

Interdisciplinary Graduate Program in HUMAN TOXICOLOGY

December 31, 2024



Human Toxicology former and current students with faculty at the
SOT Annual Meeting in Salt Lake City.

Dear students, faculty, alumni, and friends of the Human Toxicology Program,

Through diligence and awesome team science among our faculty, staff and students, and the contributions from our alumni, the progress of the Human Toxicology Program continues to be impressive. The program added two new faculty in 2024 and are currently recruiting new students and additional faculty for 2025.

Human Toxicology Program students, faculty and alumni have received many accolades and prizes this past year. We have listed a few on the following pages, along with some milestones. We apologize if we missed yours. Please keep us updated about your achievements, we are eager to share them with our program family!

Please continue to spread the word about our program. We are looking for talented students, passionate about learning toxicology. We certainly wish you the very best for 2025 and would love to welcome you at the Society of Toxicology Annual Meeting in Orlando (please join us for the UI HTP lunch gathering at noon on March 17th at Kavas Tacos) or in Iowa City when you are in the neighborhood.

Our very best wishes for the New Year,

Please check out our website at
<http://toxicology.grad.uiowa.edu/>



Peter S. Thorne, PhD

University of Iowa Distinguished Professor
Director, Human Toxicology Program
University of Iowa

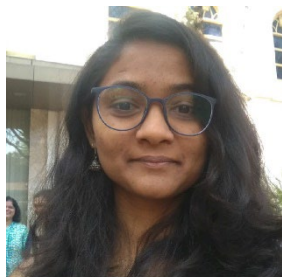
peter-thorne@uiowa.edu

<http://toxicology.grad.uiowa.edu/>

Student News:

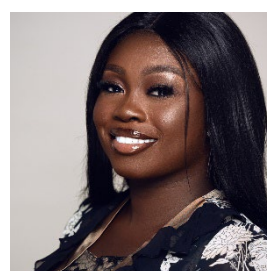
Students Receive Research Fellowships

The Human Toxicology Program has been successful in submitting and receiving Fellowship Awards from the UI Graduate College. This year we received five awards! **Chunling Chen** (far left) and **Priyanka Newase** (second from left) received the Post Comprehensive Research Award for Spring 2024 and Fall 2024, respectively. **Ya'u Adamu** (middle) received the Ballard Seashore Fellowship for Fall 2024. **Ishrat Nourin Khan** (second from right) and **Michelle Wei** (far right) were awarded 2024 Summer Fellowships from the Graduate College.



Students Receive Awards

Several Human Toxicology Program students received awards this year. **Jyoti Arora** (lower left picture) was awarded best poster presentation at the Jakobsen Research Showcase. **Nicole Breese** (second from left) was awarded a second place at the Jakobsen. **Nicole** and **Ya'u Adamu** (above) were awarded KC Donnelly Fellowships from the NIEHS. **Shri Vishalini Rajaram** (second from right) was awarded first place at the AADOCR Iowa Conference. She and **Darasimi Atanda** (far right below) created a comic book and play about PCBs that was featured in Synthesis: A Digital Journal of Student Science Communication. Students awarded travel grants included **Allie Daniel**, **Mahbube Jafari**, **Shri Vishalini Rajaram**, **Yuying Zhao**, **Nusaira Shahab**. Students with publications this year included **Jyoti Arora**, **Alyssa Daniel**, **Ya'u Adamu**, **Chunling Chen**, and **Kshitij Deshmukh**.



Human Toxicology Program Hosts 2024 CS-SOT Meeting






The University of Iowa Human Toxicology Program (HTP) hosted a joint meeting of the Central States and the Midwest Regional Chapter Societies of Toxicology on October 17-18, 2024. Nineteen Human Toxicology Program students attended the meeting. Dr. Peter Thorne, CSSOT President and HTP Director, organized the meeting. HTP students Alyssa Daniel, Priyanka Newase, Jyoti Arora, Shri Vishalini

Rajaram, and Mahbube Jafari gave oral presentations. Nicole Breese, Abu Ebrahim Siddique, Oluwadarasimi Atanda, Kshitij Deshmukh, Sean Brobston, Edozie Okpara, Ya'u Adamu, Milica Pavlovic, Pintu Miah, and post-doc Laura Dean presented posters. Darasimi and Ya'u tied for best poster presentations. Mahbube won second best oral presentation.

Student Advisory Committee Keeping Very Busy!

The Human Toxicology Program Student Advisory Committee was created in the Fall of 2020. In 2023 they became a Recognized Student Organization under the Graduate and Professional Student Government (GPSG). With funds from the GPSG they organized a lab coat ceremony for students who had not previously had the opportunity to do the lab coat ceremony when they started the program. They met with Dr. Thorne several times to offer suggestions about the program. They matched with potential Human Toxicology PhD applicants to assist them in the application process. They have continued their diversity and inclusion initiative to assist domestic and international students. They hosted several potlucks this year. They continued their student-run journal club and hosted several Lunch and Learn sessions with Toxicology Seminar speakers.

The members serving this year include Chair: **Priyanka Newase**, Vice-Chair: **Shri Vishalini Rajaram**; Secretary: **Brianna Haase**; Programming Directors: **Milica Pavlovic and Ebrahim Siddique** DEI Directors: **Rachel Crawford and Reza Amani**; Treasurer: **Mahbube Jafari** and First Year Liaison **Samuel Edozie Okpara**. You can view their website at <https://toxicology.grad.uiowa.edu/student-advisory-committee>.

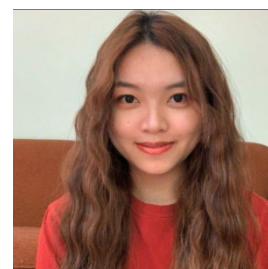
Please also visit us on Twitter (@UiowaT), Instagram (HumanTox.Iowa), and LinkedIn (University of Iowa Human Toxicology Program).   

Congratulations to Our 2024 PhD Graduates!



Jyoti Arora's dissertation is titled; "T Cells Enhance Natural Killer Cell Antibody Dependent Cellular Cytotoxicity." Her dissertation committee was Dr. George Weiner (mentor), Dr. Andrean Simons-Burnett, Dr. Adam Mailloux, Dr. Aliasger Salem, and Dr. Christopher Strouse. She graduated in December 2024. Jyoti is a Postdoctoral Fellow at the Holden Comprehensive Cancer Center.

Chunling Chen's dissertation is titled; "Behavioral and Biochemical characterization of mouse models of Hough-Janssens syndrome 1/PPP2R5D-related neurodevelopmental disorders" Her dissertation committee was Dr. Stefan Strack (mentor), Dr. Hanna Stevens, Dr. Marie Gaine, Dr. Aislinn Williams, and Dr. Snehajyoti Chatterjee. She graduated in December 2024.



MM Hasibuzzaman's dissertation is titled; "The Protective Effect of Alamandine on Isoproterenol-Induced Cardiac Dysfunction, Remodeling, and Immune Responses in Rat." His dissertation committee was Dr. Andrean Simons-Burnett (mentor), Dr. Aliasger Salem, and Dr. Gabriel Ludewig, Dr. George Weiner, and Dr. Joseph Caster. He graduated in May 2024. Hasib is an Assistant Research Scientist at Perspective Therapeutics.



Nafis Md Irfan's M.S. thesis is titled; "The Protective Effect of Alamandine on Isoproterenol-Induced Cardia Dysfunction, Remodeling, and Immune Responses in Rat." His thesis committee was Dr. Shunguang Wei (mentor), Dr. Jong Sung Kim, and Dr. Mark Chapleau. He graduated in May 2024. Nafis is a PhD student in the Free Radical and Radiation Biology Program.

Vingie Ng's dissertation is titled; "Characterizing E-cigarette Aerosol Exposure in Mouse Models of Asthma, Pregnancy, and EVALI " Her dissertation committee was Dr. Peter Thorne (mentor), Dr. Michael Duffel, Dr. David Meyerholz, Dr. Thomas Peters, and Dr. Sabrina Scroggins. She graduated in May 2024. Vingie is a Senior Toxicologist at 3M.



Neha Paranjape's dissertation is titled; "Astrocytes as targets of lower chlorinated biphenyls" Her dissertation committee was Dr. Jonathan Doorn (mentor), Dr. Hans-Joachim Lehmler, Dr. Micheal Dailey, Dr. Micheal Duffel, and Dr. Kai Wang. She graduated in May 2024. Neha is an Assistant Research Scientist at Perspective Therapeutics.

Casey Pulliam's dissertation is titled; "Enhancing Non-Small Cell Lung Cancer Therapy with Superoxide Dismutase Mimetics and Pharmacological Ascorbate" His dissertation committee was Dr. Douglas Spitz(mentor), Dr. Joseph Cullen, Dr. Mitchell Coleman, Dr. Bryan Allen, and Dr. Garry Buettner. Casey graduated in December 2024.



Michelle Wei's dissertation is titled; "The Development, Evaluation, and Field Validation of Biocide Functionalized Nanofiber Material for the Application of Disposable Personal Protection Equipment." Her dissertation committee was Dr. David Cwiertny(mentor), Dr. Matt Nonnenmann, Dr. Peter Thorne, Dr. Jong Sung Kim, and Dr. Patrick T. O' Shaughnessy. She graduated in December 2024.

Yuying Zhao's dissertation is titled; ""Adipocyte Mechanisms Mediating Metabolic and Cardiovascular Homeostasis." Her dissertation committee was Dr. Kamal Rahmouni (mentor), Dr. Valerie Sheffield, Dr. Ethen Anderson, Dr. Ling Yang, and Dr. Aloysius Klingelutz. She graduated in December 2024.



The Human Toxicology Program Welcomed Six New Students This Year:



Sean Brobston (top row second from right) graduated from LeTourneau University in Longview, Texas with a B.S. in Biomedical Sciences and a minor in chemistry. During his time as an undergraduate, he participated in the SEA-PHAGES program discovering and annotating novel bacteriophages as well as leading toxicological research on chalcones as potential UV sunscreen substitutes. He also started analytical research on lead level emissions from non-jet fueled aircrafts and the phytoremediative potential of several plants for monitoring the lead levels.

The field of toxicology captivated his interest while preparing for medical school, ultimately leading to his pursuit of a Ph.D. Since delving into the world of toxicology, each facet of toxicology has uniquely piqued his interest in the field. Outside of school, he loves playing table tennis, doing anything outdoors, playing guitar, and other forms of art.

Farah Noshin Chowdhury (top row second from left) is from Dhaka, Bangladesh. She completed her Bachelor's and Master's on Environmental Sciences from Jahangirnagar University; and has worked on research in the domains of ecotoxicology and public health prior to joining the University of Iowa.

She wishes to study the uncharted impacts on health caused by the disparities in nature and is interested in holistically studying the toxicity of environmental chemicals in humans in a bottom-up approach; working from cellular toxic impacts to evaluating ultimate physiological markers of toxic stress induced diseases.

Her ambition is to conduct more critical research on human toxicology. On top of that, Iowa City being named as the third city of literature globally indicated to her a collective air of creativity in the city and in this university campus. Being an adept reader of literature, history and mythology myself she could not but be more interested to be a part of this community.

Safa Kalteh (bottom row far left) was born and raised in Gonbad-e-Kavoos, Iran. He studied at Shahroud University of Medical Sciences, where he pursued a degree in Environmental Health Engineering. For his MS he attended Tehran University of Medical Sciences. During his master's studies, he delved into human health risk assessment, focusing my dissertation on the dietary health risks associated with Polycyclic Aromatic Hydrocarbons (PAHs). After earning his master's degree, he served as a research assistant at Shahid Beheshti Medical University, deepening his expertise in exposure assessment and the impact of environmental chemicals on human health. His growing interest in the biochemical processes activated after chemical exposure led him to pursue further studies.

Outside the lab, he maintains his physical and mental well-being through diverse activities such as rock climbing, swimming, volleyball, ping pong, and sprinting. He also enjoys attending social events, gathering with friends, reading books, and watching movies.

Cassidy Kline (bottom row far right) graduated from the University of Denver with my B.S. in Biochemistry in 2023. During and after my undergraduate studies, she participated in research on mechanisms of cell corpse clearance in *C. elegans* embryos. Her primary objective revolved around elucidating the method of LC3

localization to phagolysosomes, building upon previous findings that underscored the essential role of LC3 in cell corpse clearance. Through her coursework and experience in the lab, she became fascinated by biological adaptations to radiation and reactive molecules.

She grew up in Eastern Iowa making the University of Iowa part of what she considers home. Beyond science, she loves being in nature, working out, and playing competitive games.

Pintu Miah (top row middle) hails from Dhaka, Bangladesh, where he embarked on my journey into the field of pharmaceutical sciences. He graduated from North South University in Dhaka, Bangladesh with a bachelor's in pharmaceutical sciences. While pursuing my Bachelor's, he delved into various research projects centered around obesity, metabolic syndrome, and oxidative stress in rat models.

After receiving his BS he transitioned to the pharmaceutical industry, where he honed his skills in research and development at a prominent company in Bangladesh.. In pursuit of further academic career, he seized the opportunity to pursue a Master's in Pharmaceutical Science at Rowan University in New Jersey. There, he was deeply immersed in the realm of behavioral neuroscience as a research assistant at Keck's Lab, focusing on the development of novel compounds for analgesics within mice model.

He enjoys discovering new places and meeting different people. He loves playing volleyball, cricket, and soccer. Cooking is another one of his passions; whenever he has free time, he likes to try his hand at making tasty Bengali dishes.

Edozie Samuel Okpara's (top row far right) interest in Toxicology as a possible career path, was berthed during the course his first master's degree training in Biochemistry (Molecular Drug Metabolism and Toxicology Concentration) at the University of Ibadan (UI), Nigeria. Even though he knew very little about toxicology as an undergraduate student of Biochemistry, University of Nigeria Nsukka, this immediately changed when he came under the tutelage of Professor E.O. Farombi. Professor Farombi exposed him to the world of Xenobiochemistry and free radical biochemistry by the tons of manuscripts he made us read and discuss on such topics as oxidative stress, plant-based phytochemicals (like curcumin, resveratrol, 6-gingerol, protocatechuic acid and so forth), chemoprevention, drug and xenobiotic hepatic biotransformation, zone-3 hepatocytes just to mention a few.

As a result, he developed an undying passion for toxicology which continued right into his second master's degree in Public Health (at the Southern Medical University, Guangzhou China) where Professor Yungang Liu further drew important correlations between exposure to environmental toxicants [such as polychlorinated biphenyls (PCBs), heavy metals and others] and the onset of human pathologies. Interestingly, Professor Yungang Liu was also a postdoctoral Research Scholar at our University of Iowa (Nov. 2003-Aug. 2009), taking part in the Superfund Basic Research Program, investigating the interactions between PCBs and sulfotransferases.

Apart from devoting his time to research, he loves to cook, listen to music, play soccer, hike and read (non-science literatures) especially on weekends.

Two New Faculty Join Our Program



Amy Ryan, PhD is an Associate Professor, Department of Anatomy and Cell Biology. Her research is focused on the development and utilization of Induced pluripotent stem cell (iPSC) models of human lung disease to overcome this critical lack of model systems that closely reflect disease pathogenesis as it occurs in humans. It models and studies mechanisms of lung development and disease, and b) investigates approaches for tissue regeneration and stem cell-mediated repair of the airway epithelium.

Susan Shen, PhD is an Assistant Professor in the Department of Psychiatry Her research seeks to understand the complex interplay between genes and environment in neuropsychiatric disorders. Her current focus is on oxidative stress, a convergence point of cellular dysfunction across neurodevelopmental and neurodegenerative disorders. Using cellular models as a starting point, we are examining the combinatorial effects of genetic variants and environmental exposures (e.g., dietary antioxidants and smoking-related toxicants) on oxidative stress in brain cell types.



Human Toxicology Program Faculty/Staff News:



Dr. Nicole Brogden, Associate Professor of Pharmaceutical Sciences and Experimental Therapeutics, was selected as a Class Teacher of the Year. After each semester students identify faculty members who have encouraged, mentored, listened, and been stellar educators as their choice for Class Teachers of the Year.

Dr. David Cwiertyny, Professor of Civil and Environmental Engineering, was awarded the 2024 University of Iowa College of Engineering Faculty Excellence Award for Teaching. Dr. Cwiertyny also serves as the Director of the Center for Health Effects of Environmental Contamination and Director of the Environmental Policy Research Program.



Dr. Hans-Joachim Lehmler, Professor of Occupational and Environmental Health, has been named Associate Dean for Research in the College of Public Health. In October Dr. Lehmler presented the College of Public Health Distinguished Faculty Lecture. He presented on his research on PCB exposure and adverse health effects.

Dr. Paul McCray, Professor of Pediatrics-Pulmonary Medicine, was awarded the Carver College of Medicine Distinguished Alumni Award. He also received the Emily's Entourage 2024 Trailblazer Award. This award celebrates leaders who demonstrate innovation, courage, and tenacity in advancing life-saving research for the Cystic Fibrosis community.



Dr. Gerald Schnoor, Professor of Civil and Environmental Engineering, has been inducted into the National Academy of Construction for contributions to environmental design. Schnoor is best known for pioneering work using mathematical models in science policy decisions, sustainability, and phytoremediation.

Dr. Peter Thorne, Professor of Occupational and Environmental Health, was selected to serve a fourth 3-year term on the US EPA Science Advisory Board. In 2024, he Chaired the Review of the EPA's Inorganic Arsenic Risk Assessment. He was also selected to serve a second term on the Health Effects Institute Energy Research Committee.



Dr. George Weiner, Professor in Hematology, Oncology, and Blood & Marrow Transplantation, has been appointed to the National Cancer Institute Board of Scientific Advisors. The NCI BSA is a committee of the nation's best oncology researchers and advisers, who come together three times per year to discuss scientific policy, prominent research, and the extramural programs of the NCI.

Alumni News and Transitions:

Ben Elser has been promoted to Senior Scientist, Developmental and Reproductive Toxicology, Bristol Myers Squibb. He presented on his job and career path for our TOX:7173 Professional Development in Toxicology course.

Elise (Fletcher) Higginbotham has been promoted to Global Product Manager at Abbott Laboratories.

Gopi Gadupudi presented on his job at Charles River Labs and his career path for our TOX:7173 Professional Development in Toxicology course.

Kranti Mapuskar was promoted to Associate Research Scientist/Adjunct Assistant Professor at the University of Iowa.

Jeffrey Stolwijk is now Scientific Director at Unneedle in the Netherlands. Unneedle designs and manufactures microscopic needles that inject intradermally.

Xiaofeng Wang is now Senior Director Clinical Pharmacology at Relay Therapeutics. Relay Therapeutics focuses on enhancing small molecule therapeutic discovery in targeted oncology and disease indications.

Xing Xin has started as an Adjunct Assistant Professor at Rutgers University. She is also Senior Toxicologist at Colgate Palmolive.

You Can Help Support the Human Toxicology Program!

A tax-deductible gift to the UI Human Toxicology Program helps support student success through stipends, student travel grants, fees to attend scientific meetings and support for publication costs when there are no other available sources of funding. You may donate online by visiting www.givetoioowa.org.

Please follow these steps:

Step 1: put "**Other**" in the search box. Then click on "**Other**" at the top of the search results below the search box. Click on "**Next: Gift Details**" on the upper right.

Step 2: put in your donation amount and in the box under "**Where should the "OTHER" contribution be directed?**" type in "Gift to the Human Toxicology Program".

Step 3: Click on Next at the bottom and complete the donation details and payment options. Thank you!