

IIT UPDATE

INSTITUTE FOR INTEGRATIVE TOXICOLOGY



IIT Wraps Up Spring Seminar Series 2026

The IIT was delighted to once again host the IIT Seminar Series this spring with four exciting seminars including the 5th Annual Jerry Hook Distinguished Lectureship.

The series began with **Dr. Weston Porter**, Texas A&M University, on January 13. He spoke on, “*Powering Cell Identity: Mitochondrial Control of Development and Plasticity*.” The Porter lab looks at how mitochondria do more than just make energy, specifically how they help decide how cells grow, change, and sometimes go wrong in disease. They study how these organelles communicate with the nucleus and the endoplasmic reticulum to guide normal development and what happens when that balance breaks down. Through this, the Porter lab hopes to understand how mitochondrial stress and signaling shape everything from early cell fate to cancer progression.

The second seminar of the semester was given by **Dr. Michael DeVito**, Senior Scientific Advisor for Toxicology

from the U.S. EPA. He spoke on, “*Species Differences in Thyroid Hormone Disruption by Environmental Chemicals*.”

Dr. Jordan Stubbleski, an Analytical Development Supervisor from Wellington Laboratories, gave the third seminar on, “*Overcoming analytical challenges: Development and application of analytical methods for the improved detection and quantification of legacy and emerging contaminants in real samples*.” Exposure to persistent environmental pollutants remains a significant concern for both wildlife and human health. The growing presence of emerging contaminants, coupled with the need for ultra-low detection limits, has intensified the demand for robust reference standards and highly sensitive analytical methods to ensure accurate quantification. At Wellington Laboratories Inc, they have developed analytical methods, using the reference standards they supply to their customers, to address these challenges. Stubbleski’s presentation showcased the application of these methods to real environmental

...continued on page 2

in this issue....

IIT Spring Seminar Series 2026....	1
Sant Grant	2
Faculty New Roles CVM	3
Wu W.C. Frazier Lectureship	3
IIT at SOT Meeting	4
Barb Kaplan SOT President	5
SRC Hosts Workshop	6
Recent EITS Graduates	7
New EITS Students	6 & 7

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IIT Wraps Up Spring Seminar Series cont.

...continued from page 1

samples, demonstrating their performance and reliability in complex matrices.

The 5th Annual Jerry Hook Distinguished Lectureship was given by **Dr. Russell Thomas** on May 19. Dr. Thomas spoke on, “*All Toxicology Models are Wrong, but Some are Useful.*” Russell Thomas is the Executive Director and Vice President of the Chemical Insights Research Institute. Chemical Insights is part of the non-profit Underwriters Laboratories Research Institutes with a mission to provide unbiased research on chemicals and their risks to people’s health. Dr. Thomas has over twenty-five years of chemical safety research experience in the public, private, and non-profit sectors. He has a broad, multidisciplinary background and previously worked for twelve years in

the Office of Research and Development at the U.S. Environmental Protection Agency. The Distinguished Lectureship is held annually by the Institute for Integrative Toxicology in memory of Dr. Jerry Hook. Hook was a very well-known and highly respected pharmacologist and toxicologist who was critical in advancing the field of toxicology by helping to drive it from observational to a mechanism-based science.

The IIT was excited to be able to offer such a diverse array of learning opportunities through the wide variety of seminars this spring. Look for the fall IIT Seminar Series schedule to be announced later this summer!



Above: Dr. Russell Thomas was the 5th Annual Jerry Hook Distinguished Lectureship Speaker shown here with IIT Director Dr. Norbert Kaminski.

Wu Receives W.C. Frazier Memorial Lectureship in Food Microbiology



IIT-affiliated faculty member **Dr. Felicia Wu** was recently selected to receive the W.C. Frazier Memorial Lectureship in Food Microbiology from the University of

Wisconsin’s Food Research Institute. The lectureship was established in 1991 to honor Dr. Frazier and is presented to an individual who has

made outstanding contributions in food microbiology. Wu will give her keynote lecture, “Food at the World Health Organization: How to Prevent Diet-Related Disease on a Global Scale,” on May 12, 2026.

Wu is a John A. Hannah Distinguished Professor in the Department of Food Science and Human Nutrition and the Department of Agricultural, Food, and Resource Economics. Wu’s research examines the national and global burden of foodborne disease, how improved nutrition can counteract the harmful effects of toxins, and

how cost-effective strategies can improve food safety in the United States and worldwide. Dr. Wu is Co-Chair of the US National Academy of Sciences Committee on the Environmental, Biosafety, and Biosecurity Considerations of Synthetic Cell Research and Development, and a member of the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and the World Health Organization’s Food-Based Dietary Guidelines Committee.



Ryan Lewandowski, lab manager in the Laboratory for Experimental and Toxicologic Pathology (Dr. Jack Harkema, IIT PI) and the Digital Slide Scanning Core in Michigan State University’s College of Veterinary

Medicine, was inducted into the Delta Omega National Honor Society for Public Health. This national honor society recognizes top academic achievement, research, leadership, and service among students, faculty, and alumni

in the field of Public Health, with a highly selective process. Ryan was nominated by MSU’s Public Health Faculty. Ryan received his Master of Public Health (MPH) degree at MSU’s Spring Semester Commencement.

Two IIT-Affiliated Faculty Take on New Roles in CVM

Two IIT-affiliated faculty members, **Dr. Colleen Hegg** and **Dr. Stephan Carey**, have recently taken on new roles in the College of Veterinary Medicine.



Dr. Hegg was named the Associate Dean for Graduate Studies, effective April 1. This appointment reflects Dr. Hegg's longstanding leadership in graduate education and her expanded contributions beyond the College's Comparative Medicine and Integrative Biology (CMIB) Program, of which she serves as director. In her new role, she will lead and oversee the College's graduate education portfolio, including the CMIB Program, the

dual DVM/PhD program, the online Master of Science in Food Safety, the Master of Science in Veterinary Biomedical Systems, and emerging graduate programs. She will drive academic excellence, student success, program growth, and alignment with institutional and accreditation standards. The Associate Dean for Graduate Studies is a new role within the College and will partner closely with the Associate Dean for Research - a position held by another IIT-affiliated faculty member, Dr. James Luyendyk. Hegg is an Associate Professor in the Department of Pharmacology and Toxicology and her research focuses on the role of purinergics in neuroregeneration of olfactory receptor neurons.



Dr. Carey was named the Associate Dean for Student Engagement and Success (SES), effective March 1. In this role, Carey will lead the College's SES Office, which provides pre-veterinary advising, professional student services, academic support, and connections to university services (such as financial aid and student health). He will also oversee the administration of the DVM admissions cycle,

ensuring a consistent, equitable, and evidence-based process. He will partner closely with the College's Veterinary Nursing Program, the Office of Professional Education, the Office of Health and Wellbeing, and key units across campus to provide coordinated, multi-dimensional support to students at the College of Veterinary Medicine. Carey is a Professor and Associate Chairperson in Small Animal Internal Medicine in the Department of Small Animal Clinical Sciences. His research focuses on investigating the effects of air pollutants on the developing respiratory airways of children; correlations between morphologic alterations, such as epithelial injury, cell death, repair, and biochemical responses, such as changes in gene expression and cellular antioxidant regulation in the airways; and comparative studies of airway disease in companion animals and other species. 🐾

Sant Receives Grant from Bristol Myers Squibb



IIT-affiliated faculty member **Dr. Karilyn Sant** recently received a grant to partner with Bristol Myers Squibb to improve on the use of zebrafish as a safety tool in the

drug development process. This one year partnership, that began in December 2025, provides Sant with \$386,492 to explore the suitability of zebrafish models in drug safety screens to identify potential target organ toxicities

and target liabilities. Sant and her laboratory conduct screens with dozens of known compounds to identify how well their model can predict known toxicities. Because zebrafish studies are a much more rapid way to do this in vivo, successful characterization of these models could help expedite and improve drug safety screens.

The grant enabled Sant to welcome a new member, postdoctoral researcher Dr. Majorie Graham, to her laboratory. In addition, these funds allowed Sant to think more creatively about her research program. "We have been fortunate enough to have established great models for diabetes and

pancreatic pathologies," commented Sant, "but here we can explore whether some of our employed methods can be expanded to other pathobiological challenges."

Sant is an Associate Professor in the Department of Pharmacology & Toxicology. As a toxicologist, Sant's research uses zebrafish as a model to investigate how common and emerging water contaminants and dietary exposures influence embryonic development and predispose to chronic metabolic diseases such as diabetes and obesity during adulthood. 🐾

Landen Taber, an undergraduate student researcher in the laboratory of Brad Upham, won two competitive awards from the Society of In Vitro

Biology, specifically "The Honor B. Fell Award" and "The Gordon Sato and Wally McKeehan Award." The abstract of his project on PFAS was

presented at the Annual SIVB meeting. These awards typically are granted to graduate students.

IIT Affiliates Succeed at 65th SOT Meeting in CA

Students and faculty of the MSU Institute for Integrative Toxicology were excited to attend and present their research findings at this year's 65th annual Society of Toxicology (SOT) meeting held in San Diego, California.

The SOT annual meeting brings together 5,000 plus toxicologists and those working in areas related to toxicology to share the latest science and technology in the field, as well as to make new connections, gather with friends, and engage in mentoring and professional development. This year's meeting was held from March 22-25, 2026.

The following students and faculty affiliated with IIT received recognition:

» **Nana Kwame Kwabi Boateng**, (bottom left photo) training with Dr. James Luyendyk, received the SOT Outstanding Graduate Student Leadership Award. This award recognizes an SOT Graduate Student Representative who has contributed to the Society in a significant manner beyond the routine duties of a representative to a Regional Chapter, Special

Interest Group, or Specialty Section. Boateng currently serves as the Graduate Student Representative for the Michigan Regional Chapter of SOT, as well as the student representative on the Membership Committee. He also serves on the Graduate Student Leadership Committee (GSLC) Communications Subcommittee where he will soon be stepping into the Chair role.

» **Dr. Jack Harkema** (bottom right photo with Dr. Roger McClellan) received the Roger O. McClellan Lifetime Achievement Award from the Comparative Toxicology, Pathology and Veterinary Specialty Section of the SOT. The award recognizes individuals who have made significant, career-long contributions to the field of toxicology. A world-renowned expert in lung research, Harkema has focused much of his career on the respiratory health impacts of air pollution and environmental factors. His work has provided critical data

used to inform public health and safety standards globally. He leads the Laboratory for Environmental and Toxicologic Pathology and the Mobile Air Research Laboratory at MSU. He also occupies the Albert E. and Lois C. Dehn Endowed Chair in Veterinary Medicine.

» From the laboratory of Dr. Neera Tewari-Singh: **Dr. Asht-en Stammersky**, a postdoctoral researcher, received the Mechanism Specialty Section's Sheldon D. Murphy Student and Postdoctoral Endowment Award. Zach Kelly, an undergraduate student, received the SOT Undergraduate Research Award. Dr. Tewari-Singh was elected as President of both the Ocular Toxicology Specialty Section as well as the Association of Scientists of Indian Origin Special Interest Group.

Congratulations to all the IIT-affiliated SOT award winners this year!



Barbara Kaplan Named Vice President-Elect of SOT



The IIT would like to offer our congratulations to **Dr. Barbara Kaplan**, former IIT-affiliated faculty member, who was recently

elected vice president-elect for the Society of Toxicology. Her election to this office at the SOT will lead to her serving as vice president and then as president of the society.

Dr. Kaplan earned her B.S. in Environmental Toxicology from the University of California Davis before coming to MSU to earn her Ph.D. in Pharmacology and Toxicology where she was mentored by Dr. Norbert Kaminski. After conducting postdoctoral research in tumor immunology at the University of Chicago, she returned to Michigan State University as a Research Assistant Professor and IIT-affiliated faculty member. She is now a Professor in the Center for Environmental Health Sciences and Department of Comparative Biomedical Sciences at Mississippi State University's College of Veterinary Medicine.

Dr. Kaplan teaches immunology to veterinary students and pharmacology and toxicology

to undergraduate and graduate students at Mississippi State University. She has been active in mentoring PhD students, DVM/PhD students, and undergraduate students, and she serves as Director of the NIH-funded Summer Research Experience program for veterinary students in the College of Veterinary Medicine. Her research focuses on the effects and mechanisms by which drugs and chemicals alter immunity, with particular emphasis on aryl hydrocarbon receptor ligands and cannabinoid compounds. She has two major projects. The first project, which is funded by the National Institutes of Health, is investigating environmental chemicals on antibody-triggered signaling in innate immune cells. The second project focuses on understanding how chemicals from marijuana and hemp affect immune function.

The MSU IIT is proud to announce Dr. Kaplan's election to the SOT Presidential chain as she continues a rich tradition of SOT presidents associated with our institution. She will be the eleventh IIT-affiliated SOT president to hold office. 🍷

Past MSU SOT Presidents

The MSU IIT is proud to announce Dr. Kaplan's appointment as she continues a rich tradition of SOT presidents associated with our institution. She will be the tenth IIT-affiliated SOT president to hold office.

Other past SOT presidents include:

James P. Luyendyk

President from 2026-2027
Current IIT-affiliated faculty member

Patricia E. Ganey

President from 2017-2018
Emeritus faculty member

Norbert E. Kaminski

President from 2014-2015
Current IIT and CRIS Director

Michael P. Holsapple

President from 2010-2011
Former CRIS Director

Kendall B. Wallace

President from 2005 - 2006
Former doctoral trainee

Jay I. Goodman

President from 1999 - 2000
Emeritus faculty member

James S. Bus

President from 1996 - 1997
Former doctoral trainee

James E. Gibson

President from 1988 - 1989
Former faculty member

Jerry B. Hook

President from 1987 - 1988
Founding director of the CIT

Perry J. Gehring

President from 1980 - 1981
Former faculty member

Congratulations to Dr. Kaplan on this prestigious accomplishment!



Left: Group of EITS students who attended the IIT Alumni & Friends Reception at the annual SOT meeting held in San Diego, California.

MSU Superfund Research Center News



Above: Instructors and graduate students participating in the Computational Systems Toxicology: Modeling and Informatics Workshop at MSU on May 7 - 10, 2026.

MSU SRC Hosts Computational Systems Toxicology: Modeling and Informatics Workshop

The MSU SRC recently hosted the Computational Systems Toxicology: Modeling and Informatics (CSTMI) Workshop on May 7 - 10, 2026 at the Food Safety and Toxicology Building on Michigan State's campus. Course instructors were Sudin Bhattacharya and Rance Nault from Michigan State University, Qiang Zhang from Emory University, and Eberhard Voit from the University of Texas at Dallas.

The CSTMI workshop was attended by 24 students and covered dynamical systems modeling techniques for quantitative simulation of biological responses to perturbations at the molecular, cellular, tissue, and body levels, and how to build quantitative adverse outcome pathway (qAOP) models. As well as analysis of single-cell and spatial-omic data sets toward classification of cell types, inference of biological pathways, and prediction

of cellular outcome trajectories.

The workshop comprised lectures and hands-on computer exercises and was a collaborative effort between the Computational Modeling Core, the Research Experience and Training Coordination Core, and the Data Management and Analysis Core of the MSU Superfund Research Center.



IIT Welcomes New EITS Students

The IIT is pleased to welcome several new students to the Environmental and Integrative Toxicological Sciences (EITS) multi-disciplinary graduate program. New students include:

» **Hoda Nouri Jevinani**

Cell & Molecular Biology

Mentor: John LaPres



» **Stav Kramer**

Food Science & Human Nutrition

Mentor: Rita Strakovsky



Recent EITS Graduates



Morgen Clark

Microbiology, Genetics & Immunology
Mentor, Gemma Reguera

Dr. Morgen Clark received her Ph.D. after completing the dual major program in Microbiology, Genetics & Immunology and Environmental Toxicology. Her dissertation was, “*Adaptive Mechanisms for Metal Detoxification by Electroactive Bacteria.*”

Clark is now a postdoctoral scholar in the laboratory of Dr. Annette Rowe in the Micro-

biology, Genetics & Immunology Department here at MSU. In Dr. Rowe’s lab, Clark studies electrochemically active methanogenic Archaea. These organisms generate methane, the major component of natural gas, and are of interest for potential applications in renewable energy. During her time in the Rowe lab, Clark will develop genetic methods and use electrochemistry to study a non-hydrogenase-mediated pathway for extracellular electron uptake in *Methanosarcina barkeri*.



Rachel Sheffler

Comparative Medicine & Integrative Biology
Mentor, John Buchweitz

Dr. Rachel Sheffler received her Ph.D. after completing the dual major program in Comparative Medicine & Integrative Biology and Environmental Toxicology. Her dissertation was, “*Veterinary Neurotoxicology - The Yesterday, Today and Tomorrow of Diagnostic Methodologies in a Dynamic Toxicology Landscape.*”

Sheffler has accepted an offer in industry and will be heading to Nestle Purina as a Principal Scientist, Veterinary Toxicologist. In her new role, she will ensure the chemical safety of pet food, treats, supplements and litter through toxicology risk assessments and alignment with global standards. She will evaluate new ingredients, set contaminant limits, and support Hazard Analysis Critical Control Points (HAC-CP) chemical safety processes across pet care products.



Sera Sermet

Pharmacology & Toxicology
Mentor, Norbert Kaminski

Dr. Sera Sermet received her Ph.D. after completing the dual major program in Pharmacology & Toxicology and Environmental Toxicology. Her dissertation was, “*Δ9 Tetrahydrocannabinol and Cannabidiol Diminish Primary Human Monocyte-Astrocyte Inflammatory Interactions: Implications for Chronic HIV.*”

Sermet is working as a postdoctoral student in Kaminski’s lab this summer for a transition-

al period before starting her new position in Maryland at the National Center for Advancing Translational Sciences (NCATS) as a post-doctoral researcher. There her research will focus on the development and optimization of patient-derived stem cell-based 2D and 3D organoid models for rare diseases. Using these models, Sermet will characterize disease phenotypes, identify biomarkers and therapeutic targets, as well as evaluate drug efficacy and toxicity. Her work will directly support the NCATS 3D-RARE initiative by advancing iPSC-based disease modeling.

IIT Welcomes New EITS Students

» Zachary Smith

Cell & Molecular Biology

Mentor: Timothy Zacharewski



» Alanis Torres-Berrios

Comparative Medicine & Integrative Biology

Mentor: Karilyn Sant



To learn more about the research interests of our current EITS students, please visit: <https://iit.msu.edu/training/eits/current-students.html>.



Institute for INTEGRATIVE TOXICOLOGY

Michigan State University
1129 Farm Lane
Food Safety and Toxicology, Rm 165
East Lansing, MI 48824

517.353.6469
tox@msu.edu