

Interdisciplinary Toxicology Program

DIGEST



UNIVERSITY OF GEORGIA

# Interdisciplinary Toxicology Program

Spring 2015



[WWW.TOXICOLOGY.UGA.EDU](http://WWW.TOXICOLOGY.UGA.EDU)



## The Interdisciplinary Toxicology Program

Rm. 341 - Pharmacy South  
Athens, GA 30602  
www.toxicology.uga.edu  
706-583-0058  
Brian Cummings, Director

### Executive Committee

Brian Cummings  
Mary Alice Smith  
Jim Bruckner  
Robert Bringolf  
Nick Filipov  
Raymond Noblet  
Ron Riley  
J.S. Wang

### Admissions Committee

Mary Alice Smith  
Ralph Tripp  
John Wagner  
Jason Zastre

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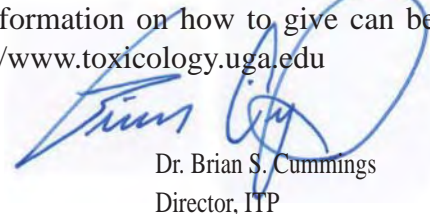
Dear Colleagues,

I am pleased to update you on the progress for the Interdisciplinary Toxicology Program. Our faculty continued to shine. This is evidenced by the fact that they have published over 200 manuscripts in the field of toxicology in the last 18 months. Further, we also have several faculty that served in leadership positions in various societies. Not to be outdone, our students continued to make us proud. This year 4 students received their Ph.D. and 10 passed on to Doctoral Candidacy. Further, our students also received several local, regional, national and even some international awards. I am particular proud that we had multiple winners for the Emerging Leader Award here at the University of Georgia. I am also happy to welcome 4 new students for Fall 2015.

We have made significant efforts this year to reach out to undergraduate students, both at UGA and in other areas of the state. These efforts, spurred on by our graduate coordinator, Dr. Mary Alice Smith, were highlighted by our first ever undergraduate recruitment event at the Southeastern Society of Toxicology Meeting at the U.S. Department of Agriculture in Athens. This effort continued at this year's annual Society of Toxicology Meeting in San Diego, CA. I am asking for faculty help in undergraduate recruiting and want to let everyone know that ITP is happy to aid faculty in their travels to meetings and seminars if there is a component of undergraduate recruiting.

ITP is schedule to undergo its 7 year program review in 2015/2016. We have already met with Office of Academic Planning to coordinate this process. We are now in the process of gathering the base data for this review, which we are collecting from faculty and student data bases and CV's. This information will be shared with the faculty in an upcoming self-study to aid in our overall strategy for completing our review documents and charting the future of the ITP. Additionally, we will need up-dated information on our Alumni as well. So please double check our information in this newsletter on Alumni. It is my goal to share with you our progress at the Fall Retreat.

I would like Ms. Joanne Mauro for her tireless efforts on behalf of our program. Finally, we are always looking to increase our Foundation Funds, which allow both faculty and students to invite and support national and internationally known Toxicologists for seminars, and support programs that enhance ITP faculty and student experiences. Donations are tax-deductible and information on how to give can be found in this newsletter and at: <http://www.toxicology.uga.edu>



Dr. Brian S. Cummings  
Director, ITP



# ITP FACULTY

## College of Agricultural and Environmental Sciences

**Sayed Hassan**, Crop & Soil Sciences  
**Qingguo (Jack) Huang**, Crop & Soil Sciences  
**Raymond Noblet**, Department Head, Entomology  
**Steve Stice**, Director, Regenerative Bioscience Center  
**William Vencill**, Crop & Soil Sciences

## College of Public Health

**Marsha Black**, Environmental Health Science  
**Travis Glenn**, Environmental Health Science  
**Erin Lipp**, Environmental Health Science  
**Kun Lu**, Environmental Health Science  
**Luke Naeher**, Environmental Health Science  
**Mary Alice Smith**, Environmental Health Science  
**Jia-Sheng Wang**, Department Head, Environmental Health Science  
**Phillip Williams**, Dean, College of Public Health  
**John Yu**, Environmental Health Science

## College of Veterinary Medicine

**Julie Coffield**, Physiology & Pharmacology; Interim Dean, Graduate School  
**Gaylen Edwards**, Department Head, Physiology & Pharmacology  
**Rabindranath De La Fuente**, Physiology & Pharmacology  
**Nikolay Filipov**, Physiology & Pharmacology  
**Robert Gogal**, Veterinary Biosciences & Diagnostic Imaging  
**Tai Guo**, Veterinary Biosciences & Diagnostic Imaging  
**Jaroslava Halper**, Pathology  
**Keith Harris**, Department Head, Pathology  
**Steve Holladay**, Department Head, Veterinary Biosciences & Diagnostic Imaging  
**Elizabeth Howerth**, Pathology  
**S. Mark Tompkins**, Infectious Diseases  
**Ralph Tripp**, Infectious Diseases  
**Maria M. Viveiros**, Physiology & Pharmacology  
**John J. Wagner**, Physiology & Pharmacology  
**Xiaoqin Ye**, Physiology & Pharmacology

## Franklin College of Arts and Sciences

**Lisa Donovan**, Dept. of Plant Biology  
**Anne O. Summers**, Dept. of Microbiology  
**Shanta Dhar**, Chemistry

## Odum School of Ecology

**Stacey Lance**, Savannah River Ecology Lab  
**Tracey Tuberville**, Savannah River Ecology Lab

## R. C. Wilson College of Pharmacy

**Arthur Roberts**, Pharmaceutical & Biomedical Sciences  
**Michael Bartlett**, Pharmaceutical & Biomedical Sciences  
**James Bruckner**, Pharmaceutical & Biomedical Sciences  
**Brian Cummings**, Pharmaceutical & Biomedical Sciences  
**Randall L. Tackett**, Clinical & Administrative Pharmacy  
**Catherine White**, Pharmaceutical and Biomeical Sciences  
**Jason Zastre**, Pharmaceutical & Biomedical Sciences

## Warnell School of Forestry & Natural Resources

**Robert Bringolf**, Warnell School of Forestry & Natural Resources

## AUBURN UNIVERSITY, AL

**Robert Arnold**, Auburn Univ., Dept. of Drug Discovery and Development

## FDA

**Jeff Fisher**, Food & Drug Administration National Center for Toxicological Research

## USDA

**Ronald T. Riley**, Toxicology & Mycotoxin Research  
**Kenneth A. Voss**, Toxicology & Mycotoxin Research

# FACULTY RESEARCH HIGHLIGHTS



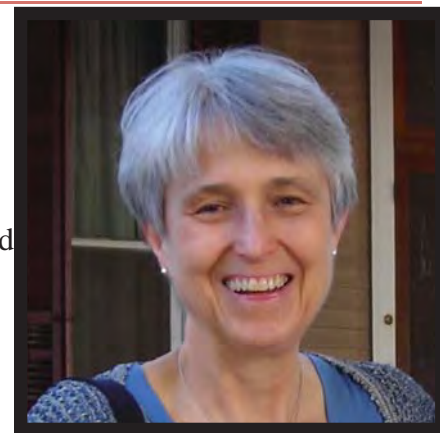
**Steve Stice**

Dr. Steven Stice was awarded the highest scholastic faculty award; The D.W. Brooks Distinguished Professorship, and is also a Georgia Research Alliance Eminent Scholar endowed chair, and Director of the Regenerative Bioscience Center at The University of Georgia. His credits include producing the world's first cloned rabbit, the world's first cloned calves and the first pigs cloned from adult cells. He has over 20 years of research and development experience in biotechnology and is a co-founder of five biotechnology companies, including Aruna Biomedical and SciStem, which he currently serves as Chief Scientific Officer. Aruna was the first company to commercialize a product derived from human pluripotent stem cells, and the company has developed stem cells that were used to facilitate approval of Pfizer's current cognitive enhancing pharmaceuticals.

The Stice lab fluctuates from between 10 and 15 people comprised of postdoctoral fellows, graduate students, and a few technicians and visiting scientist.

Currently, Dr. Stice's lab is collaborating on the development of a rapid toxicity test funded by the EPA STAR fund. The new in vitro method will allow testing of a large number of chemicals for developmental neurotoxicity while reducing the number of animals used in toxicity testing.

“My lab studies bacterial resistance to toxic metals and the mobile genetic elements that frequently carry such genetic loci. In the former area, we have focused on the mercury resistance locus which allows bacteria to survive exposure to methyl mercury and inorganic mercury using dedicated enzymes and transporters whose expression is controlled by a unique metalloregulator. Recently we've also defined the distinct molecular damage caused by inorganic and organic Hg compounds, illuminating the bases for their different toxicological profiles and possibilities for cellular recovery. In studying Hg resistance and toxicity at the whole cell and purified protein and DNA levels we use classical and molecular genetics and biophysical techniques including calorimetry, X-ray absorption spectroscopy, NMR, EPR, mass spectrometry-based proteomics and RNA-seq transcriptomics. Our interest in mobile genetic elements arises because bacterial plasmids and transposons frequently carry genetically linked loci for metal resistance and for multiple antibiotic resistances. Exposure of humans to one or the other type of selective agent results in spread throughout our commensal bacteria of genes for both types of resistance trait, i.e. metal exposure “co-selects” for multi-antibiotic resistance, which can readily be transferred to any incoming pathogen. We are currently examining a new biocompatible Hg-sequestering material which may prevent the spread of linked Hg- and antibiotic-resistance. Work in my lab has been funded continuously four decades by a mix of awards from NIH, NSF, DOE, EPA, USDA, and private foundations and corporations.”



**Anne Summers**

## FACULTY PUBLICATIONS

More than 200 articles have been published by our faculty over the past 18 months. Please visit our website for a complete list of faculty publications during the last year.

<http://www.toxicology.uga.edu>

# EXECUTIVE COMMITTEE

The ITP Executive Committee members are: Brian S. Cummings, Robert Bringolf, Jim Bruckner, Nick Filipov, Mary Alice Smith, Ray Noblet, Ron Riley and J.S. Wang. This Committee worked with the Curriculum Committee members Marsha Black and Xiaoqin Ye to plan for the future of the Interdisciplinary Toxicology Program. Redefining courses currently offered and courses to offer in the future were primary tasks for these committees this year. Advanced courses in Toxicology including Immunotoxicology and Principles of Toxicology I and II are being developed.



Dr. Luke Naehler



Dr. Brian Cummings & Mary Alice Smith. SOT 2015



Brian Cummings, (Left) and students. SESOT 2014

# ADMISSIONS COMMITTEE

Our program has graduated 75 Ph.D.'s and 45 M.S. degrees since 1997. On average a Ph.D degree takes 55 months and an M.S. degree takes 30.5 months. Along with 4 Ph.D.'s awarded this year, we also had 12 Doctoral Candidacy awards. Recruiting this year included our first “**SESOT UNDERGRAD PROGRAM**”. This brought students from several schools to Athens for the SESOT Conference in October 2014. We also participated in the SOT Undergraduate Program and made recruiting trips to North Georgia College. One of our students, Natalie Scholpa, participated in the Emerging Leaders Program. We also won 3 Graduate School Awards and 2 Excellence in Graduate Recruitment Awards this year. Our incoming class has an average Undergraduate GPA of 3.45.

**Dr. Filipov, Dr. Lu, Dr. Wagner and Dr. Ye are taking new students.**

Many thanks to the Admissions committee members: **Dr. Ralph Tripp, Dr. John Wagner and Dr. Jason Zastre** for all the hard work this year!

## **12 DOCTORAL CANDIDACY AWARDS IN 2014-15:**

**Manoj Amaraneni Advisor: Jim Bruckner**

**Ahmed El Zowalaty, Advisor: Xiaoqin Ye**

**Anna Hejl, Advisor: Luke Naehler**

**Eric Goolsby, Advisor: Lisa Donovan**

**Min-su Kang, Advisor: J.S. Wang**

**Ramya Kolli, Advisor: Brian Cummings**

**Lisa Luo, Advisor: Qingguo Huang**

**Rahat Wadhwa Desai, Advisor: Mary Alice Smith**

**Jincheng Wang, Advisor: Jia-Sheng Wang**

**Rachel Worley, Advisor: Jeff Fisher**

**Xian Wu, Advisor: Steven Stice**

**Kathy Xue, Advisor: J.S. Wang**



**Dr. Jia-Sheng Wang (Center), and Students**



Anna Hejl Adetona



Manoj Amaraneni



Chen Chen



Yingjia Chen



Hunter Connell



Elizabeth Dudley



Ahmed El Zowalaty



Donna Glinski



Forrest Goodfellow



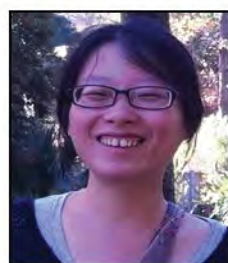
Eric Goolsby



Minsu Kang



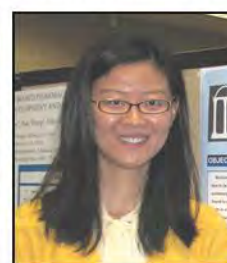
Ramya Kolli



Rong Li



Shangtao Liang



Maggie Liu



Lisa Luo



Dean Meyer



Adrian Parr



Natalie Scholpa



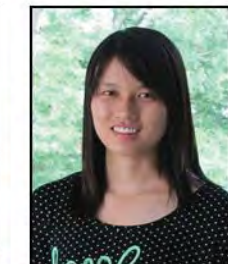
Matthew Ulrich



Rahat Wadhwa-Desai



Jincheng Wang



Hongye Wei



Robby Williams



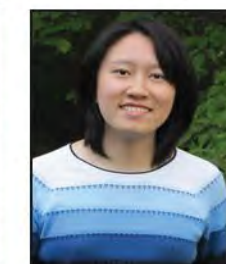
Rachel Worley



Xian Wu



Joella Xu



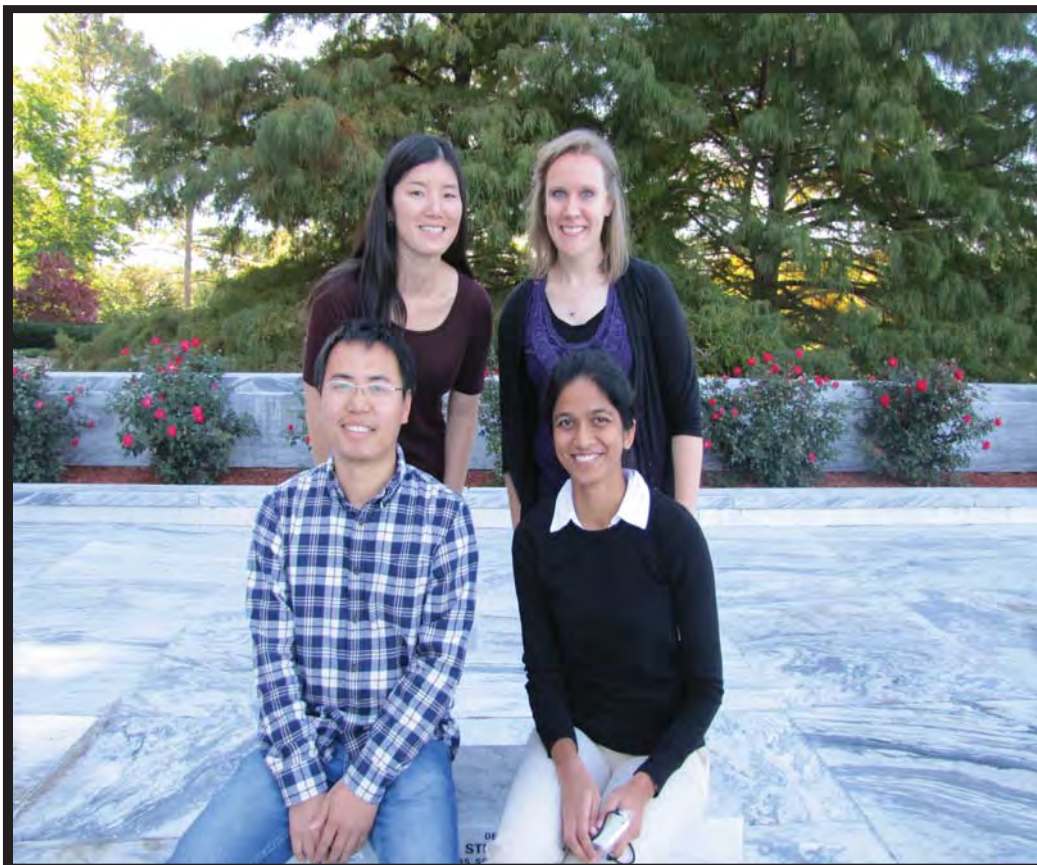
Kathy Xue



Jun Zhou

# ITP 2014—2015 CLASS

# UGATOX



## 2014-2015 UGATOX OFFICERS.

Pictured, L to R:

**TOP ROW: TREASURER MIN-SU KANG; PRESIDENT ANNA HEJL ADETONA**

**BOTTOM ROW: VICE PRESIDENT XIAN WU, SECRETARY RAMYA KOLLI**

Since the next round of elections and nominations (2015-2016 academic year) will open soon, every ITP student is encouraged to serve in the UGATOX. Your support will be a distinct honor and will make our

UGATOX community more productive and supportive!

*Anna*

## STUDENT AWARDS

**Donna Glinski** - Innovative and Interdisciplinary Research Grant. **Advisor - Marsha Black**

**Eric Goolsby** - Nat'l Science Foundation Doctoral Dissertation Improvement Grant. **Advisor - Lisa Donovan**

**Lisa Luo** - Student Paper Competition for Battelle Conference 2015 at New Orleans. **Advisor - Jack Huang**

**Adrian Parr** - Innovative and Interdisciplinary Research Grant. **Advisor - Robert Bringolf**

**Natalie Scholpa** - ARCS award; Society for Experimental Biology and Medicine's 2015 Young Investigator Award; 1st Place - SESOT Platform Presentation; Emerging Leaders Award; Dissertation Completion Award.

**Advisor: Brian Cummings**

**Matt Urich** - Innovative and Interdisciplinary Research Grant. **Advisor - Robert Bringolf**

**Rahat Wadhwa-Desai** - 1st Place, Center for Food Safety 2015 Conference; 2015 Emerging Leaders Award.

**Advisor - Mary Alice Smith**

**Rachel Worley** - 1st Place SESOT Poster. **Advisor - Jeff Fisher**

**Xian Wu** - Emerging Leaders Award. **Advisor - Steve Stice**

**Jun Zhou** - 2015 Lalor Foundation Merit Award, SSR. **Advisor - Xiaoqin Ye**



# STUDENT RESEARCH

## **YINGJIA CHEN:**

Chen, Y., Chen, X., Guo, T. L., Zhou, P. Improving the thermostability of beta-lactoglobulin via glycation: the effect of sugar structure. *Food Research International*, 2015, 69: 106-113.

## **DONNA GLINSKI:**

Van Meter, R.J., Glinski, D.A., Henderson, W.M., Garrison, W.A., and Purucker, S.T. Pesticide uptake across the amphibian dermis through soil and overspray exposures. *Archives of Environmental Contamination and Toxicology*. Accepted.

Van Meter, R. J., Glinski, D.A., Hong, T., Cyterski, M., Henderson, W. M. and Purucker, S. T. (2014). Estimating terrestrial amphibian pesticide body burden through dermal exposure. *Environmental Pollution*, 193, 262-268.

## **ERIC GOOLSBY:**

Goolsby EW. 2015. "PhyloCurve R package: Phylogenetic comparative methods for function-valued and other high-dimensional traits." *The Comprehensive R Archive Network (CRAN)*.

Goolsby EW. "Phylogenetic comparative methods for evaluating the evolutionary history of function-valued traits." *Systematic Biology*. In press.

Goolsby EW, Mason CM. 2015. "Toward a more physiologically and evolutionarily relevant definition of metal hyperaccumulation in plants." *Frontiers in Plant Science*. 6:33. doi: 10.3389/fpls.2015.00033.

## **RONG LI:**

Li, R., Zowalaty, A.E., Chen, W., Dudley, E.A., and Ye, X. (2014) Segreted responses of mammary gland development and vaginal opening to prepubertal genistein exposure in *Bscl2*<sup>-/-</sup> female mice with lipodystrophy. *Reprod Toxicol*; Epub ahead of print (PMID 25462787).

Zhao, F., Zhou, J., El Zowalaty, A.E., Li, R., Dudley, E.A., Ye, X. (2014) Timing and recovery of postweaning exposure to diethylstilbestrol on early pregnancy in CD-1 mice. *Reprod Toxicol*; 49C:48-54. (PMID: 25062584).

## **NATALIE SCHOLPA:**

Cummings B.S., Pati S., Sahin S., Scholpa N.E., Monian P., Trinquero P.O., Clark J.K. and Wagner J.J. (in press) Differential Effects of Cocaine Exposure on the Abundance of Phospholipid Species in Rat Brain and Blood. *Drug and Alcohol Dependence*.

Scholpa N.E., Zhang X., Kolli R.T. and Cummings B.S. (2014) Epigenetic Changes in p21 Expression in Renal Cells after Exposure to Bromate. *Toxicological Sciences* 141(2) 432-440.

Quach N.D., Mock J.N., Scholpa N.E., Eggert M.W., Payré C., Lambeau G., Arnold R.D. and Cummings B.S. (2014) Role of the Phospholipase A2 Receptor in Liposomal Drug Delivery in Prostate Cancer Cells. *Molecular Pharmacology* 27(9) 1496-1503  
Waters K.M., Cummings B.S., Shankaran H., Scholpa N.E. and Weber T.J. (2014) ERK Oscillation-Dependent Gene Expression Patterns and Deregulation by The Stress-Response. *Chemical Research in Toxicology* 11(10) 3443-3451.

## **JINCHENG WANG:**

Wang, J., Tang, L., Glenn, T.C., Wang, J-S. (2015). Aflatoxin B1 induced gut microbiome changes in male F344 rats. *The Toxicologist, Supplement to Toxicological Sciences*, 144(1), Abstract # 1412.

Wang, J., Tang, L., Wang, J-S. (2015). Biomarkers of dietary polyphenols in cancer studies: Current evidence and beyond. *Oxidative Medicine and Cellular Longevity*, in press.

# STUDENT PRESENTATIONS

## REGIONAL

### Southeastern Society of Toxicology, Athens GA

**Forrest Goodfellow** Steps Towards Tracking Human Neural Progenitor Stem Cells with Novel Contrast Agents. **Advisor: Steve Stice**

**Rong Li** Olfactory Defect May Contribute to Female Infertility in Olfm1(-/-) Mice. **Advisor: Xiaoqin Ye.**

**Rachel Worley** Application of the All-Ages Lead Model to Improve Evaluation of Variable Exposures. **Advisor: Jeffrey Fisher.**

### Mechanotransduction in the Reproductive Tract , Durham, NC

**Jun Zhou** Male distal reproductive tract development. **Advisor: Xiaoqin Ye**

## NATIONAL

### Military and Veterans Health Technologies Symposium, Atlanta, GA

**Forrest Goodfellow** Steps Towards Tracking Human Neural Progenitor Stem Cells with Novel Contrast Agents. **Advisor: Steve Stice**

### Regenerative Engineering and Medicine, Athens, GA

**Forrest Goodfellow** Steps Towards Tracking Human Neural Progenitor Stem Cells with Novel Contrast Agents. **Advisor: Steve Stice**

### Society of Toxicology 54th Annual Meeting, San Diego, CA

**Manoj Amaraneni** Determination of Blood-Brain-Barrier (BBB) Permeability and Uptake of Deltamethrin (DLM) in Adult Male SpragueDawley Rats Using an In Situ Brain Perfusion Technique. **Advisor: Jim Bruckner**

**Chen Chen** Age-Dependence of Toxicokinetics of Deltamethrin in Sprague-Dawley Rats. **Advisor: James Bruckner**

**Forrest Goodfellow** MR imaging of Human Neural Progenitor Stem Cells: an in vivo Longitudinal Model. **Advisor: Steve Stice**

**Ramya Kolli** Identification of Epigenetic Modifications of Cyclin-dependent Kinase Inhibitors induced by Nephrotoxicants Using Targeted DNA Methylation and Next Generation Sequencing. **Advisor: Brian Cummings**

**Natalie Scholpa** Role of Hippocampal p21 in Reward-Induced Behaviors. **Advisor: Brian S. Cummings**

**Rachel R. Worley** 1. Applications of the All-Ages Lead Model to Improve Evaluation of Variable Exposures; 2. Analysis of Measured Serum-PFOA Data Using a Physiologically-Based Pharmacokinetic Model Predicts Exposure Concentrations in a Contaminated Community. **Advisor: Jeff Fisher**

# STUDENT PRESENTATIONS

## Society of Toxicology 54th Annual Meeting, San Diego, CA (cont.)

- Jincheng Wang** Aflatoxin B1-Induced Gut Microbiome Changes in Male F344 Rats. **Advisor: J.S. Wang**
- Xian Wu** Bisphenol A Effects on In Vitro Human Neural Development Was Window of Susceptibility Dependent. **Advisor: Steve Stice**
- Kathy Xue** Synergism of Fumonisin and Aflatoxin Toxicity and the Underlying Mechanism in Nematode *Caenorhabditis elegans*. **Advisor: J.S. Wang**

## INTERNATIONAL

## 8th Int'l Conference on Remediation and Management of Contaminated Sediments, New Orleans, LA

- Lisa Luo** In Situ Remediation of Perfluorooctanoic Acid via Enzyme Catalyzed Oxidative Humification Reaction. **Advisor: Qingguo Huang**

## Gordon Research Conference, Andover, NH

- Ramya Kolli** Epigenetic Mechanisms Mediating Alterations in the Expression of Cyclin-Dependent Kinase Inhibitors Induced by Nephrotoxicants: Targeted DNA Methylation Analysis Using Next-Generation Sequencing. **Advisor: Brian Cummings**

## Society for the Study of Reproduction, San Juan, PR

- Elizabeth Dudley** Defective placentation in *Lpar3* deficient mice. **Advisor: Xiaoqin Ye**
- Ahmed El Zowalaty** Seipin Deficiency Increases Chromocenter Fragmentation and Spermatid Apoptosis Leading to Male Infertility. **Advisor: Xiaoqin Ye**
- Rong Li** Defective embryo implantation and impaired fertility were secondary effects of neuronal defect in *Olfactomedin 1* deficiency female mice. **Advisor: Xiaoqin Ye**
- Jun Zhou** Abnormal Development of Distal Paramesonephric Ducts and Mesonephric Ducts in *Lhfpl2*-mutant Mice. **Advisor: Xiaoqin Ye**

## Symposium on Fluorinated Organics in Environment, Golden, CO

- Lisa Luo** Remediation of Perfluorooctanoic Acid with Enzyme Catalyzed Oxidative Humification Reactions. **Advisor: Qingguo Huang**

# ITP SPRING WORKSHOP 2015

## PLATFORMS

- Forrest Goodfellow** MR imaging of Human Neural Progenitor Stem Cells: an in vivo Longitudinal Model  
**Advisor: Steve Stice**
- Liyun Liu** Brain Derived Neurotrophic Factor Plays a Critical Role in Botulinum Neurotoxin A Induced Neuritogenesis. **Advisor: Julie Coffield. SECOND PLACE**
- Matthew Urich** Metabolic Profiles of Intersex Largemouth Bass. **Advisor: Robert Bringolf. FIRST PLACE**
- Kathy Xue** Caenorhabditis elegans as a model system for studying the toxicological interactions of mycotoxins. **Advisor: Jia-Sheng Wang.**

## POSTERS

- Anna Adetona** The Effect of Work Task and Smoke Constituents on Airway and Systemic Inflammation in Wildland Firefighters Working at Prescribed Burns. **Advisor: Luke Naeher.**
- Manoj Amaraneni** Determination of Blood-Brain-Barrier (BBB) Permeability and Uptake of Deltamethrin (DLM) in Adult Male Sprague-Dawley Rats Using an In Situ Brain Perfusion Technique.  
**Advisor: James Bruckner.**
- Chen Chen** Toxicokinetics of Deltamethrin in Age-dependent Sprague-Dawley Rats.  
**Advisor: James Bruckner.**
- Ahmed ElZowalaty** Impaired fertility of Bsc12<sup>-/-</sup> females with lipodystrophy. **Advisor: Xiaoqin Ye. SECOND PLACE**
- Donna A. Glinski** Investigating the influence of environmental factors on pesticide exposure in amphibians. **Advisor: Marsha Black.**
- Eric Goolsby** Phylogenetic investigation of metal hyperaccumulation evolution in wild sunflowers.  
**Advisor: Lisa Donovan.**
- Min-su Kang** Aflatoxin B1 Exposure Modulates HIV to AIDS Pathogenic Progression.  
**Advisor: Jia-Sheng Wang.**
- Ramya Kolli** Identification of Epigenetic Modifications of Cyclin-dependent Kinase Inhibitors induced by Nephrotoxicants Using Targeted DNA Methylation and Next-Generation Sequencing.  
**Advisor: Brian Cummings. SECOND PLACE**
- Rong Li** Defective embryo implantation and impaired fertility were secondary effects of neuronal defect in Olfactomedin 1 deficiency female mice. **Advisor: Xiaoqin Ye.**
- Lisa Luo** Degradation of Perfluorooctanoic Acid by Enzyme Catalyzed Oxidative Humification Reactions.  
**Advisor: Qingguo Huang.**
- Natalie Scholpa** Novel roles for hippocampal p21 in reward-induced behaviors. **Advisor: Brian Cummings. FIRST PLACE**
- Rahat Wadhwa Desai** Predicting Pregnancy-Related Cases of Listeriosis through In Vitro Invasiveness and Biofilm Formation. **Advisor: Mary Alice Smith.**
- Jincheng Wang** Aflatoxin B1 induced gut microbiome changes in male F344 rats. **Advisor: Jia-Sheng Wang. THIRD PLACE**
- Rachel Worley** Application of Physiologically-Based Pharmacokinetic Modeling to Explore the Role Kidney Transporters Play in Renal Reabsorption of Perfluorooctanoic Acid in the Rat.  
**Advisor: Jeff Fisher.**
- Xian Wu** Bisphenol-A effects on in vitro Human Neural Development was Window of Susceptibility dependent. **Advisor: Steve Stice**
- Jun Zhou** Abnormal Development of Distal Reproductive Ducts in Lhfpl2-mutant Mice.  
**Advisor: Xiaoqin Ye.**

# GUEST LECTURERS



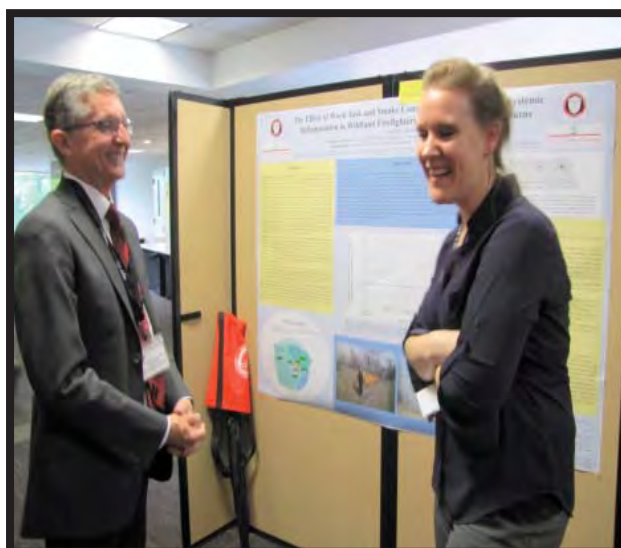
Dr. Daniel Acosta, Jr., Deputy Director for Research, FDA's National Center for Toxicological Research, attended the 2015 ITP Spring Workshop. He presented, "NCTR's Mission at FDA".

Pictured: Dr. Brian Cummings and Dr. Daniel Acosta



Dr. David M. DeMarini, Genetic Toxicologist Integrated Systems Toxicology Division, U.S. EPA, attended the ITP 2015 Spring Workshop. He presented, "Cooking with Fire: Cookstove Health Safety as Revealed by Multidisciplinary Research".

Pictured: Dr. David DeMarini and Anna Hejl



Dr. Elizabeth Irvin-Barnwell, Agency for Toxic Substances and Disease Registry Center for Disease Control and Prevention, Environmental Epidemiology Branch, joined faculty and students for a UGATOX seminar titled, "Polycythemia vera cancer cluster investigation: an update on research activities".

Pictured L to R: Min-su Kang, Dr. Jia-Sheng Wang, Dr. Elizabeth Irvin-Barnwell, Anna Hejl, Rahat Wadhwa-Desai.

Back Row: Femi Adetona, Unknown, Maggie Liu, Ramya Kolli.

# 2014-15 GRADUATES



Dr. Travis Glenn with Dr. John Finger. John is currently a Research Associate in Environmental Health Science at UGA, working in Australia.



Dr. Xiaoqin Ye and Dr. Fei Zhao. Fei is currently working as a Postdoctoral Fellow at Reproductive Developmental Biology Group, National Institute of Environmental Health Sciences (NIEHS) Triangle Research Park, N.C.



Dr. Palak Patel and Dr. Randall Tackett. Palak is currently at Grady Hospital Pharmacy, in Atlanta, as a Sr. Outcomes Research Manager



Dr. Phillip Williams and Dr. Dean Meyer. Dean is currently seeking a position in the greater Atlanta area.

**CONGRATULATIONS**

# Support the Interdisciplinary Toxicology Program

We would like to take this opportunity to invite you to make a financial contribution to the UGA Toxicology Program. You can make a secure credit card contribution online: <https://www.externalaffairs.uga.edu/os/makegift>. When doing so, please select "Other" as the Unit and type Toxicology Program in the form space given. 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 and present scientific results.

If you prefer to make a donation the old-fashioned way, please fill out this form, print it and mail it to our address below. All contributions are tax deductible.

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Phone: \_\_\_\_\_ EMail: \_\_\_\_\_

I would like to contribute to the University of Georgia Foundation. My gift will be designated for the Interdisciplinary Program in Toxicology Fund.

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 and present scientific results.

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, Rm. 341, Pharmacy South, 250 W. Green St., Athens, GA 30602. You may also make a secure credit card donation via our website at <http://www.toxicology.uga.edu>.

*Thank you!!*

# ALUMNI UPDATES

## WHAT ARE THEY DOING NOW?

Kwaku Agyekum	Founder, ToxGlobal.com
Tara Almekinder Vogeliën	Director Toxicology and Clinical Safety, Business and Research Administration NC Research Campus, Kannapolis, NC
Suzanne Baird	MACTEC, Amherst, MA
Windy Boyd	NIEHS - Biomolecular Screening - Worm Tox Group, Research Triangle Park, NC
Jason Boyd	USRA Division of Space Life Sciences, Universities Space Research Association Division of Space Life Sciences, Houston, TX
Jerry Campbell	Assoc. Director Center for Human Health Assessment, The Hamner Institute for Health Sciences, Research Triangle Park, NC
Deborah Cartwright-Iwanowicz	US Geological Survey - Leetown Science Center, Kearneysville, WV
Deanna Conners	Earthsky, <a href="http://earthsky.org/contact">http://earthsky.org/contact</a> , Austin, TX
Eva Daneke-McLanahan	Agency for Toxic Substances and Disease Registry, Atlanta GA
Amy Dixon Delinsky	US EPA Human exposure and Atmospheric Sciences, RTP, NC
Gregory Dooley	Dept of Environmental & Radiological Health Sciences, Fort Collins, CO
Nikolay Filipov	College of Veterinary Medicine Dept. of Physiology and Pharmacology, Athens, GA
John Finger	Research Associate in Environmental Health Science, UGA - Sydney, AU
Cory Gresham	Veterinarian, Colbert GA
Xianglu Han	Dow Chemical, Midland, MI
Peter Hazelton	Aquatic Toxicologist, Mass Division of Fisheries & Wildlife, West Boylston, MA
Quanren He	Director Toxicology and Clinical Safety, Biothera, Saint Paul, MN
William Matthew Henderson	Research Toxicologist, Ecosystems Research Division, US EPA, Athens, GA
Ofia Hodoh	US EPA Region 4, Atlanta, GA
Joseph Iburg	Research Professional, UGA
Victor Johnson	Toxicology and Molecular Biology Branch, Health Effects Laboratory Division, Centers for Disease Control and Prevention, Morgantown, WV
Kristen Kellock	Michigan Department of Environmental Quality, Lansing, MI
Angel Kelsey Wall	Savannah River Nuclear Solutions, Aiken, SC
Madhusudhanan K. Mathilakath,	Postdoctoral Assoc., Neuroscience Dept., Baylor College of Medicine, Houston, TX
Sang Hyun Kim	Drug Metabolism Team, NITR Korea Food & Drug Administration, Seoul, Korea
Jiyoung Kim	Research Assistant Professor, Research Institute for Veterinary Science, Seoul National University, Seoul, Korea
Brad Konwick	Postdoctoral Fellow / KADAS Environmental & Engineering, Richland, VA
Soo Kwang Lee	Food and Drug Administration Johns Creek, GA
Zhoumeng Lin	Postdoctoral Fellow, Kansas State University, Manhattan, KS
Michael Lumpkin	CTEH, Little Rock, AR
Hongbo Ma	Assistant Professor, Univ of Wisconsin, Env & Occ Health, Milwaukee/Zilber School of Public Health, Milwaukee, WI
Audrey Majeske	Human Genome Sequencing Center, Baylor College of Medicine, Houston, TX
Leena Malayil	Research Tech Ctr Trop Emerging Diseases, Athens, GA
Kristi Manning Folden	Technical Sales, OLIS, Inc., Bogart, GA
Carrie Marr	Wildlife Biologist, US Fish and Wildlife Service, Phoenix, AZ
Sheppard Martin	National Health and Environmental Effects Research Laboratory, RTP, NC



# ALUMNI UPDATES (Cont.)

Judy Mathew	Director Clinical Operations, RFS Pharma, Tucker, GA
Brooks McPhail	ORISE Post-doctoral Fellow at Centers for Disease Control, Atlanta, GA
Emily McReynolds	New Mexico
Paul C. Melstrom	Epidemiologist/Toxicologist, CDC and Prevention, Atlanta, GA
Dean Meyer	Atlanta, GA
Jay Overmyer	Syngenta, Research Triangle Park, NC
Palak Patel	Sr. Outcomes Research Mgr., Grady Hospital, Atlanta, GA
Christopher Peredney	Toxics Cleanup Program, Washington State Department of Ecology, Olympia, WA
Brianna Peterson	Forensics Toxicologist, Washington State Patrol, Seattle, WA
Jennifer Peterson	Firehall 4 Animal Hospital, Athens, GA
Guoqing Qian	Research Fellow, Emory, Atlanta, GA
Junshan Qiu	Staff Fellow FDA Center for Veterinary Medicine, Rockville, MD
Bradley Reinhart	Instructor and Lab Manager, University of South Carolina, Aiken, SC
Arena Richardson	Postdoctoral Fellow, Food & Sci Technology College, Athens, GA
Emily Rogers	Research Assistant, University of Tennessee, Knoxville, TN
Suparna Sarkar	Instructor, Barbara Davis Center for Diabetes, University of Colorado Anschutz Medical Campus, Aurora, CO
Pankaj Sethi	US EPA National Research Lab, Athens, GA
Neelesh Sharma	Faculty, Division of Veterinary Clinical Medicine, Jammu-181 102. INDIA
Patricia Shaw-Allen	U.S. Environmental Protection Agency, Cincinnati, OH
W. Aaron Shoults-Wilson	Asst. Professor, Roosevelt University, Chicago, IL.
Gideon St. Helen	Cardiovascular Research Institute University of California, San Francisco, CA
Bin Sun	Product Safety Scientist, New Chapter, Inc., Brattleboro, VT
Matthew Taylor	Ashland, Inc. , Covington, KY
Glenn E. Tillman	USDA FSIS OPHS Eastern Laboratory, Athens, GA
Chi-yen Tseng	Ph.D. student, Environmental Science, Baylor University, Waco, TX
Masashi Tsunoda	Professor, Graduate School of Medicines, Kitasato University, Sagamihara, Kanagawa 228-8555, Japan
Olga Tsyusko	Faculty, Univ. of Kentucky, Lexington, KY
Jason Unrine	Faculty, Univ. of Kentucky, Lexington, KY
Aswani Vunnava	Department of Microbiology and Immunology, Emory, Atlanta, GA
Bob Wentworth	Emergency Preparedness Manager, Barrow Hall, UGA , Athens, GA
Denita Williams	Toxicologist, Huntingdon Life Sciences, Somerset, NJ
Lonnie W. Williams	Kimberly Clark – Roswell, GA; Burdock Group, Vero Beach, FL
Li Xu	Postdoctoral Fellow, Univ. of Texas MD Anderson Cancer Center, Houston, TX
Neera Chhabra Young	Science Teacher, Lakeside HS, Augusta, GA
Shuo Xiao	Postdoctoral Fellow, Northwestern Univ. Medical School, Chicago, IL
Xiaoling Zhang	University of Pennsylvania
Fei Zhao	Postdoctoral Fellow, Reproductive Developmental Biology, NIEHS, RTP, NC

**This list represents the latest placement info we have on our graduates.  
If you have additional information, please send it to  
toxinfo@uga.edu or call (706) 583-0058**

# TOXICOLOGY SNAPSHOTS



# INTERDISCIPLINARY TOXICOLOGY PROGRAM ALUMNI

## 1997

Kelley Ann Boyle Van Vreede, M.S.

## 1998

Ilho Cho, M.S.

Nikolay Miltchev Filipov, Ph.D.

Wu Li, Ph.D

Slaw

omir Jacek Rzucidlo, Ph.D.

Daniel John Schoeffner, Ph.D.

Jeannie Lee Stephenson, M.S.

Masashi Tsunoda, Ph.D.

Robert Wesley Wentworth, Ph.D.

## 1999

Judy S. Mathew, M.S.

Christopher Lee Peredney, M.S.

Karen Marie Zepp, M.S.

## 2000

Beverly Schleppe Arnold-Hill, Ph.D.

Kevin Anthony Holloman, Ph.D.

Carrie Hamilton Marr, M.S.

## 2001

Neera Vintra Gopee, Ph.D.

Taras K. Oleksyk, Ph.D.

Suparna Ajoy Sarkar, Ph.D.

## 2002

Windy Ann Boyd, Ph.D.

Gregory Patrick Dooley, M.S.

Ofia B. Hodoh, M.S.

Vic Johnson, Ph.D.

Michael Harrison Lumpkin, Ph.D.

Jay Paul Overmyer, Ph.D.

Sarah Suzanne Rentz, M.S.

Patricia Lynn Shaw-Allen, Ph.D.

Lonnie Dwayne Williams, M.S.

## 2003

Jason Lamar Boyd, Ph.D.

Russell David Cole, M.S.

James Claude Cumbee Jr., M.S.

Shashank Dravid, Ph.D.

Kristi Manning Folden, M.S.

Sang Hyun Kim, Ph.D.

Audrey Jean Majeske, M.S.

Bradley David Reinhart, M.S.

## 2004

Tara Lynn Almekinder, M.S.

Heather A Brant, M.S.

Jerry Lamar Campbell Jr., Ph.D.

Deanna Erin Connors, Ph.D.

Amy Dixon Delinsky, Ph.D.

Amber Lynn Graves, M.S.

Xianglu Han, M.S.

Quanren He, Ph.D.

Jiyoung Kim, Ph.D.

Brad Konwick, M.S.

Elizabeth Ann Richardson, M.S.

Emily Dawn Rogers, M.S.

Olga Vasyliyva Tsyusko, Ph.D.

Jason M. Unrine, Ph.D.

Angel K. Wall, M.S.

Neera Chhabra Young, M.S.

## 2005

Kathy Dietzel, M.S.

Ryan Richard Holem, M.S.

Catherine J King, M.S.

Gregory N Oquinn, M.S.

Tonia Marie Parrott, Ph.D.

Jennifer Hoffman Peterson, M.S.

Neelesh Sharma, Ph.D.

## 2006

William Matthew Henderson, Ph.D.

Carey C Hines, Ph.D.

Molly Visser Schaefer, M.S.

Denita Williams, M.S.

Lonnie Dwayne Williams, Ph.D.

## 2007

Deborah Iwanowicz, Ph.D.

Kristen Kellock, M.S.

Kyu-Bong Kim, Ph.D.

Sookwang Lee, Ph.D.

Eva Daneke McLanahan, Ph.D.

Paul Melstrom, Ph.D

Brianna Peterson, Ph.D.

Glenn Tillman, M.S.

Aswani Vunnava, M.S.

## 2008

Tantiana Donata Burns, Ph.D

Curtis Andrew Harris, Ph.D

Elizabeth Irvin, Ph. D.

Lakshmi Kelamangalath, Ph.D.

Brooks McPhail, Ph.D

Michelle Warner Norris, M.S.

Junshun Qiu, Ph.D.

David Robert Rouse, M.S.

Matthew Aaron Taylor, Ph.D.

William Shoults-Wilson, Ph.D

## 2009

Susan Baird, M.S.

Suzy Ritger Crowell, Ph.D.

Hongbo Ma, Ph.D

Leenal Malayil, M.S.

## 2010

Ghanashyam Joshi, M.S.

Suyang Liu, M.S.

Sheppard Martin, Ph.D.

Arena Richardson, Ph.D.

Bin Sun, Ph.D.

Denita Williams, Ph.D.

Li Xu, Ph.D.

## 2011

Olorunfemi Adetona, Ph.D.

Gideon St. Helen, Ph.D.

Shirley Zhang, Ph.D.

## 2012

Adwoa A. Commodore, Ph.D.

Quoging Qian, Ph.D.

## 2013

Kwaku Agyekum, Ph.D.

Cory Gresham, Ph.D.

Peter Hazelton, Ph.D.

Kristen Kellock, Ph.D.

Zhoumeng Lin, Ph.D.

Emily McReynolds, Ph.D.

Pankaj Sethi, Ph.D.

Chi-yen Tseng, Ph.D.

Shuo Xiao, Ph.D.

## 2014

John Finger, Ph.D.

Joseph Iburg, Ph.D.

Madhusudhanan M.

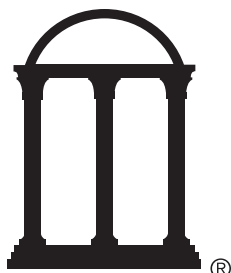
Keralapurath, Ph.D.

Palak Patel, Ph.D.

Fei Zhao, Ph.D.

## 2015

Dean Meyer, Ph.D



The University of Georgia  
Interdisciplinary Toxicology Program  
Rm 341, Pharmacy South  
Green St.  
Athens, GA 30602