The Interdisciplinary Toxicology Program at the University of Georgia is comprised of graduate students, faculty, and post-doctoral fellows from several departments within the University. The program is committed to a high quality graduate education and excellence in research. Both faculty and graduate students have received national recognition for their endeavors. Our goal is to provide strong interdisciplinary graduate training, research and service programs in toxicology. This is accomplished by encouraging cooperation and sharing of resources and faculty in the College of Veterinary Medicine, the College of Pharmacy, the College of Agricultural and Environmental Sciences, Warnell School of Forestry and Natural Resources and the College of Public Health.
Greetings Fellow Toxicologists,

Welcome to our 2008 edition of the toxicology newsletter. I am excited to report that our curriculum offerings to graduate students are expanded with Dr. Xiaoqin Ye teaching a Molecular Toxicology class. The Interdisciplinary Toxicology Program and the department of Physiology and Pharmacology in Veterinary Medicine joined together to create this position. Also, Dr. Steve Rathbun, of the Department of Epidemiology and Biostatistics in the College of Public Health, offered a graduate class in Biostatistics Spring semester of 2008.

I would like to welcome several new members: Dr. Robert Bringolf joins us from North Carolina State, Dr. Xiaoqin Ye from the Scripps Research Institute in La Jolla, CA, and Dr. Jason Zastre from the University of Toronto.

Congratulations to Dr. Erin Lipp, who received a 5-year graduate student training grant from National Oceanic and Atmospheric Administration (NOAA). The Georgia Ocean’s and Health Initiative will train Ph.D. students focused on human pathogens, toxic contaminants and climate change with opportunities to conduct research in federal NOAA laboratories.

Our MS and Ph.D. students are graduating within expected time frames of 2-2.5 years for MS and 4-5 years for Ph.D. students. Below is a graph depicting graduation rates over a 5-year period. Good job – faculty and students!

Thanks to all the faculty and students who helped to make this year another success for the ITP.

All the Best,

Dr. Jeff Fisher
The ITP sponsored three interesting seminars this year, with speakers from across the United States representing a variety of organizations. Seminars were well-attended and followed by catered receptions. During the receptions, students and faculty took advantage of the opportunity to chat with the presenters in a more casual setting.

- Dr. Harvey Clewell, III, Director of the Center for Human Health Assessment at the Hamner Institute for Health Sciences in Research Triangle Park, NC: “Application of Monte Carlo Techniques for the calibration of PBPK models and their application to reverse dosimetry of human biomonitoring data: examples with carbaryl and trichloreylene.” July 27, 2007

- Dr. Francesco Marchetti, Lawrence Berkeley National Laboratory, Berkeley, CA: “Molecular mechanisms and environmental factors affecting paternally-transmitted chromosomal damage.” March 26, 2008

- Dr. R. Thomas Zoeller, Professor, University of Massachusetts, Amherst, MA: “Thyroid toxicology - Do we need to think differently?” November 15, 2007.
Every year, the ITP hosts a spring retreat to showcase the program and give students the opportunity to present their research. The retreat also gives students and faculty a chance to relax and mingle. This year’s keynote speaker was Dr. Paul E. Newton, Ph.D., D.A.B.T. from MPI Research in Mattawan, MI. Dr. Newton discussed pharmaceutical development and the differences between the FDA and ICH processes. After the keynote address came the student platform presentations:

- Tantiana Burns, Department of Pharmaceutical & Biomedical Sciences: “Evidence for Fumonisin-Corn Matrix Binding During Nixtamalization”. Advisor Ken Voss (Best Platform Award)

- Elizabeth Irvin, Department of Environmental Health Science: “Maternal and placental effects of infection with Listeria monocytogenes in pregnant guinea pigs”. Advisor: Mary Alice Smith

- Curtis Harris, Department of Pharmaceutical & Biomedical Sciences: “Relative Kinetics of Potassium Iodide and Perchlorate as Antidotes to Radioiodide Exposure”. Advisor: Cham Dallas

After a poster viewing session, everyone gathered for a group photo (featured on the cover) and then it was off to lunch! During lunch, awards were presented for best presentations and posters.
We would like to take this opportunity to invite you to make a tax deductible financial contribution to the UGA Toxicology Program. You can make a secure credit card contribution online (www.toxicology.rx.uga.edu/contact.asp). When doing so, please type Toxicology Program in the form where it says, “Specify other/multiple gift areas.” Doing so will ensure that your gift is directed to the Toxicology Program.

The Interdisciplinary Program in Toxicology Fund is a University of Georgia Foundation discretionary account supporting the activities of the Interdisciplinary Toxicology Program. It enables the Program to host internationally recognized speakers, hold conferences and workshops and provide support for graduate students to attend national meetings to present scientific results.

If you prefer to make a donation the old-fashioned way, please fill out our form on the reverse side, print it and mail it to:

Interdisciplinary Toxicology Program
The University of Georgia
N124 Paul D. Coverdell Center
Athens, GA 30602-7396
I would like to contribute to the University of Georgia Foundation. My gift will be designated for the Interdisciplinary Program in Toxicology Fund.

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Funds of this type are essential to the expansion and success of this campus-wide interdisciplinary training program.

Enclosed is my gift for $ ________________

Signature: ________________________________________________

Please send this form with your check, made payable to the University of Georgia Foundation, to the Interdisciplinary Toxicology Program, N124 Paul D. Coverdell Center, Athens, GA 30602.

You may also make a secure credit card donation via our website at


Thank you for your support of the program!
A group of students and faculty from the ITP attended the 47th annual meeting of the Society of Toxicology (SOT) in Seattle, WA from March 16-20. The ITP funded partial travel for many of the graduate students. The SOT is one of the premier professional societies for toxicologists and the meetings are the perfect opportunity to network and be exposed to the latest toxicological research. This year’s meeting was a huge success with over 2,300 posters and platform sessions as well as a number of workshops. The annual meeting was also host to ToxExpo, an exhibit showcasing the latest, cutting-edge products and services. According to Bin Sun and Xiaoling Zhang, ITP PhD students in the College of Pharmacy, “We really enjoyed our first experience of SOT annual meeting. It’s amazing - it is an international meeting and the attendants are from all over the world such as Britain, Japan, Korea, etc. There are lots of academic workshops, seminars and symposiums covering all the differential areas of Toxicology.”

Another highlight of the trip was visiting Seattle (for those attendees who were able to break away from the conference). The famous Seattle fish market and the Space Needle were just a few of the fun side trips enjoyed by ITP students and faculty!

Special thanks to Christine Kendrick, Xiaoling Zhang, Susie Ritger, Mary-Alice Smith, Jim Bruckner (pictured at left), and Jeff Fisher for representing the ITP during the recruitment session.
The ITP welcomes several new faculty, while current faculty have been hard at work continuing advancement in the field of toxicology!

Robert Bringolf

Dr. Bringolf joined ITP and the Warnell School of Forestry and Natural Resources in the Fall of 2007. Prior to coming to UGA, he was a research associate in the Department of Environmental and Molecular Toxicology at North Carolina State University where he developed standard toxicity testing for freshwater mussels. He has also conducted research with endocrine disruptors and aquatic systems. At UGA, he plans on continuing his research on endocrine disruptors while also studying the effects of contaminants on interactions between mussels and fish. He is looking forward to teaching both Ecotoxicology and Fish Physiology this Fall.

Fisheries and Aquaculture
Warnell School of Forestry and Natural Resources

Travis Glenn recently relocated to the Environmental Health Science department from the Savannah River Ecology Lab (SREL). Although he has been a member of the faculty of UGA for 10 years, he spent most of his time at SREL. Now that he’s on campus, he will be working at the Laboratory of Genomics and Bioinformatics where he hopes to develop collaborative research. Dr. Glenn’s research interests include the use of DNA to understand the effects of environmental contaminants. He has conducted a great deal of research on the isolation of microsatellite loci as molecular markers from a variety of organisms. According to Dr. Glenn, “Any organism with DNA is fair game!” He has worked with organisms from all kingdoms, but is especially fond of crocodilians. But...working with alligators and crocodiles requires catching them, and catching alligators must be done in the early morning hours. Their record catch was 10 meters [or almost 33 feet] of alligators in a single night!

Environmental Health Science
College of Public Health
Xiaoqin Ye joined the ITP in Fall of 2007. She comes to UGA from the Scripps Research Institute in La Jolla, CA where she was a senior research assistant. Dr. Ye received an MD from Peking University in Beijing, China, an MPH from the Chinese Academy of Preventative Medicine and a PhD in Environmental Toxicology from the University of California, Riverside. Her research interests include lysophospholipid signaling in implantation and spermatogenesis and reproductive toxicology.

Physiology and Pharmacology
College of Veterinary Medicine

Welcome!

Richard Winn is another ITP faculty member. Dr. Winn came to UGA from the University of Toronto where he was a postdoctoral fellow. He received an MS in Pharmacy from the University of Manitoba and his PhD from the University of British Columbia. Dr. Winn is currently researching drug transport in the use of multiple medications for treatment of HIV/AIDS, cancer and cardiovascular disease.

Pharmaceutical and Biomedical Sciences
College of Pharmacy

International Collaborations!

Jason Zastre is another new faculty member. Dr. Zastre came to UGA from the University of Toronto where he was a postdoctoral fellow. He received an MS in Pharmacy from the University of Manitoba and his PhD from the University of British Columbia. Dr. Zastre is currently researching drug transport in the use of multiple medications for treatment of HIV/AIDS, cancer and cardiovascular disease.

Fisheries and Aquaculture
Warnell School of Forestry and Natural Resources
Graduate Updates

Brianna Peterson

Dr. Peterson is working for the Washington State Patrol in Seattle, WA, where she is a forensic toxicologist. This includes conducting laboratory testing for all police agencies, medical examiners, and coroners in the state. She analyzes samples (blood, urine, tissues etc.) for the presence of drugs and alcohol and provides court testimony. She is also on the crime scene response team – this unit is called out to crime scenes to document, collect evidence and provide a reconstruction report. Pretty exciting job!

Eva McLanahan

Dr. McLanahan began a postdoctoral position as a Toxicologist with EPA’s National Center for Environmental Assessment, Hazardous Pollutants Assessment Group in Research Triangle Park, North Carolina in January 2008. She was immediately selected for a special research and evaluation group on perchlorate because of her work at UGA. She is also part of the EPA’s Pharmacokinetic Working Group that evaluates physiologically based pharmacokinetic and other quantitative biological models for use in risk assessments. Dr. McLanahan attended the SOT conference in March and received the Perry J. Gehring Biological Modeling Award for her biologically-based dose response model of the HPT axis and iodide deficiency and perchlorate perturbations in rats. Congratulations Eva!

The ITP would like to congratulate the following students who graduated this past year:

Spring 2008
Elizabeth Irvin, PhD Advisor: Mary Alice Smith
Immunological and pathological changes after maternal exposure with Listeria monocytogenes in pregnant guinea pigs.

Fall 2007
Eva McLanahan, PhD Advisor: Jeff Fisher
Dose-Response Analysis of Hypothalamic-Pituitary-Thyroid (HPT) Axis Perturbations in the Adult Rat using Statistical Methods for the Binary Mixture of PCB126 and Perchlorate and Computational Modeling for Iodide Deficiency and Perchlorate.

Summer 2007
Paul Melstrom, PhD Advisor: Phil Williams
The nematode, Canohabditis elegans, as a model for mammalian cholinergic neurotoxicity.
Dr. Ted Henry conducted postdoctoral research in Dr. Marsha Black’s lab in Environmental Health Science from 2002-2004. During his time at UGA he researched the effects of pharmaceuticals on aquatic organisms. He accepted a position with the University of Tennessee in 2005, and in 2007 he moved to England where he is now an Academic Fellow at the Ecotoxicology and Stress Biology Research Centre at the University of Plymouth. He has conducted groundbreaking research in the emerging field of ecotoxicology of nanomaterials. Nanomaterials are of great interest since their use in society is increasing dramatically. However, the environmental and health effects of nanomaterials are just now being evaluated in a systemic fashion. One recent alarming publication in the journal, Environmental Health Perspectives, reported that C60, a nanoparticle, caused oxidative damage in brains of fish. The results of this well cited paper were challenged by the research of Dr. Henry and his colleagues. They unequivocally demonstrated that the vehicle used to dissolve the water insoluble nanoparticle into the water housing the fish was the cause for the brain toxicity. He and his team published their findings in 2007 in the same journal. Congratulations and keep up the exemplary research!

Prashant Monian is an undergraduate conducting research in Dr. Brian Cummings lab. He was supported by the ITP through CURO (the Center for Undergraduate Research Opportunity). The ITP works with CURO in order to encourage students to go on to graduate school and study toxicology. His research interests include the effects of bromate, a possible carcinogen, on the phospholipid profile of rat kidney cells. He presented his research investigating the effects of cocaine withdrawal on rat brains at the CURO symposium March 31, 2008 at the Georgia Center.
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The University of Georgia
N124 Paul D. Coverdell Center
Athens, GA 30602

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