Rusyn Joins TAMU Faculty

Ivan Rusyn is Professor in the Department of Veterinary Integrative Biosciences in the College of Veterinary Medicine and Bio-medical Sciences at Texas A&M University, and a new member of the IFT. Prior to joining the TAMU faculty in September, Dr. Rusyn was professor of Environmental Sciences and Engineering at the University of North Carolina at Chapel Hill. Dr. Rusyn received his MD from Ukrainian State Medical University in Kiev and his PhD in toxicology from the University of North Carolina-Chapel Hill.

Dr. Rusyn’s areas of research and scholarly endeavors are toxicology and environmental health sciences. He has an established record of academic excellence developing highly mechanistic approaches to elucidate the potential effects of environmental pollutants and other anthropogenic stressors on human health. Dr. Rusyn’s laboratory has an active research portfolio with a focus on the mechanisms of action of environmental toxicants, the genetic determinants of the susceptibility to toxicant-induced injury, and computational toxicology. His studies on health effects of environmental agents have resulted in over 150 peer-reviewed publications. Dr. Rusyn is recognized as a national and international authority and leader on complex problems in environmental health and human health assessments. He has served on several National Research Council committees and is currently a member of the Committee on Emerging Science for Environmental Health Decisions, the Committee on Toxicology, and the Committee on Incorporating 21st Century Science in Risk-Based Evaluations. He also served as Chair of the Mechanistic and Other Evidence subgroup, or as the overall Chair, of many WHO’s International Agency for Research on Cancer working groups developing the Monographs on the Evaluation of Carcinogenic Risks to Humans. He is a very active participant in the Society of Toxicology where he has served in both appointed (Scientific Program Committee, Board of Publications) and elected (Councilor, 2012-2015, and Treasurer/Secretary of the Carcinogenesis Specialty Section) roles. Dr. Rusyn serves on the editorial boards for Toxicological Sciences, Toxicology & Applied Pharmacology, Environment International, and Environmental Research.

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Welcome to New IFT Faculty

Dr. Michael Golding is an Assistant Professor in the Department of Veterinary Physiology & Pharmacology. He teaches courses in human embryology and the physiological events of pregnancy. His research focuses on the biochemical mechanisms in which chromatin structure is altered during development, and the resulting regulation of gene expression. He is interested in the mechanisms that recruit epigenetic modifiers to specific cohorts of genes, and identifying the biochemical machinery directing the process. His lab seeks to understand how these events are impacted by environmental toxins and teratogens, and how these interactions contribute to the development of both birth defects and failed pregnancies, most recently the epigenetic defects arising from prenatal alcohol exposure.

Dr. Virender Sharma is a Professor and Interim Head of the Department of Environmental and Occupational Health in the TAMHSC School of Public Health. The research in his laboratory focuses on two topics: iron-based solutions to environmental and human health issues, and the formation and toxicity of nanoparticles in the aquatic environment. Ferrates can destroy a variety of pollutants, toxins and pathogenic microorganisms. The research focus is to design appropriate remediation and water treatment technologies, as ferrates in combination with solar light provide green and innovative sustainable treatment strategies in water. His nanoparticle research focuses on the green synthesis of silver nanoparticles, their unique optical, catalytic, sensing and antimicrobial properties, and their influence on environmental health.

Graduates

Samantha Francis-Stuart received her MS in May 2014 with Dr. Alice Villalobos, and is now a PhD student at UC Davis.

Chandni Praveen received her PhD in May 2014 under the guidance of Dr. Suresh Pillai. She has now returned to India and will soon begin a career there.

Vijayalekshmi Nair received her PhD in August 2014 with Dr. Steve Safe. She lives in Fargo, ND and will be a postdoctoral fellow at North Dakota State University.

Katie Zychowski received her PhD in August 2014 under Dr. Tim Phillips’ guidance. She now resides in the Albuquerque, NM area and works as a postdoctoral fellow at the University of New Mexico.

Applause

Vijayalekshmi Nair and Katie Zychowski were dual recipients of the 2014 George T. Edds Award. The Edds Award is given to Outstanding Students in Toxicology, and was presented on April 4, 2014 at the annual College of Veterinary Medicine and Biomedical Science’s Honors Convocation.

Patali Shikhi Cheruku, an Undergraduate Research Applause, Scholar from Dr. Beiyan Zhou’s laboratory was selected for the NIH post-baccalaureate program. Continued on page 3
New Graduate Students

Yating Cheng transferred to TAMU from the TAMHSC in the Spring 2014 semester. She has a BS in Biology from China Agricultural University, and an MS from Charite Universitaetsmedizin in Berlin, Germany. She works in Dr. Safe’s lab and is interested in cancer prevention and treatment.

Cody Maki began graduate studies in Dr. Phillips lab in the summer of 2014. He has a BS in Bioenvironmental Science from TAMU and is interested in environmental toxicology and water resources.

Meichen Wang began graduate studies this semester in Dr. Tian’s lab. She received a BS in Pharmaceutical Engineering from the Beijing University of Chemical Technology, and is interested in all aspects of pharmacology and toxicology.

Melanie Warren is a new student in Dr. Threadgill’s lab. She began graduate studies in the Fall 2014 semester. She earned a BS in Biology from Louisiana State University and hopes to make an impact with cell biology and immunology research.

Melinda Wilson is in her first semester of graduate school in Dr. Rusyn’s lab. She has a BS degree in Biology and Environmental Science from the University of Portland. She enjoys hiking and other outdoor activities which fit with her research interests of environmental toxicology and persistent environmental chemicals.

Applause continued from page 2

She will spend two years at the National Heart, Lung, and Blood Institute working on transplant technology. Her future plans are to attend medical school and become a transplant specialist.

Congratulations to Dr. Robert Burghardt, the newly appointed Associate Dean for Research and Graduate Studies for the College of Veterinary Medicine and Biomedical Sciences.

Congratulations to Dr. Mike Criscitiello and Dr. Scott Dindot who were promoted from Assistant to Associate Professors in the Departments of Veterinary Pathobiology and Veterinary Integrative Biosciences, respectively.

Dr. Louise Abbott, Professor in the Veterinary Integrative Biosciences Department received a 2014 Presidential Professor for Teaching Excellence Award, the most prestigious faculty honor bestowed by the University. Dr. Abbott joined the faculty in 1994 and in addition to teaching, is a renowned scholar in developmental toxicology focused on the effects of mercury on the developing nervous system.

Dr. Cheryl Walker, Professor and Director of the TAMHSC Institute of Biosciences & Technology has been selected to chair the University Advisory Committee (UAC) of the Cancer Prevention and Research Institute of Texas (CPRIT). The UAC advises the Oversight Committee on the role of higher education in cancer research and provides perspective for the agency from the academic cancer research community.
Research Feature:  
Aflatoxin Studies in Kenya  
Contributed by Amelia Romoser, Ph.D.

Frequent aflatoxin exposure can cause growth stunting, immunosuppression, liver cancer, and death. A maize-based diet is thought to increase the likelihood for exposure in parts of the world conducive for the growth of Aspergillus fungi. Dr. Timothy Phillips has devoted the last 30 years of his career to the development of novel sorbents for safe and effective mitigation of mycotoxins and other environmental contaminants. Phillips has shown in multiple human and animal trials that a refined calcium montmorillonite (UPSN, ACCS100) is an effective aflatoxin enterosorbent and may be suitable for use in emergency outbreaks. Recent results from his children’s study in Ghana indicated that this material was safe for the duration of the trial (2 weeks) and reduced urinary aflatoxin metabolite (AFM$_1$) by an average of 78% when 1.5g UPSN was mixed into the food each day.

As a result of Dr. Phillips’ research, the Centers for Disease Control (CDC) invited his laboratory to collaborate on a 3 week crossover study in the Eastern Province of Kenya. This region has reported recent outbreaks of aflatoxicosis, the last of which caused a fatality rate of approximately 40% in exposed children. This study, which was paid for by the CDC Innovation Fund, will answer important questions regarding diet, as well as ACCS100 palatability, acceptability, and efficacy using a new water delivery method. Dr. Amelia Romoser (Phillips’ Research Associate) and Sarah Elmore (Senior PhD Student) served as a team leader and laboratory technician, respectively, during this field work that took place from August to September, 2014. They joined partners from CDC-Atlanta, CDC-Kenya, Kenya Medical Research Institute, and Kenya Ministry of Health and Sanitation to accomplish the planning and intervention stages of the research.

Since returning home, Ms. Elmore has begun analysis of 750 urine samples to determine differences in the AFM$_1$ exposure biomarker between placebo and ACCS100 groups. CDC team members will analyze dietary intake, palatability and acceptability data. If ACCS100 is determined to be efficacious and acceptable in these rural Kenyan communities, the CDC plans to carry out a larger study which will provide additional necessary information prior to large-scale implementation for outbreaks. The findings from this research will be of direct relevance to vulnerable populations in developing countries where avoidance of foods containing high levels of AFs is neither feasible, nor practical.
Fall 2014 Toxicology Seminar Series

Mondays @ 3:30 PM
Room 423 Veterinary Medical Research Building (VMRB)

Sept. 8  Jean-Philippe Pellois, PhD, Biochemistry and Biophysics, Texas A&M University
“Delivery of Proteins into Live Human Cells: Virus-inspired Strategies and Therapeutic Opportunities”

Sept. 15 Mahua Choudhury, PhD, Irma Lerma Rangel College of Pharmacy, Texas A&M Health Science Center
“Phthalates – An Invisible Epigenetic and microRNA Modulator”

Sept. 22 Dorothy Shippen, PhD, Biochemistry & Biophysics, Texas A&M University
“Regulation on the Edge: Telomere Dynamics and Evolution”

Sept. 29 Virender Sharma, PhD, Environmental & Occupational Health, School of Public Health, TAMHSC
“High-Valent Iron Species as Green Material in Disinfection and Detoxification of Water”

Oct. 6  Farida Sohrabji, PhD, Neuroscience & Experimental Therapeutics, Texas A&M Health Science Center
“Therapeutic Strategies for Ischemic Stroke: Role of microRNA”

Oct. 13 Ravikumar Majeti, PhD, Pharmaceutical Sciences, Texas A&M Health Science Center
“What it Takes to Deliver Bioactives”

Oct. 20 Trainee Presentations
1) Sarah Elmore, Toxicology PhD student in Dr. Tim Phillips’ laboratory
“Aflatoxin Exposure in Texas and Kenya: A Global Concern”
2) N. Roberto Fuentes, Jr., Toxicology PhD student in Dr. Robert Chapkin’s laboratory
“A Novel Role for Dietary Bioactives in Modulating Membrane Order in the Regulation of Oncogenic K-Ras”

Oct. 27 Friedhelm Schroeder, PhD, Veterinary Physiology & Pharmacology, Texas A&M University
“Impact of Human L-FABP T94A Variant on Neutraceutical and Xenobiotic Response in Human Primary Hepatocytes”

Oct. 30 Special Seminar Co-Hosted by Small Animal Clinical Sciences and Large Animal Clinical Sciences
12:30 PM
David Lloyd, PhD, Royal Veterinary College, University of London
“History and Current State of Methicillin Resistant Staphylococcus”

Nov. 3  Li Ma, PhD, Experimental Radiation Oncology, University of Texas MD Anderson Cancer Center
“Determinants of Breast Cancer Progression”

Nov. 10 Trainee Presentations
1) Jairus Pulczinski, MSPH student in Dr. Natalie Johnson’s laboratory
“Biomarkers of Exposure to Traffic-related Air Pollution in Vulnerable Populations”
2) Rachel Botchlett, Nutrition PhD student in Dr. Chaodong Wu’s laboratory
“Overnutrition-induced Inflammation in Intestinal Epithelial Cells”

Nov. 17 Guang Wei Du, PhD, Integrative Biology & Pharmacology, Univ. of Texas Health Science Ctr-Houston
“Phospholipid Signaling in Cancer and Vascular Injury”

Nov. 24 Nancy Turner, PhD, Nutrition and Food Science, Texas A&M University
“Dietary Components that Support Intestinal and Systemic Health”
Dr. Sandra Hong graduated from the program in 1997 under the advisorship of Dr. Evelyn Tiffani-Castiglioni and Dr. Stephen Safe. Her doctoral research focused on the neuroactivity of dioxins and polychlorinated biphenyls, organophosphorus pesticides, and chemical warfare agents. During her studies at Texas A&M, she assisted Dr. K.C. Donnelly in conducting EPA guidance risk assessments for Superfund Sites under his company, Environmental Reclamation Associates. These overall experiences inspired her to pursue a career in toxicology consulting.

Upon graduation, Sandra worked for ExxonMobil Biomedical Sciences, Inc. as a multidisciplinary toxicologist in the role of product stewardship and laboratory methods development. She became the toxicology lead on petrochemical base oils, including international classification and labeling requirements, refinement of short-term test methods and data analysis approaches for predicting dermal carcinogenic potential, and leadership of the toxicology emergency response team for responding to health concerns arising from accidental spills, explosions, and worker exposures.

After 6 years in industry, Dr. Hong joined Exponent, Inc. where she has spent the past 11 years performing risk assessments and toxicology evaluations of numerous types of agents, including solvents, bacteriological pathogens, heavy metals, gases, and petroleum streams. She is currently the corporate lead on cosmetics safety, supporting a wide range of multi-national and start-up clients on the safety and regulatory compliance of new and existing personal care product formulations and specialized ingredients.

Dr. Hong and her husband of 16 years have two daughters, ages 13 and 9. They currently reside in Southern California where she was born and raised. Her hobbies include piano, voice, travel, photography, and walks on the beach with her family.

She has a special appreciation for the Toxicology program at Texas A&M University. In addition to the professional opportunities she has been given as a graduate of the program, she continues to appreciate the special rapport fostered by the pioneers of the program, including Dr. Safe, Dr. Phillips, and Dr. Castiglioni. Her advice to current students is to explore the many facets of the program and to appreciate the experience while an active part of it.

Dr. Cody Wilson, a 1997 graduate of the Toxicology Program, studied dioxins and donuts under Dr. Steve Safe. His dissertation work focused on protein variants in the Ah Receptor signaling pathway in human breast cancer cells and tumors. Upon graduation, Cody was commissioned as a Lieutenant in the United States Navy, where he served in a range of toxicological research and operational assignments including service in Iraq. Upon leaving active duty, he served as a Research Scientist and Coordinator for External Affairs of the National Center for Foreign Animal and Zoonotic Disease Defense, a U.S. Department of Homeland Security University Center of Excellence based at Texas A&M. In 2006, Cody joined the RJ Reynolds Tobacco Company to lead the Methods of Toxicological Assessment group in Winston-Salem, North Carolina. Following a five-year stint at RJR, Dr. Wilson joined SC Johnson and Son, Inc. in 2010, where he most recently served as Director, Regulatory Affairs for Asia-Pacific and was based with his family in Shanghai, China from 2011 until April 2014 (如果你是中国学生, 我的中国名字是韦迪).

In his current position, Cody leads the Food Safety Center of Excellence at The Coca-Cola Company in Atlanta. In this role, he leads a team of toxicologists and chemists in assuring the safety of ingredients, food contact materials, and crop protection technologies for 500+ brands sold in 209 countries around the world. He enjoys spending his free time as a registered leader of Boy Scout Troop 370 in Atlanta, cheering on his kids in competitive climbing and swimming, and competitive eating (as in competing with his kids for the last donut). He is married to Dr. Karen Wilson, a veterinarian (TAMU ’94 and ’98). They have a son, age 14, and twin daughters, age 11.

His advice to current students is to recognize that career options for a toxicologist are very broad. Prepare yourself for anything by developing a rock-solid technical foundation, maintaining your integrity, seeking out and striving to excel in any leadership role you can find, learning how to write, and learning how to play as part of a team both as a leader and a follower. Above all, resolve to give your best in any task you undertake and have fun doing it. These fundamentals are valued by any employer, whether academic, public sector, private sector, or non-profit.
Toxicology Polo Shirts

The IFT has a new logo which is shown above, and available on both maroon and black polo shirts. They are available in men’s and women’s styles in traditional cotton pique or dri-fit fabrics, and in a complete range of adult sizes. Prices are dependent on style, fabric and size, but most are $22-26 plus shipping. If you’d like to order, send the following information by email to kdaniel “at” cvm.tamu.edu:

- Quantity
- Style: Men’s or Women’s
- Shirt Color: Maroon or Black
- Fabric: Cotton Pique or Dri-Fit
- Size: XS, S, M, L, XL, 2X, 3X, 4X

Newsletters are on our Website

Back issues of this newsletter may be accessed in the Archives section of our website. Scanning the QR code below will give you quick access to the website, or go to http://toxicology.tamu.edu.

Your contributions for future newsletters are appreciated and can be mailed to kdaniel “at” cvm.tamu.edu.