosystems, Foster City, CA)
- Yixin Li, Toxicology Graduate Program, 1/92 - 7/96 (Ph.D. in 1996; Senior Scientist at Applied Biosystems, Foster City, CA)
- Vani Nilakantan, Toxicology Graduate Program, 1/93 - 1/97 (Ph.D. in 1997; Director, Investigator- Initiated Sponsored Research, Aurora Healthcare, Milwaukee, WI)
- Tennore Ramesh, Microbiology and Immunology, 6/93 - 6/96 (Ph.D. in 1996; Lecturer in Translational Neuroscience, University of Sheffield, Sheffield, UK)
- Mei-Chuan Huang, Microbiology and Immunology, 6/93-2/98 (Ph.D. in 1998, Assistant Bio-Safety Officer, UCSF, San Francisco, CA)
- David Peyton, Microbiology and Immunology, 6/96 – 10/00 (Ph.D. in 2000; Professor, Morehead State University, Morehead, KY)
- Michelle O'Brien, Toxicology Graduate Program, 12/98 – 7/00 (Ph.D. in 2000; co-advisor with Howard Glauert; Staff Scientist at the USDA in Washington, DC)
- Karen Calfee-Mason, Nutritional Sciences, 6/96 - 08/01 (Ph.D. in 2001; co-advisor with Howard Glauert; Associate Professor at Western Kentucky Univ., Bowling Green, KY)
- Jason Lu, Nutritional Sciences, 6/98 – 3/03 (Ph.D. in 2003; co-advisor with Howard Glauert, staff scientist at Avon, NY)
- Maria Theodiosiou, Toxicology, 3/00 – 6/02
- Lingyoung Long, Microbiology and Immunology, 5/00- 4/04 (Ph.D. in 2004; Senior Lab Manager for Meng Chen, Duke University)
- Sudhir Perincheri, Microbiology and Immunology, 6/00 – 6/04 (Ph.D. in 2004; currently a fellow at Yale)
- Lin Jin, Microbiology and Immunology, 6/03 - 04/08 (Ph.D. in 2008)
- Sathyabama Ramasamy, Microbiology & Immunology, 6/05-8/06, (M.S. in 2006; Physician, Frederick, MD)
- James Butler, Microbiology and Immunology MD/PhD student, 01/07 – 07/-9 (Ph.D. in 2009; fellow with Bruce Beutler at Univ. of Texas Southwest Medical School)
- Hua Liu, 08/07 – 02/09 (Visiting Ph.D. student from Shandong University in China; supported by a fellowship for foreign study from the Chinese Government, Faculty Member, Shandong Univ.)
- Beixiang (Samantha) He, Nutr. Sci., 06/08 – 05/10 (M.S. in 2010; Research tech at Univ. of Arkansas)
- Erika Clinkenbeard, Microbiology and Immunology, 06/07-03/12 (Ph.D. in 03/12; 1st place, student poster, 2011 MCC Cancer Research Day; Assistant Professor at Indiana Univ. School of Medicine)
-

- Hui Ren, Microbiology and Immunology, 06/07 – 06/12 (Ph.D. in 05/12; Recipient of AHA fellowship; currently has position at Texas Children’s Hospital, Houston, TX)
- Kate Creasy, Nutritional Sciences, 08/10 - 06/15 (PhD in 05/15; currently postdoc at Univ. of Pennsylvania)
- Jordan Laferty, M.S. in Medical Sciences, 01/12 – 05/13 (MS degree in 05/2013)
- Minen Alkafajy, Microbiology and Immunology, 08/12 – 12/16 (Ph.D. in 12/16)
- Nicole Combs, Nutritional Sciences, 08/12 – 06/13 (M.S. in 05/2013)
- Justin Purnell, M.S. in Medical Sciences, 06/13 – 05/14 (M.S. in 5/13; currently MD student at UK)
- Kristofer Schroder, Microbiology, Immunology and Molecular Genetics, 06/14 – 05/2016 (M.S. in 2016)
- Alex Nail (Gjevre; co-Advisor with M. Peterson), Microbiology, Immunology & Molecular Genetics, 04/15—05/2019 (PhD, 2019)
- Courtney Turpin Nutritional Sciences, 01/18 – present
- Nicholas Howard, Toxicology and Cancer Biology, 08/29 - present

**Graduate Students – Student Rotations:**

Eric Williams, 11/90-1/91	Patricia Payne, 2/91-5/91	John Ciallella, 6/91-8/91
Kelli Ke Li, 9/91-12/91	Tennore Ramesh, 11/92-2/93	Scott Crist, 10/92-12-92
Mei-Chuan Huang, 1/93-4/94	Sekar Venkataraman, 12/94-2/95	Shirley Bruce, 10/95 - 11/95
David Peyton, 9/96 - 12/96	Stefan Fernandez, 12/96-2/97	Tracey Schneeman, 9/97 - 11/97
Laschele Randolph, 11/97-1/98	Nadia El-Guendy, 2/98-5/98	Cam Dingle, 1/99 - 3/99
Kristen Davis, 1/99 - 3/99	Adrian Centers, 3/00 - 5/00	Maria Theodosiou, 1/00 - 3/00
Lingyun Long, 3/00 - 6/00	Sudhir Perincheri, 5/00 – 6/00	Somya Sampath, 09/02 - 10/02
James Clark, 09/02 - 10/02	Padmha Ranganathan, 10/02-2/02	Deborah Even, 10/02 - 12/02
Melissa Savia 09/03 – 10/03	Arwa Abu-Kwaik 10/03-12/03	Dan Ni 1/04-3/04
Adina Badstibner 03/04 – 06/04	Siva Gaudhapudi 08/04-10/04	Adam Weidner 10/04 – 12/04
Chunxia Zhao 1/05-3/05	Sathyabama Ramasamy 3/05-5/05	Kara Barnett 1/06 – 3/06
Hui Ren, 10/06 – 12/06	Laura Ashley, 10/06 – 12/06	Erika Fleishaker, 01/07 – 07/06
Mikel Moore, 01/07 – 03/07	Elsa Bou-Gamen, 03/07 – 05/07	Ryan Griggs, 01/10 – 03/10
Thomas Platt, 06/10 – 09/10	Micheal Petriello, 11/10 -12/10	Kristen Platt 1/11 – 3/11
Alena Smith, 3/11 – 5/11	Mary McKenna, 10/12-12/12	Kaylee Vorenkamp, 1/13- 3/13
Megan Hemmrich, 04/14 – 06/13	Michelle Ladanyi, 07/13-10/13	Anye Wamucho, 10/13 – 12/13
Kris Schroder, 03/14 – 05/13	Brittany Rice, 01/17 – 03/17	

**Graduate Students – Graduate Student Dissertation Committee:**

Gabriel Bikah, Microbiology and Immunology, 5/92 - 7/97 (Ph.D., 1997)  
 Jeff Brockman, Microbiology and Immunology, 6/90 - 1/94 (Ph.D., 1993)  
 Lorri Morford, Microbiology and Immunology, 8/91 - 6/95 (Ph.D., 1995)  
 Philip Yates, Microbiology and Immunology, 9/90 - 11/97 (Ph.D., 11/97)  
 Linda Banerjee, Microbiology and Immunology, 6/91 - 3/96 (Ph.D., 1996)  
 Greg Cooper, Microbiology and Immunology, 6/90 - 6/92 (Ph.D., 1992)  
 Jeremy Graff, Microbiology and Immunology, 9/90 - 3/95 (Ph.D., 1995)  
 Deepa Ranganathan, Microbiology and Immunology 9/90 - 6/93 (M.S., 1993)  
 Melissa Phillely, Biological Sciences, 9/90 - 9/97 (Ph.D., 1997)  
 Scott Crist, Microbiology and Immunology, 9/93 - 7/97 (Ph.D., 1997)  
 Bin Liu, Pharmacology, 8/93 - 6/97 (Ph.D., 1997)  
 Hsiu-Chen Yen, Toxicology, 6/94 - 7/97 (Ph.D., 1997)  
 Nuralain Khuda, Microbiology and Immunology, 6/94 - 7/95 (M.S., 1995)  
 Michael Rock, Microbiology and Immunology, 7/95 - 12/98 (Ph.D., 1998)  
 Aysequal Nalca, Microbiology and Immunology, 7/95 - 12/98 (Ph.D., 1998)  
 Gene Ferguson, Veterinary Sciences, 10/95 - 10/97 (M.S., 10/97)  
 Shirley Bruce, Microbiology and Immunology, 11/95 – 12/99 (Ph.D., 1999)  
 Alan Simmons, Microbiology and Immunology, 12/95 – 6/99 (Ph.D., 1999)  
 Paula Hempen, Microbiology and Immunology, 12/95 - 7/99 (Ph.D., 1999)  
 Lisa Pederson, Microbiology and Immunology, 7/96 - 1/98  
 Helmer Figueiredo, Toxicology, 6/96 - 5/99 (Ph.D., 1999)  
 Wai Khan Loh, Microbiology and Immunology, 7/96 - 4/02 (Ph.D., 2002)  
 Shannon Bertolino, Microbiology and Immunology, 7/96 - 7/97 (M.S., 1997)  
 Louis Leito, Veterinary Sciences, 3/97 - 12/00 (Ph.D., 2000)  
 Amy Dix, Microbiology and Immunology, 2/97 – 5/00 (Ph.D., 2000)  
 Srinivas Venkatram, Biological Sciences, 5/96 - 5/99 (Ph.D., 1999)

Michael Goodson, Biochemistry, 9/96 – 4/00 (Ph.D., 2000)  
Paul Balbo Microbiology and Immunology, 7/97 - 9/01 (Ph.D., 2001)  
Heather Jones, Microbiology and Immunology, 5/98-3/00 (M.S., 2000)  
Ting Li, Microbiology and Immunology, 5/98-4/02 (Ph.D., 2002)  
Nadia El-Guendy, Microbiology and Immunology, 7/98-10/03 (Ph.D., 2003)  
Monica Guzman, Microbiology and Immunology, 8/98-3/02 (Ph.D., 2002)  
Wasana Sumanasekera, Toxicology, 3/99-7/99 (M.S., 1999)  
Tracy Schneeman, Microbiology and Immunology, 8/98 - 8/04 (Ph.D., 2004)  
Duane Hassane, Microbiology and Immunology, 8/98 – 3/02 (Ph.D., 2002)  
Robert Blevins, Toxicology, 5/00 – 12/05 (Ph.D., 2005)  
Lingkang Huang, Entomology, 6/98 – 6/00 (M.S., 2000)  
Marcie Wood, Toxicology, 8/00 – 10/04 (Ph.D., 2004)  
David Hongo, Microbiology and Immunology, 9/00 – 07/04 (Ph.D., 2004)  
Shawn Browning, Microbiology and Immunology, 10/00 – 7/05 (Ph.D., 2005)  
Amber Savells-Arb, Microbiology and Immunology, 8/00 – 12/02 (M.S., 2002)  
Selcuk Sozer, Microbiology and Immunology, 8/00 – 06/04 (Ph.D., 2004)  
Krishnamuthi Vasedevan, Microbiology and Immunology, 8/00 – 4/05 (Ph.D., 2005)  
Petruta Bunaciu, Nutritional Sciences, 6/00 – 7/05 (Ph.D., 2005)  
Michael Sheehan, Molecular and Cellular Biochemistry, 05/01 - 02/02 (deceased)  
Soma Sen Ray, Molecular and Biomedical Pharmacology, 4/01 - 8/04 (Ph.D., 2004)  
Satyendra Shenoy, Molecular and Biomedical Pharmacology, 5/01 – 08/03 (M.S., 2003)  
Amber Mosley, Molecular and Cellular Biochemistry, 06/01 – 05/04 (Ph.D., 2004)  
Alaeddin Abu-Zant, Microbiology and Immunology, 7/00 – 7/04 (transferred to another university)  
Jeremy Kroemer, Entomology, 6/02 – 12/05 (Ph.D., 2005)  
Holly Skaggs, Toxicology, 8/02 – 03/07 (Ph.D., 2007)  
Rajshekhar Gaji, Veterinary Sciences, 8/02 – 6/06 (Ph.D., 2006)  
Bei Dong, Microbiology and Immunology, 5/03 – 4/08 (Ph.D., 2008)  
Murali Gururajan, Microbiology and Immunology, 3/02 – 04/06 (Ph.D., 2006)  
Divinia Stemm, Toxicology, 8/03 – 5/05 (Ph.D., 2005)  
Jeff Yates, Physiology, 9/03 – 7/06 (Ph.D., 2006)  
Sajni Jossi, Toxicology, 11/03 – 1/06 (Ph.D., 2006)  
Cara Pager, Biochemistry, 6/02 – 6/06 (Ph.D., 2006)  
Padhma Ranganathan, Toxicology, 10/03 – 10/08 (Ph.D., 2008)  
Sushma Gurmurthy, Toxicology, 3/03 – 5/05 (Ph.D., 2005)  
Mindong Luo, Microbiology, 2002 – 2006 (Ph.D., 2006)  
Joshua Arnold, Physiology, 2003 - 2004 (M.S., 2004)  
Dawn Stults, Toxicology, 6/05 – 07/10 (Ph.D., 2010)  
Rahul Matnani, Microbiology, 7/05 – 07/10 (Ph.D., 2010)  
Jianing Yang, Biochemistry, 6/05 – 05/10 (Ph.D., 2010)  
Janine Owens, Pharmacology, 7/05 – 08/06 (M.S., 2006)  
Chunxia Zhao, Biochemistry, 7/05 – 12/10 (Ph.D., 2010)  
Yulan Sun, Toxicology, 09/05 – 12/09 (Ph.D., 2009)  
Purnima Wagh, Nutritional Sciences, 08 /05 -08/06 (M.S., 2006)  
Jennifer Marcum, Microbiology, 03/06 – 08/06 (M.S., 2006)  
Michael Killen, Microbiology, 07/06 – 02/11 (Ph.D, 2011)  
William Velez, Biochemistry, 07/06 – 06/07 (M.S., 2007)  
Tetsen Yeshi, Biological Sciences, 09/06 – 03/11 (Ph.D., 2011)  
Lilia Turcios, Microbiology, 07/06 – 05/11 (Ph.D., 2011)  
Tim Scott, Toxicology, 08/06 – 05/11 (Ph.D., 2011)  
Razvan Arsenescu, Microbiology and Immunology, 06/07 – 06/08  
Vishal Sindhava.(Microbiology), 08/06 – 07/10 (Ph.D., 2010)  
Xiaoyan Liu, Biochemistry, 06/07 – 02/12 (Ph.D., 2012)  
Hui Li, Biological Sciences, 03/07 – 02/11 (Ph.D., 2011)  
Donna Coy, Toxicology, 11/07 – 12/12 (PhD, 2012)  
Debbie Cook, Veterinary Sciences, 11/07 – 08/14 (PhD, 2014)  
Stephen Coleman, Veterinary Sciences, 04/08 – 12/11 (Ph.D., 2011)  
Aubrey Frantz, Microbiology, 04/08 – 06/12 (Ph.D., 2012)



Singh, Rangatha , Anatomy, 12/09 – 11/13 (Ph.D., 2013)  
Joseph Layne, Nutritional Sciences, 05/09 – 08/11  
Brandon Jutras, Microbiology, 12/09 – 06/13 (PhD, 2013)  
Stephen Wilson, Biology, 08/11 – 04/14 (PhD in 2016)  
Zhong Zheng, Nutritional Sciences, 03/12 – 06/14 (PhD 2014)  
Karine Nyiawang, Microbiology, 07/12 – 12/16 (Ph.D. in 12/16)  
Smita Joshi, Biochemistry, 07/12 – 10/17 (PhD in 2017)  
Hye In Jang, Biochemistry, 08/12 – present  
Faulkner, Erica, MS in Medical Sciences (M.S., 2012)  
Karale, Rajashree, MS in Toxicological Sciences (M.S., 2012)  
Katie McKenna, Microbiology, 06/13 – 09/17 (PhD in 2017)  
Chan, Kara, Toxicological Sciences, 06/13 – present  
Emma Boyer, MS in Medical Sciences (M.S., 2013)  
Emma Adam, Veterinary Sciences, 06/13 – 06/16 (PhD in 2016)  
Maria Dixon, Microbiology, Immunology and Molecular Genetics, 06/13 – 07/17 (PhD in 2017)  
Amber Cloud, Toxicology and Cancer Biology, 05/15 – 07/16 (MS in 2016)  
Cheavar Blair, Physiology, 10/15 - 10/17 (PhD in 2017)  
Tiffany Fanter, MS in Medical Sciences, 10/15 – 08/16 (MS in 2016)  
Elisabeth Willems, MS in Medical Sciences, 07/15 – 11/15 (MS in 2015)  
Meredith Eckstein, Molecular and Cellular Biochemistry 08/16 – 05/20 (PhD in 2020)  
Brittany Rice, Pharmacology and Nutritional Sciences, 09/17 – present  
Navid YousefiMashour, Veterinary Sciences, 12/18 – present  
Kendall Collins, Toxicology and Cancer Biology, 08/19-present  
Alexis Smith, Molecular and Cellular Biochemistry 08/19 – present  
Jessey Manison, MS in Medical Sciences, 01/20 - present

#### **Outside Examiner:**

Liping Huang, Department of Statistics, University of Kentucky, 10/09  
Jamie Cantrell, Department of Molecular and Cellular Biochemistry, University of Kentucky, 07/10  
Sanchari Bhattacharyya, Albert Einstein Medical Center, 2011; Outside Examiner  
Parvathy Thampi, Department of Veterinary Science, University of Kentucky, 12/16  
Diane Begemann, Department of Toxicology and Cancer Biology, University of Kentucky, 03/20

#### **Undergraduate Trainees (those in red were co-authors on peer-reviewed publication):**

William Titlow, UK, 10/89-8/90	Claudia Monge, UK, 08/08 – 12/08
Matt Deitchle, Indiana University, 5/91-8/91	Christopher Cunningham, UK, 09/09 – 05/10
Tracy Livingston, UK, 9/91-5/92 (HHMI Fellowship)	Chris New, UK, 09/10 – 05/11
Stephen Wang, UK, summer 1993-1996 (HHMI fellowship)	Clayton Bright, UK, 01/11 – 05/11
Ron Wurth, Senior, UK, 9/92 - 5/93 (HHMI Fellowship)	John Proctor, Transylvania University, 05/11 – 08/11
Casey Backer, UK, 5/94-8/94 (HHMI Fellowship)	Alice Luo, Case Western Reserve Univ., 05/11 – 08/11
Frank Frederick, UK, 9/94-12/94	Ryan Penticuff, UK, 05/11 – 08/11
JoRhonda Bryant, Eastern Ky. Univ., 5/95-8/95 (HHMI Fellowship)	Michael Sackett, Centre College, 06/12 – 08/12
Rod Polk, UK 9/96-12/96. (HHMI Fellowship)	Kristofer Schroder, UK, 08/12 – 05/13
Meredith Giglia, UK, 1/97-5/98 (HHMI Fellowship; 1 <sup>st</sup> place in Biology Dept. senior research project)	Kayarash Karimian, Transylvania Univ., 05/13 – 05/14
Debbie McKelvey, UK 8/01 - 4/0	James Brown, UK, 09/14 – 05/16
Abbie Lemaster, UK, 01/02 – 12/02	Lucas Gilbert, UK, 01/15 – 12/16
Andrea Lundsford, UK, 05/03 - 08/03	Katie Bernardo, UK, 08/16 - present
Sarah Reynolds, Hanover College, 5/05 – 08/05	Breah Johnson, UK, 06/17 - 08/17 (SURES program)
Christina Davis, UK, 05/04 – 06/07	Bailey Johnson, Transylvania Univ. 06/18-09/18, 06/19-08/19
Aubrey Frantz, UK, 08/06 – 08/08	Zaria Elery: Northern Kentucky Univ, (07/18 – 08/18)
Ashley Cook, UK, 08/07 – 05/08	Susanna Goggans, UK, 10/18 – present
Alexander Sluder, Transylvania Univ., 06/08 – 08/08	Nick Meredith, UK, 05/19 – 08/19 (SURES program)
	Cheyenne Chandler, UK, 09/19 – present

#### **High School Trainees:**

Scott Moulder, Henry Clay HS, 2/91-8/91	Kathryn Allison, Nicholas County HS, 1/96
Stephen Wang, Lafayette HS, 6/92-8/92	Tamara Tipton, Nicholas County HS, 10/96-2/97
Nikki Smoot, Nicholas County HS, 2/93	Bridget Purdue, Dunbar HS, 6/97 - 8/97
Sunshine Hall, Nicholas County HS 1/94	Carrie Blades, Lafayette HS, 6/98-8/98

Kyle Smoot, Nicholas County HS, 1/99-3/99  
Kessler Simandle, Tates Creek HS, 6/00 – 8/00  
Drew Fountain, Tates Creek HS, 6/02 – 8/02  
Satrio Husodo, Senior, Lafayette HS, 6/05 – 08/05

Dustin Shaw, Dunbar HS, 1/08 – 1/09  
Victor Macricini, Dunbar HS, 12/09 – 05/11  
Parin Rekhraj, Dunbar HS, 11/14 – 05/16  
Madison Ellis, Dunbar HS, 11/14 – 05/16

## **TEACHING:**

### **Experimental Genetics {MI 604 (95-99)/IBS605 (00-12)}**

1995 - 2003: four lectures (developmental and mouse genetics)  
2004 – 2012 (course director; 17-21 lectures/year)

### **Molecular Biology and Genetics (MI/BIO/BCH615)**

1990: one lecture; 1991 – 1993: three lectures  
1994 – 2004: course director (eight-ten lectures)  
2007 - 2019: 2-4 lectures

### **Contemporary Topics in Immunology (MI 707; 2nd year graduate students):**

1989, 1991, 1998: supervised one student presentation  
1990, 1992 – course coordinator (Tissue-specific gene expression; transc. during development)  
2000 – course co-coordinator (Theme: Stem Cells)

### **Biomolecules and Molecular Biology (IBS602)**

2001, 2002: five lectures, 2 small group sessions (director of one small group session)  
2003, 2004: five lectures, 1 small group sessions (director of one small group session)  
2005: four lectures, 1 small group sessions (director of one small group session)  
2006: three lectures, 1 small group sessions (director of one small group session)  
2007-2009: two/three lectures

### **Interdisciplinary Seminar series (BIO/BCH/MI/PPA/AGR601)**

1998 – 2000, 2013, 2014: Medical Center coordinator for this seminar series.

### **Molecular Biology and Genetics (IBS602)**

2013: 11 lectures  
2014: 9 lectures  
2015 - 2020: 10 lectures

### **Critical Scientific Readings (IBS610)**

2013 - present: Course Director, coordinated small groups, selected papers for discussion, led one small group

### **Special Topics in Integrated Biomedical Sciences (IBS608)**

2014 -2018: Course Director, coordinated mini-courses (taught one mini-course in 2015, 2017)

### **Practical Statistics (IBS611)**

2015: Course Director

### **Graduate Student Seminar course (MI772):**

1990 - 2015: supervised 0-4 student presentations in any given year

### **Medical School Cellular Structure and Function (MI816; New Curriculum Medical Genetics)**

1992 -- two lectures, 1993 -- three lectures  
93/94 – four lectures, problem-based learning (PBL) preceptor, coordinator for clinical correlation on Phenylketonuria (PKU).  
94/95 – four lectures, PBL preceptor (4 PBLs) , coordinator for clinical correlation on HMG-CoA Lyase Deficiency  
95/96 – four lectures, 1 review session, coordinator for clinical correlation on Phenylketonuria (PKU), participant in 3 small group learning sessions.  
96/97 – five lectures, 1 review session, coordinator for clinical correlation on Galactosemia, participant in 2 small group learning sessions  
97/98 – 5 lectures, 1 review session, coordinator for clinical correlation on homocysteinuria, participant in 1 small group learning session  
98/99 – 5 lectures, 1 review session, coordinator for clinical correlation on PKU  
99/00, 00-01 – 5 lectures, 1 review session, coordinator for clinical correlation on G6PD deficiency, , co-coordinator for clinical correlation on Familial Hypercholesterolemia  
2001-2013 – 5 lectures, 1 review session, coordinator for clinical correlation on PKU  
2014 – 11 lectures (picked up Jeff Davidson's lectures)  
2015 – 14 lectures (picked up Ron Cadle's lectures)  
2016 – 9 lectures

Tutor (Volunteer) for New Medical Student Problem-Based Learning Orientation; 8/94  
**TOX 680**, Advanced Toxicology, 2003, 2004, 2005 -- two lectures each year.  
**MI618**, Graduate Course in Molecular Neurobiology; 1992, 1994, 1996, 1998 – one lecture each year  
**BIO510**, Recombinant DNA (B. Rymond); 1996, 1997 – one lecture each year  
**TOX 670**, Chemical Carcinogenesis (R. Gupta); Fall 1996, Fall 1998 – one lecture each year  
**PAT 821**, Medical School Pathology course; 1990, 1991, 1992, 1993 – one lecture each year  
**PAT 665** Forensic Application of DNA Typing Methods; Summer 1996 – one lecture  
**NS 606** Molecular Biological Applications in Nutrition – 2009, 2011, 2013, 2015, 2017: 2019 one 2-hr lecture  
**TOX 600** Ethics in Scientific Research: 2014 – present: one 1-hr lecture

### **SERVICE:**

#### **Peer Review Activities (NIH):**

Member, NIH Study Section in Immunology, Virology, and Pathology (NSRA), (92-00)  
Member, NIH Site Visit for NIDDK PPG at University of Pennsylvania (M. Lazar, P.I.), 5/00  
Member, NIH Site Visit for NIDDK PPG at UNC-Chapel Hill (J. LeMasters, P.I.), 12/00  
Member, NIH Reverse Site Visit for NIDDK PPG at University of Pennsylvania (M. Lazar, P.I.), 4/01  
Member, NIH Special Emphasis Study Section for NIDDK "Development of the Gut, Liver, and Exocrine Pancreas", 8/01  
Member, NIH Review Panel for NIDDK "Silvio O. Conte Digestive Diseases Core Centers", 11/01  
Member, NIH Reverse Site visit for NIEHS PPG at Penn State University, (Omiecinski, P.I.) 2/04  
Ad Hoc Member, NIH Review Panel for NIDDK Review Branch C Committee, 4/04, 4/05, 4/06  
Member, NIH Special Emphasis Review Panel for SBIR-STTR grants, ZRG1 DIG-E(10)B, 11/07, 3/08,  
Member, NIH Special Emphasis Review Panel for SBIR-STTR grants, ZRG1 DIG-E(10)B, 03/08  
Member, NIH Special Emphasis Review Panel for SBIR-STTR grants, ZRG1 DIG-E(10)B, 07/08  
Chairperson, NIH Special Emphasis Review Panel for SBIR-STTR grants, ZRG1 DIG-E(10)B, 11/08  
Chairperson, NIH Special Emphasis Review Panel for SBIR-STTR grants, ZRG1 DIG-E(10)B, 3/09  
Ad hoc member, Gastrointestinal Cell and Molecular Biology (GCMB) Study Section, 05/09  
Member, ARRA Special Emphasis Panel ZRG1 GGG-N (99), 08/09  
ad hoc member, Hepatobiliary Pathophysiology (HBPP) Study Section, 02/10  
Chairperson, NIH Special Emphasis Review Panel for SBIR-STTR grants, ZRG1 DIG-E(10)B, 7/10  
ad hoc member, Hepatobiliary Pathophysiology (HBPP) Study Section, 02/16, 8/18, 2/19, 5/19  
Member, Hepatobiliary Pathophysiology (HBPP) Study Section, 10/20 – 09/23

#### **Peer Review Activities (Non-NIH)**

Research Grants, Ohio Cancer Research Associates, 4/99  
National Science Foundation, ad hoc reviews: 3/92, 8/96, 9/03, 3/04, 06/05, 02/06, 09/12, 04/13, 2/14  
Member, American Cancer Society Institutional Grant Committee, 9/92 - 4/97, 2009–2014 (Chair, 2010 – 2014)  
The Wellcome Trust, 1996, 1997, 2000, 2010  
Natural Sciences and Engineering Research Council of Canada, 1996  
AAAS: WISC Scientific Review, 2002  
Israel Science Foundation (ISF): Grant Reviewer, 2006  
Eastern Illinois University: Grant Reviewer, 2014  
Inserm (France) Cancer Grants, 2018

#### **Recruitment Activities**

Attended ABRCMS (Annual Biomedical Research Conference for Minority Students), 2013 - present  
Attended SACNAS (Society for Advancement of Chicanos/Hispanics and Native Americans in Science),  
Seattle, WA to recruit students for IBS, 10/16

#### **Peer Review Activities (Journals) ~ 15-20 reviews/year**

2009 – present, Editorial Board, Hepatic Medicine: Evidence and Research

American Journal of Physiology: Gastrointestinal  
and Liver Physiology  
Biochemical Pharmacology  
DNA and Cell Biology  
Free Radicals in Biology and Medicine  
Gastroenterology

Genomics  
Journal of Biological Chemistry  
Journal of Cell Science  
Journal of Lipid Research  
Molecular Medicine  
Molecular and Cellular Biology

Pharmacology and Experimental Toxicology  
Proceedings of the Natl. Acad. of Science, USA  
Oncogene  
Comparative Hepatology  
Journal of Nutritional Biochemistry  
BMC – Developmental Biology  
J. Cellular and Molecular Medicine  
Hepatology  
Journal of Heredity  
Cancers  
Reproduction, Fertility and Development

Toxicological Sciences  
PLOS One  
International Journal of Cancer  
International Journal of Molecular Sciences  
Gene  
Gut  
FEBS  
BMC Cancer  
Carcinogenesis  
Hepatobiliary & Pancreatic Diseases International

**Advisory Service outside UK:**

Scientific Advisory Board, ParaTechs Corp. 2009 – present  
Kentucky Science & Engineering Foundation/KSTC – Kentucky Technologies Experts Group; 1/11  
External Advisory Board, Dillard University, New Orleans, LA, “Maximizing Access to Research Careers (MARC) Undergraduate Student Training in Academic Research” (NIGMS R25 MARC U-STAR grant for undergraduate research). 07/15 – present  
External Advisory Board, North Carolina A & T State University, Greensboro, NC. “Bridges to Doctorate – Bioinformatics and Biomedical Bridge” (NIGMS R25 Bridge to Doctorate grant). 09/18 – present

**Service at UK:**

**Significant appointments and elected positions, University-wide**

Director, University of Kentucky Transgenic Mouse Facility, 7/91–06/15 (we have generated over 1200 founder transgenic mice to researchers at UK and at other institutions over this period of time)  
Member (Alternate), Academic Area Advisory Committee for the Biological Sciences 2004-2006  
Member, Graduate Council, 06/07 – 05/10 (Chair, Life and Biological Sciences Subcommittee); 08/13 – 07/16  
Chair, Markey Cancer Center “ACS Institutional Research Grant” (ACS IRG) program, 2/10 – 09/14  
Member, Graduate Council, 08/13 – 07/16  
Member, University Senate, 07/15 – 07/19  
Co-Chair, Provost Blue Ribbon Panel On Graduate Education, 02/17 – 03/18  
Member, Senate Council, 01/18 – 07/19  
Chair, University Senate Research and Graduate Education Committee, 09/18 – 07/19  
Member, ABT Steering Committee, CAFÉ, 08/18 – present

**Other positions, University-wide**

Steering Committee for an intercampus initiative in Genetics/Genomics, 12/99 – 8/00  
Member, University of Kentucky Research Advisory Committee, 07/01 – 06/06  
Member, University of Kentucky Gene Array Oversight Committee, 7/01 - present  
Member, University of Kentucky Graduate School RA Tuition Scholarship Review Committee, 06/02  
Member, University of Kentucky University Research Professorships Committee, 3/03 – 3/06  
Chair, University of Kentucky Genomics 2004 minisymposium, 04/04  
Member, Kirwan Award Committee, 12/04  
Member, DLAR Director Search Committee, 06/05 – 05/07  
Member, DLAR Committee to review IACUC procedures, 10/08 - 12/08  
Presentation to UK Tri-Beta Club: “Opportunities for Graduate Research at UK – IBS”, 1/05  
Member, Northern Kentucky/Greater Cincinnati UK Alumni Club Fellowship Review Committee for Graduate School, 03/13.  
Organized and Hosted a visit of Scientific Delegates from Shandong University, China to UK in May, 2013

**Significant positions, College of Medicine**

IBS Graduate Program Steering Committee, 5/00 – 06/03  
Member, College of Medicine Appointment, Promotion & Tenure Committee, 09/10 – 08/19  
Director of Graduate Studies, University of Kentucky College of Medicine Integrated Biomedical Sciences PhD program, 09/11 – 06/20  
Developed and led Student Mentoring workshops for Faculty, Fall 2018, Fall 2019

**Other positions, College of Medicine**

Member, Review Committee for the Department of Biochemistry, 1998  
Director of Graduate Studies, Masters in Biomedical Sciences Graduate Program, 7/00 – 8/03

Participant, Research Grant Strategies for Graduate Students and Postdocs, Univ. of Kentucky College of Medicine, 4/97.

Co-Director, Graduate Program in Cell and Molec. Biol. Graduate Program, UK College of Med., 9/97 – 5/99

Director, Gene Regulation Research Focus Group, Univ. of Kentucky, 9/97 - 12/00

Member, 6-Year Review Committee for the Department of Pharmacology, 2003

Member, Oxidative Stress Faculty Search Committee, 2003-2004

Member, Review Committee for the Department of Molecular and Cellular Biochemistry, 2004

Member, Cancer Center (Radiation Medicine) Faculty Search Committee, 2007 – 2008

Member, 6-Year Review Committee for the Department of Biochemistry, 2010

Participant: workshop on “Preparing and Polishing your Promotion Dossier” sponsored by Associate Dean for Faculty Advancement, 3/11

Poster Judge, UK College of Medicine Postdoc Research Day, 03/13, 04/14

Poster Judge, Barnstable-Brown Obesity and Diabetes Research Day, 05/13

Judge of Oral Presentations, NCUR (National Conference on Undergraduate Education), UK, 04/14

Poster Judge, Markey Cancer Center Research Day, 2013 - present

### **Positions, Department of Microbiology, Immunology & Molecular Genetics**

Director of Graduate Studies, Dept. of Microbiology and Immunology, 7/99-7/03

Member, Microbiology Faculty Search Committee, Fall 2012

Organizer for High School and Undergraduate Summer Research Program student presentations, Dept. of Microbiology and Immunology, 1991, 1993, 1997

Member, Department of Microbiology and Immunology High School Student Summer Research Committee, 1993-2003

Member, Microbiology Education Policies and Practices (MEPP) Committee, 1996-2004, 2020-present

### **Science-Related Community Service activities**

Attended ABRCMS (Annual Biomedical Research Conference for Minority Students, Nashville, TN to recruit students for IBS, 11/14

Participant, Science Fun Day. Cassidy School, 4/99, J.R. Ewan School, 5/00, 5/01

Chairman, Microbiology Section, INTEL International High School Science Fair, Louisville, KY 04/02

Invited Speaker: American Cancer Society Relay for Life Team Leader Mtg at Central Baptist, 04/13

Invited Speaker, American Cancer Society UK student Relay for Life, 04/13

American Cancer Society Cancer Researcher Meet and Greet (coordinator), 05/13

Invited Speaker, American Cancer Society Fayette County Relay for Life, 06/13

Invited Speaker, American Cancer Society Madison County Relay for Life, 06/13

Gave seminar at UK Art Museum DNA on “DNA and Heredity” in conjunction with exhibit of photographs by Laurel Nakadate. October 2014

Judge, Fayette County Science Fair, 2/96 – present

Judge, Central Kentucky Regional Science Fair, 3/96 - present

### **Faculty Development Activities**

Participant, UK Gatton College of Business Certificate in Business Administration, Fall, 2011

Participant, Dale Carnegie Institute Leadership Training. Sullivan Univ., Lexington, KY. 03/13 – 5/13

Participant, NSF Workshop on Use of Social Media in Scientific Research. Louisville, KY. 04/13

### **Community Service:**

- Chess Club Coach – Cassidy Elementary (1998-1999), J. R. Ewan Elementary (1999-2002), Winburn Middle School (2002-2004; Middle School Kentucky State Champions, 2004)
- Twin Pines Christian Church – various positions from 1994 – present, including deacon, elder, committee chairs, youth sponsor, Sunday School teacher, vice-moderator and moderator
- Boy Scouts – various positions from 1997 – 2010, including den leader (1997-2002), assistant scoutmaster (2001-2003), Troop Committee Chair (2003-2005), Scoutmaster of Troop 1789 (2005 –2008); Assistant Scoutmaster of Troop 1789 (2008 – 2010)
- Member, Ad hoc committee for Kentucky Council of Churches to develop a position paper on evolution (Nancy Jo Kemper; committee chair) 2007
- Guest Presentation on Cancer and Stem Cells, Henry Clay High School Advanced Biology Class, 10/07
- Led 6-week course on “Why Evolution is True” at Twin Pines Christian Church, Jan-Feb 2010.
- Room In The Inn: Provide meals/shelter to homeless men during the winter months. 2010 – present
- Led 4-week course on “Genetics of Human Disease” at Twin Pines Christian Church, Fall 2012.