

David S. Barber, Ph. D.

Curriculum Vitae

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Center for Environmental and Human Toxicology
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PERSONAL INFORMATION

Birthdate: July 15, 1970
Marital Status: Married since 1992
Wife: Carol
Children: John born 11/21/00
William born 10/28/05

EDUCATION

Ph.D., Pharmacology and Toxicology, University of Arizona, Tucson, AZ, 10/97
B.S., Biology, Virginia Polytechnic Institute and State University, Blacksburg, VA, 5/91

APPOINTMENTS AND POSITIONS

<u>Dates</u>	<u>Position</u>
2007-present	Associate Professor (Toxicology), Department of Physiological Sciences, College of Veterinary Medicine, University of Florida, Gainesville, FL.
2006-Present	Affiliate Associate Professor, Department of Epidemiology and Biostatistics, College of Public Health, University of Florida, Gainesville, FL.
2004-present	Director, Aquatic Toxicology Facility, University of Florida
2002-Present	Affiliate Faculty, School of Natural Resources and the Environment, University of Florida, Gainesville, FL.
2000-2007	Assistant Professor (Toxicology), Department of Physiological Sciences, College of Veterinary Medicine, University of Florida, Gainesville, FL.
10/97-	Postdoctoral Research Associate, Virginia-Maryland Regional College of

12/00 Veterinary Medicine, Blacksburg, VA
8/92-10/97 Graduate Research Associate, University of Arizona, Tucson, AZ
6/91-7/92 Class III Wastewater treatment plant operator, Farmville, VA

PROFESSIONAL AFFILIATIONS

Society of Toxicology, Full member since 2001

-Member of Metals and Neurotoxicology specialty sections

Society of Environmental Toxicology and Chemistry, Full member since 2001

Southeastern Regional Society of Environmental Toxicology and Chemistry

AWARDS/HONORS

NIEHS pre-doctoral training grant, 1994-1996

DuPont fellow, 1995-1996

Society of Toxicology Neurotoxicology Specialty Section Post-doctoral travel award, 2000

Recipient of C.E. Cornelius Young Investigator Award from College of Veterinary Medicine, University of Florida, 2005

PEER REVIEWED RESEARCH PUBLICATIONS

1. Lantz, R.C., Parliaman, G., Chen, G.J., Barber, D.S., Winski, S.L., and Carter, D.E. 1995. Effect of arsenic exposure on alveolar macrophage function. II: Effect of slightly soluble forms of As(III) and As(V). *Environ. Res.* 68: 59-67.
2. Peraza, M.A., Ayala-Fiero, F., Barber, D.S., Casarez, E., and Hatlelid, K. 1997. Modulation of chemical toxicity and risk assessment. *Environ. Health Perspect.* 105:868-870.
3. Winski, S.L., Barber, D.S., Rael, L.T., and Carter, D.E. 1997. Sequence of toxic events in arsine-induced hemolysis in vitro: implications for the mechanism of toxicity in human erythrocytes. *Fundam. Appl. Toxicol.* 38:123-128.
4. Peraza, M., Ayala, F., Barber, D., Casarez, E., and Rael, L. 1998. Effect of micronutrients on metal toxicity. *Environ. Health Perspect.* 106 supp. 1: 203-216.
5. Robledo, R.F., Barber, D.S., and Witten, M.L. 1999. Modulation of bronchial epithelial cell barrier function by in vitro jet-propulsion fuel 8 exposure. *Toxicol. Sci.* 51: 119-125.
6. Ayala-Fierro, F., Barber, D.S., Rael, L.T., and Carter, D.E. 1999. In vitro tissue specificity for arsine and arsenite toxicity in the rat. *Toxicol. Sci.* 52: 122-129.
7. Divine, K.K., Ayala-Fierro, F., Barber, D.S., and Carter, D.E. 1999. Glutathione, albumin, cysteine, and cys-gly effects on toxicity and accumulation of mercury

- chloride in porcine renal proximal tubular epithelial cells. *J. Toxicol. Environ. Health*, 57A: 489-505.
8. Barber, D.S., Correll, L., and Ehrich, M. 1999. Comparison of two in vitro activation systems for protoxicant organophosphorus esterase inhibitors. *Toxicol. Sci.* 47: 16-22.
 9. Barber, D.S., Correll, L., and Ehrich, M. 1999. Comparative effectiveness of organophosphorus activating systems in neuroblastoma cells and brain homogenates. *J. Toxicol. Environ. Health* 57: 63-74.
 10. Barber, D., Hunt, J., and Ehrich, M. 2001. Inhibition of calcium-stimulated ATPase in the hen brain P2 fraction by organophosphorus esters: relevance to delayed neuropathy. *J. Toxicol. Environ. Health, Part A* 63: 101-113.
 11. Barber, D., Hunt, J., LoPachin, R., and Ehrich, M. 2001. Determination of acrylamide and glycidamide in rat plasma by reversed-phase high performance liquid chromatography. *J. Chromatography B*. 758:289-293.
 12. Barber, D.S., Hunt, J.R., Ehrich, M.F., Lehning, E.J., and LoPachin, R.M. 2001. Metabolism, toxicokinetics and hemoglobin adduct formation in rats following subacute and subchronic acrylamide dosing. *NeuroToxicology*. 22:341-353.
 13. Barber, D.S. and Ehrich, M. 2001. Esterase inhibition in SH-SY5Y human neuroblastoma cells following exposure to organophosphorus compounds for 28 days. *In Vitro Molec. Toxicol.*, 14(2):129-135.
 14. Massicotte, C. Barber, D.S., Jortner, B.J., and Ehrich, M. 2001. Nerve conduction and ATP concentrations in sciatic-tibial medial plantar nerves of hens given phenyl saligenin phosphate. *NeuroToxicology*. 22:91-98.
 15. Wang, A., Barber, D., and Pfeiffer, C.J. 2001. Protective effects of selenium against mercury toxicity in cultured Atlantic Spotted Dolphin (*Stenella plagiodon*) renal cells. *Arch. Environ. Contam. Toxicol.*, 41:403-409.
 16. Fox, J. H., Jortner, B.S., Barber, D.S., and Ehrich, M.F. 2003. Altered expression of transcripts for α -tubulin and an unidentified gene in the spinal cord of phenyl saligenin phosphate treated hens (*Gallus gallus*). *J. Biochem. Mol. Toxicol.* 17:263-271.
 17. LoPachin, R.M. Jones, R.C., Paterson, T.A., Slikker, W., and Barber D.S. 2003. Application of proteomics to the study of molecular mechanisms in neurotoxicology. *NeuroToxicology*. 24: 761-775.
 18. Pham, R.T., Barber, D.S., and Gallagher, E.P. 2004. GSTA is the major gene responsible for 4-hydroxynonenal metabolism in largemouth bass liver. *Marine Environmental Research* 58(2-5):485-488
 19. Fox, J.H., Barber, D.S., Singh, B., Zucker, B., Swindell, M.K., Norflus, F., Buzescu, R., Chopra, R., Ferrante, R.J., Kazantsev, A., and Hersch, S.M. 2004. Cystamine increases L-cysteine levels in Huntington's disease transgenic mouse brain and in a PC12 model of polyglutamine aggregation. *J Neurochem.* 91(2):413-22.

20. Doi, A., Pham, R., Hughes, E., Barber, D.S., and Gallagher, E. 2004. Molecular cloning and characterization of a glutathione S-transferase in largemouth bass liver that is involved in the detoxification of 4-hydroxynonenal. *Biochem. Pharmacol.* 67:2129-2139.
21. Barber, D.S. and LoPachin, R.M. 2004. Proteomic analysis of acrylamide-protein adduct formation in rat brain synaptosomes. *Toxicology and Applied Pharmacology* 201:120-136.
22. Barber, D.S., Ehrlich, M.F., and Jortner, B.S. 2005. The effect of stress on the temporal and regional distribution of uranium in rat brain after acute uranyl acetate exposure. *Journal of Toxicology and Environmental Health, Part A* 68:99-111.
23. Tolson, J.K., Roberts, S.M., Jortner, B.S., Pomeroy, M., and Barber, D.S. 2005. Heat shock proteins and acquired resistance to uranium nephrotoxicity. *Toxicology* 206:59-73
24. LoPachin, R.M., Barber, D.S., He, D., and Das, S. 2006. Acrylamide inhibits dopamine uptake in rat striatal synaptic vesicles. *Toxicol. Sci.* 89: 224-234.
25. Rael, L., Ayala-Fiero, F., Carter, D.E., and Barber, D. 2006. The Interaction of Arsenite with Hemoglobin in Arsenite-Induced Hemolysis. *Toxicol. Sci.* 90(1):142-8.
26. Garcia-Reyero, N., Barber, D., Gross, T., and Denslow, N. 2006. Modeling of gene expression pattern alteration by p,p'-DDE and dieldrin in largemouth bass. *Mar. Envir. Res.* 62:S415-419.
27. Gallagher, E.P., Gardner, J.L., and Barber, D.S. 2006. Several glutathione S-transferase isozymes that protect against oxidative injury are expressed in human liver mitochondria. *Biochem. Pharmacol.* 78:1619-1628.
28. Garcia-Reyero, N., Barber, D., Gross, T., Johnson, K., Sepúlveda, M., Szabo, N., and Denslow, N. 2006. Dietary Exposure of Largemouth Bass to OCPs Changes Expression of Genes Important for Reproduction. *Aquatic Toxicology* 78:358-369.
29. LoPachin, R.M. and Barber, D.S. 2006. Synaptic Cysteine Sulfhydryl Groups as Targets of Electrophilic Neurotoxicants. *Toxicol. Sci.* 94:240-55.
30. LoPachin, R.M. and Barber, D.S., Geohagen, B.C., Gavin, T., He, D. and Das, S. 2007. Structure-Toxicity Analysis of Acrylamide and other Type 2 Alkenes: In vitro Neurotoxicity. *Toxicol. Sci.*, 95:136-46.
31. Barber, D.S., McNally, A.J., Garcia-Reyero, N. and Denslow, N.D. 2007. Exposure to p,p'-DDE or dieldrin during the reproductive season alters hepatic CYP expression in Largemouth Bass (*Micropterus salmoides*). *Aquatic Toxicology* 81:27-35
32. Denslow, N.D., Garcia-Reyero, N. and Barber, D.S. 2007. Fish-N-Chips: The use of microarrays for aquatic toxicology. *J. Mol. Biosys.* 3:172-177.

33. Barber, DS, Hancock, SK, McNally, AM, Hinckley, J, Binder, E, Zimmerman, K., Ehrich, MF and Jortner, BS. 2007. Neurological effects of acute uranium exposure with and without stress. *NeuroToxicology*, 28:1110-9.
34. Zimmerman, K.L., Barber, D.S., Ehrich, M.F., Tobias, L., Hancock, S.K., Hinckley, J., Binder, E., and Jortner, B.S. 2007. Temporal Clinical Chemistry and Microscopic Renal Effects Following Acute Uranyl Acetate Exposure, *Toxicol. Pathol.* 35:1000-9.
35. Wasdo, S.C., Barber, D.S., Denslow, N.D., Powers, K.W., Palazuelos, M., Stevens, S.M., Jr., Moudgil, B., and Roberts, S.M. 2007. Differential Binding of Serum Proteins to Nanoparticles. *Int. J. Nanotechnology.* 5:92-115.
36. Barber, D.S., Stevens, S., and LoPachin, R.M. 2007. Proteomic analysis of rat striatal synaptosomes during acrylamide intoxication at a low dose rate. *Toxicol. Sci.* 100:156-167.
37. Griffitt, R.J., Weil, R.W., Denslow, N.D., Powers, K., Taylor, D., and Barber, D.S. 2007. Copper nanoparticles cause gill injury and acute lethality in zebrafish (*Danio rerio*). *Environ. Sci. Technol.* 41:8178-86.
38. Lopachin, R.M., Barber, D.S., and Gavin, T. Molecular mechanisms of the conjugated alpha, beta-unsaturated carbonyl derivatives: relevance to neurotoxicity and neurodegenerative diseases. *Toxicol Sci.* 2007 Dec 13; [Epub ahead of print]
39. Garcia-Reyero, N., Griffitt, R.J., Liu, L., Kroll, K.J., Farmerie, W.G., Barber, D.S. and Denslow, N.D. Construction of a robust microarray from a non-model species (Largemouth Bass) using pyrosequencing technology. *J. Fish Biol.*, in press
40. Griffitt, R.J., Luo, J., Gao, J., Bonzongo, J-C, and Barber, D.S., Toxicity of metallic nanoparticles is dependent on metal composition and species. *Environ. Toxicol. Chem.*, in press.

BOOK CHAPTER

Barber, D.S., F. Ayala-Fierro, E. Casarez, M.A. Peraza, L.T. Rael, S.L. Winski, and D.E. Carter. 1999. Introduction to Environmental Toxicology. IN: Environment and Health. Rivero Serrano, O., and G. Ponciano, eds. C. Pena, trans. UNAM-PUMA Program Universitario de Medio Ambiente.

ABSTRACTS

(from a total of 52 published abstracts)

Barber, D.S., Wu, Y., Zakharian, R., and Carter, D.E. 1995. Metabolism of arsenic by the lung. *Fundam. Appl. Toxicol.* 15S: 1652.

Barber, D.S. and Carter, D.E. 1996. Comparison of arsine and arsenite toxicity in cells representing blood, lung, liver, and muscle. *Fundam. Appl. Toxicol.* 30S: 174.

Barber, D.S., Rael, L.T., and Carter, D.E. 1997. Comparative toxicity of arsenite and arsine in precision cut tissue slices. *Fundam. Appl. Toxicol.* 36S: 277.

- Barber, D.S., Correll, L., and Ehrich, M. 1998. Use of microsomal activation for in vitro testing of esterase inhibition caused by organophosphates. *Toxicol. Sci.* 42S: 398.
- Barber, D., Hunt, J., and Ehrich, M. 1999. Inhibition of brain synaptosomal Ca-ATPase by organophosphorus compounds. *Toxicol. Sci.* 48S: 185.
- Barber, D., Hunt, J., Ehrich, M., Lenhning, E.J., and LoPachin, R.M. 2000. Formation of acrylamide (ACR) and glycidamide (GLY) hemoglobin adducts in ACR-exposed rats. *Toxicol. Sci.* 54S: 177.
- Barber, D.S., Hunt, J., Magnin, G., and Ehrich, M. 2001. Dopamine depletion and cytotoxicity in PC-12 cells treated with Mn(II), Mn(III), and Mn-transferrin. *Toxicol. Sci.* 60(1): 339.
- Barber, D.S. and Morales, M. 2002. Rat Striatal D-Aspartate Uptake is Reduced by Exposure to Manganese. *Toxicol. Sci.* 66 (1): 1009.
- Gardner, J. Barber, D., and Gallagher, E. 2002. Glutathione S-Transferase Expression in Human Liver Mitochondria. *Toxicol. Sci.* 66 (1): 693.
- Barber, D.S. and Kopplin, M.J. 2003. Regional Distribution of Uranium in Rat Brain. *The Toxicologist* 72 (S-1): 19.
- Pomeroy, M., Jortner, B., Ehrich, M., Robertson, J., and Barber, D. 2003. Uranium and Cell Death in the Rat Kidney. *The Toxicologist* 72 (S-1): 16.
- Munson, J.W., Tolson, J.K., Jortner, B.S., Roberts, S.M., and Barber, D.S. 2003. Heat Shock Proteins and Uranium Nephrotoxicity. *The Toxicologist* 72 (S-1): 347.
- McNally, A., Knowles, T., and Barber, D.S. 2004. Molecular cloning of cytochrome P450 2 and 3A from Largemouth Bass. *The Toxicologist* 78 (1-S): 1661
- Barber, D.S., and Knowles, T. 2004. Characterization of largemouth bass acetylcholinesterase and inhibition by antiesterase pesticides. *The Toxicologist* 78 (1-S): 1356
- Denslow, N.D., Garcia-Reyero, N., Blum, J., Kocerha, J., Larkin, P., and Barber, D. 2004. Alteration of gene expression patterns by estrogenic and androgenic compounds. 5th International Symposium on Fish Endocrinology.
- Reyero, N.G., Barber, D., Kroll, K., Johnson, K., Sepulveda, M., Gross, T. and Denslow, N.D. 2004. Gene expression pattern alteration in largemouth bass by endocrine disruptors. SETAC, Portland, OR.
- LoPachin, R.M., and Barber, D. 2004. Molecular actions of Acrylamide at the Nerve Terminal. *The Toxicologist* 78 (1-S):
- McNally, A. and Barber, D. 2005. Molecular cloning and characterization of human cyt19, an S-adenosyl-L-methionine: As-methyltransferase from HepG2 cells. *The Toxicologist* 84 (S-1):131
- Tobias, L., Barber, D., Zimmerman, K., Hancock, S., Hinckley, J., Ehrich, M., and Jortner, B. 2005. Nephrotoxic effects of depleted uranium in the rat: interactions with stress. *The Toxicologist* 84 (S-1):161.

- Barber, D., Hancock, S., McNally, A., Hinckley, J., Binder, E., Ehrich, M., and Jortner, B. 2005. Neurological effects of acute uranium exposure. *The Toxicologist* 84 (S-1):600.
- LoPachin, R., and Barber, D. 2005. Acrylamide disrupts uptake of dopamine into rat striatal synaptic vesicles. *The Toxicologist* 84 (S-1):1546.
- S. Stevens, Jr. and Barber, D. 2005. A Comprehensive Approach for the Analysis of Selected Cysteine-Targeted Modifications Using Chemical Derivatization Methods and Mass Spectrometry. Proceedings of the American Society of Mass Spectrometry 2005 meeting.
- Barber, D., Reyero, N., Denslow, N., Hyndman, K., Evans, D., and Freedman, J. 2005. Effects of Aluminum Nanoparticle Exposure in Zebrafish (*Danio rerio*). Proceedings of the annual Society of Environmental Toxicology and Chemistry meeting, Baltimore, MD.
- S. Stevens, Jr. Barber, D. and LoPachin, R.M. 2006. Mass Spectrometric Analysis of Synaptosomal Protein Modification Upon Exposure to Selected α , β -Unsaturated Carbonyl Compounds. American Society of Mass Spectrometry 2006 meeting.
- A. J. McNally and D. S. Barber. 2006. Identification of an Alternatively Spliced Isoform of the Human *cyt19* Gene, An S-Adenosyl-L-Methionine: As Methyltransferase. *The Toxicologist* 90 (S-1):442.
- N. Garcia-Reyero, D. S. Barber, K. Hyndman, D. Evans, K. Powers, J. H. Freedman and N. D. Denslow. 2006. Gene Expression Pattern Alteration in Gill from Zebrafish Exposed to Nanoparticles. *The Toxicologist* 90 (S-1):1082.
- E. J. Ray and D. S. Barber. 2006. The Effects of p,p'-DDE on Reproductive Success of the Fathead Minnow (*Pimephales promelas*). *The Toxicologist* 90 (S-1):1569
- R. F. Mervis, D. S. Barber, M. Ehrich, S. Hancock, J. Hinckley, J. Kotick, M. Shah, T. Amato and B. S. Jortner. 2006. Stress and Depleted Uranium Exposure Alter Hippocampal Dendritic Morphology in the Rat. *The Toxicologist* 90 (S-1):1800.
- D. S. Barber, S. K. Hancock, J. Hinckley, K. Zimmerman, M. F. Ehrich and B. S. Jortner. 2006. Neurological Effects of Chronic Uranium and Stress Exposure. *The Toxicologist* 90 (S-1):1801.
- S. Stevens, D. S. Barber and R. M. LoPachin. 2006. Acrylamide Adduct Formation in Nerve Terminals. *The Toxicologist* 90 (S-1):2421.
- Griffitt, R.J., Weil, R., and Barber, D.S. 2006. Effects of metallic nanoparticles on zebrafish. Society of Environmental Toxicology and Chemistry 2006 meeting, Montreal, CA.
- Barber, D.S., LoPachin, R.M., and Stevens, S. In vivo acrylamide exposure produces cumulative adduction of synaptic protein thiols. Society of Toxicology meeting, Charlotte, NC March 25-29, 2007.
- Griffitt, R.J.⁴, Weil, R.³, Denslow, N., and Barber, D.S. Toxic effects of nanocopper on zebrafish, *Danio rerio*. platform presentation for Society of Toxicology meeting,

Charlotte, NC, March 25-29, 2007.

Wasdo, S.C., Roberts, S.M., Barber, D.S., Powers, K.W., and Palazuelos, M. The preferential binding of human serum proteins to Ni, Al, and diamond nanoparticles. Abstract 1394, Society of Toxicology Annual meeting, Charlotte, NC, March 25-29, 2007.

Barber, DS, Griffitt, RJ, Luo, J, Bonzongo, JC, Gao, J. Toxicity of metallic nanoparticles to several trophic levels of aquatic organisms. Platform presentation at Southeastern Society of Environmental Toxicology and Chemistry, Athens, GA. April 11-13, 2007.

D.S. Barber, W.J. Rees, M. Prucha, N. Denslow,. Effect of organochlorine pesticides on ex vivo gonadal testosterone synthesis in largemouth bass (*Micropterus salmoides*). Society of Environmental and Human Toxicology, Milwaukee, WI. November 2007.

D.S. Barber, R.J. Griffitt, N. Garcia-Reyero, N. Denslow, Novel rapid method of microarray development for a nonmodel species, the largemouth bass (*Micropterus salmoides*). Society of Environmental and Human Toxicology, Milwaukee, WI. November 2007.

J. Griffitt, N.D. Denslow, D.S. Barber, K. Hyndman . Comparative analysis of the effects of sublethal nanoparticulate metal exposure to zebrafish gills. Society of Environmental and Human Toxicology, Milwaukee, WI. November 2007.

Barber, D.S., Stevens, S., Denslow, N., and LoPachin, R. Assessing Cysteine Adducts in Nerve Terminal Proteins after in vivo acrylamide exposure using ICAT. Mol. Cell. Proteomics. Abstracts of 6th Annual HUPO World Congress, Oct. 2007, pg. 167.

PROFESSIONAL ACTIVITIES

TEACHING

2000- present Veterinary Toxicology- This is a 1 credit course offered in the fall semester to 86 D.V.M. students. It covers the basic concepts of toxicology as well as diagnosis and treatment of common poisonings in domestic animals. The course consists of 14 hours of lecture, 2 hours of discussion and exams. I serve as course coordinator and sole lecturer.

2001 Department of Physiological Sciences Seminar. This course consists of a weekly research seminar. I served as course coordinator

2001-present Poisonous Plants- This is a 1 credit course offered in the spring semester to approximately 30 D.V.M. students. It covers the identification and mechanism of toxicity of plants with the potential to poison animals. The course consists of 13

hours of lecture, 2 hours of discussion, 3 hours of lab and exams. I serve as course coordinator and sole lecturer.

2005- present Literature Survey in Toxicology- This 1 credit course is offered to toxicology graduate students in the spring and fall semesters. It utilizes current literature articles to teach students to critically evaluate toxicology literature and refine their presentation skills. I served as course coordinator and primary instructor.

2006-present Advanced Toxicology- This 3 credit course is offered in the Spring semester to graduate students in the Toxicology and Public Health programs. It examines concepts of toxicology, mechanisms of action and experimental design of toxicology experiments. The course consists of ~45 contact hours. I serve as course coordinator and primary lecturer.

STUDENT RESEARCH TRAINING

Undergraduate Students

Darrell DuBose- received University Scholars support for research in my laboratory-summer 2001

Sahar Kamkar

Marshall Terry

NIH Short-term Research Training for Minority Students

Ricardo Lugo- Summer 2004

Graduate Students-Major advisor

M.S. students:

Alex McNally, M.S. program in toxicology, graduated May 2006

Elizabeth Ray, M.S. program in SNRE, graduated summer 2006

Nick Doperalski, M.S. program in toxicology, anticipated completion in Dec. 2008

Ph.D. students:

Erin Mack, Interdisciplinary Program, est. 2011

Graduate Students- committee member

M.S. students:

Erin Hughes, Evan Gallagher, advisor Physiological Sciences, 2003

Robert Pham, Evan Gallagher, advisor Physiological Sciences, 2003

Jennifer Muller, Timothy Gross, advisor Physiological Sciences, 2003

Jon Wiebe, Timothy Gross, advisor Physiological Sciences, est. 2006

Dane Huges, Timothy Gross, advisor Physiological Sciences, est. 2006

Yaoling Long, John Eyler, advisor Dept. of Chemistry, est. 2008

Ph.D. students:

Keith Tolson, Stephen Roberts, advisor	Pharmacology and Therapeutics, 2004
James Sacco, Margaret James, advisor	Medicinal Chemistry, 2006
Betty Nyagode, Margaret James, advisor	Medicinal Chemistry, est. 2007
Kristen Merritt, Margaret James, advisor	Medicinal Chemistry, est 2007
Melinda Prucha, Nancy Denslow, advisor	Pharmacology and Therapeutics (IDP), est 2008
Dan Spade, Nancy Denslow, advisor	Physiological Sciences, est. 2011
Roxanna Weil, Nancy Denslow, advisor	Pharmacology and Therapeutics, est. 2011
Xian Chen, Nick Polfer, advisor	Chemistry, est. 2010
Garima Dutta, Bin Liu, advisor	Pharmacy, est 2011
Heera Sharma, Bin Liu, advisor	Pharmacy, est 2011

Postdoctoral Training

Dr. Joe Griffitt 2/06-present

OTHER TEACHING ACTIVITIES

2001 Produced 1 hour taped lecture on Veterinary Toxicology and participated in teleconferenced review session for NAVLE Training Course for Foreign Veterinarians

6/2002 1 hour continuing Education Seminar “Plants that Poison Horses”, 2002 Equine Medicine Seminar, Austin Education Center, Weirsdale, FL

RESEARCH FUNDING

Intramural

Barber, DS (PI), College of Veterinary Medicine, 2001, \$6,700, *Altered glutamate homeostasis as a mediator of manganese toxicity.*

Barber, DS (PI), College of Veterinary Medicine, 11/01/02-12/20/03, \$7,500, *Biotransformation Enzyme Polymorphisms and Susceptibility to DFP and cis-Permethrin Toxicity*

Barber, DS (PI), McGuire, P (Co-PI), College of Veterinary Medicine, 5/04, \$7,500, *Biomarkers for red tide (Karenia brevis) exposure: a zebrafish model*

Barber, DS (Co-PI), Sepulveda, M (PI), 5/04, \$7,500, *Physiological Effects of Cyanotoxins in Freshwater Fish*

Extramural

Barber, DS (PI), Virginia Polytechnic Institute (subcontract for US Army Medical Research and Materiel Command DAMD17-01-1-0775, 10/1/01-9/30/06, \$333,870, *Kinetic and biochemical assessment of depleted uranium neurotoxicity*. B. Jortner (PI).

Barber, DS (PI), Montefiore Medical Center (consortium on NIH R01 ES003830-17A1), 9/11/03-6/30/05, \$41,271, *The Nerve Terminal as a Site of Acrylamide Action*. R. M. LoPachin (PI)

Barber, DS (PI*), NIEHS, 4/1/04 – 3/31/07, \$278,211; *Aquatic Toxicology Facility, Core D (Portion of Superfund Program Project, MO James, PI)*

*E. Gallagher served as PI from 4/00-3/04

Barber, DS (PI), National Science Foundation, 7/1/05-6/30/08, \$350,000, *Biochemical, Molecular, and Cellular Responses of Zebrafish Exposed to Metallic Nanoparticles*.

Barber, DS (co-PI), N. Denslow (PI). NIEHS. 8/06-7/09. \$808, 656, *Molecular Mechanisms of Endocrine Disruption in Largemouth Bass*.

Rauschenberger, H (PI), Brooks, B (CoPI), Barber, D (CoI), USFWS. 10/2006-12/2008, \$118,200 TDC. *Exposure and effects of urban contaminants on wood stork health and reproduction in the metropolitan area of Jacksonville, Florida*.

Pending extramural funding

Barber, D.S. (PI), USEPA. 4/2008-3/2011. \$399,570 total costs requested. *Fate and Toxicity of metallic nanoparticles in aquatic organisms*

Barber, D.S. (co-PI). NIEHS. 6/1/08-5/31/2012. \$ 1,412,212 TDC requested. *The Nerve Terminal as the Site of Action for Type-2 Alkenes*.

PROFESSIONAL PRESENTATIONS:

Invited Talks at International Meetings:

8/2005 “Effects of Aluminum Nanoparticle Exposure on Zebrafish” International Symposium on the Role of Adsorbed Films and Particulate Systems in Nano and Biotechnology, Gainesville, FL. August 24-26, 2005.

10/2007 “Assessing cysteine adducts in nerve terminal proteins after in vivo acrylamide exposure using ICAT” HUPO 6th Annual World Congress, Seoul, Korea Oct. 6-10, 2007

Invited Talks at National Meetings:

11/06 “Biochemical, Molecular, and Cellular responses of zebrafish exposed to metallic nanoparticles” USEPA Grant Review Symposia, Washington D.C.

4/7/05 “Neurological and behavioral effects following co-exposure to uranium and stress”. Research Advisory Committee on Gulf War Veterans’ Illnesses. Washington D.C.

12/02 “Multifactorial Assessment of Depleted Uranium Neurotoxicity” , US Army Medical Research and Materiel Command Force Health Protection Review, Albuquerque, NM

Invited Research Seminars

2001 Research presentation entitled “Role of chemical speciation in Manganese Neurotoxicity”, Physiological Sciences Seminar, University of Florida

2006 Research presentation entitled “Linking molecular biomarkers with Population Effects in Fish”, Reproductive Biology Seminar, University of Florida

2006 Research presentation entitled “Effect of p,p’-DDE on Fathead Minnow Reproduction”, Superfund Basic Research Program Seminar, University of Florida

2006 Research presentation entitled “Role of thiol adduct formation in nerve terminal degeneration”, Department of Pharmacology Seminar, University of Florida

2007 Research presentation entitled “Role of thiol adduct formation in nerve terminal degeneration”, Department of Physiological Sciences Seminar, University of Florida

2007 Invited Research Presentation entitled “Acute Toxicity of Metallic Nanoparticles in Aquatic Organisms”, FAME 2007, Annual Meeting of Florida ACS, May 10, 2007, Orlando, FL.

SERVICE

Professional Service

Chair, metal toxicity session, 2003 Society of Toxicology meeting, Salt Lake City, Utah

Chair, pesticide toxicity session, 2004 Society of Toxicology Meeting, Baltimore, MD

Chair, arsenic and uranium session, 2005 Society of Toxicology Meeting, New Orleans, LA

Awards committee, SOT Metals Specialty Section, 2007

Chair, Nervous system, in vitro mechanisms session, 2007 Society of Toxicology meeting, Charlotte, NC.

Vice-President, Southeastern SETAC chapter, 2007-2008

Presentation reviewer for International Congress for Conservation Biology, 2008

Ad hoc manuscript reviewer for :

Journal of Toxicology and Environmental Health

Aquatic Toxicology

NeuroToxicology

Marine Environmental Research
Toxicological Sciences
Toxicology and Applied Pharmacology
Environmental Research
International Journal of Environmental Research and Public Health
Life Sciences
Toxicology In Vitro
The Protein Journal
Lancet

External Grant Reviewer for:

University of Missouri Research Board

Research Management Group

University Service

Search Committee for Assistant Scientist, Department of Physiological Sciences, College of Veterinary Medicine (2001)

Search Committee for Assistant In, Department of Physiological Sciences, College of Veterinary Medicine (2002)

Search Committee for Assistant/Associate Professor , College of Veterinary Medicine (2003)

Search Committee for Assistant/Associate Professor, Department of Physiological Sciences, College of Veterinary Medicine (2004)

College of Veterinary Medicine Research Committee (2001-2004)

University of Florida Faculty Senate (2003-2005)

College of Veterinary Medicine Library Committee (2004-2006)

College of Veterinary Medicine Admissions Committee (2005-present)

College of Veterinary Medicine Faculty Council (2007-present)

Other Service Activities:

2001-present Advise veterinarians and the public on questions regarding animal toxicities.