

March 2024

Message from the President

Dear NTSS Members,

Thank you so much for your continued support and membership. It was wonderful to see many of you last year at the Annual Meeting in Nashville. We had a very full room of excited scientists! I am looking forward to seeing many more of you at the upcoming NTSS reception (Wednesday, March 13, 6:00-7:30 PM) and throughout the SOT Annual Meeting. We are delighted to have awarded an exceptional scientist the Distinguished Neurotoxicologist Award: Dr. Anumantha Kanthasamy. This newsletter describes so many wonderful opportunities to celebrate and connect with the NTSS members, including supporting our trainees. Please use it to help organize your schedules so you don't miss out on these amazing NTSS sponsored events.

There are a few things I would especially like to highlight. First, NTSS nearly doubled our number of sponsored sessions/workshops with a total of 7 (see titles and times below)! Thank you to everyone that organized sessions. Please brainstorm during SOT, and start developing new sessions for next year! Furthermore, we had an unbelievable turnout for NTSS officer elections. We had a total of 23 members run for 5 open positions. Thank you to all that were willing to serve.

We awarded multiple Toshio Narahashi Travel awards. Thank you to the members that donated to the Toshio Narahashi Endowment Fund that allows us to support these awards. Finally, our trainee Toshio Narahashi poster award competition is one of our most important activities at SOT. We need judges! Our judges are critical to identify the most outstanding poster presentations and provide scientific feedback to our trainees. Please see the section on poster judges, and volunteer for this important trainee activity. We would like to thank the sponsor of our 1st place award winners, Neurocrine Biosciences and Elsevier.

I hope you will enjoy reading about all our activities and accomplishments as much as I did last year! Safe travels and see you in Salt Lake City!

Marissa Sobolewski, Current NTSS President

Highlights of this Edition

| | |
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| Poster Judges Needed | Volunteer |
| Kudos to 2023 Awardees | See 2023 Awardees |
| Recap of 2023 Reception | 2023 Reception |
| 2024 SOT Conference & Reception Plans | 2024 SOT Conference |
| 2024 SOT NTSS Member Awardees | 2024 SOT NTSS Awardees |
| NTSS Officers | NTSS Officers |

2024 Toshio Narahashi Poster Competition

Volunteer Judges Needed

NTSS *Full Members* are encouraged to support the 2024 Poster Competition by volunteering to judge either extended abstracts and/or posters at the Annual Meeting this March!! Please contact Marcia Ratner at marcia@bu.edu to let her know if you are able and willing to judge this year.

Toshio Narahashi Neurotoxicology Fellowship Endowment Fund

NTSS has been highly successful in establishing the Toshio Narahashi Neurotoxicology Fellowship Award Endowment Fund. This endowment fund helps to cover our graduate student and postdoctoral fellow poster competition awards and will provide support for the trainee conference award.

Kindly Continue to Donate!

Please consider renewing or making a new tax-deductible donation to the Toshio Narahashi Endowment Fund this year. Increasing the Endowment Fund will enhance the size and number of trainee poster and conference awards that NTSS can grant. Few things that we do will have such a positive impact on so many young scientists early in their careers and will continue to do so in perpetuity. To make a donation, please visit the [SOT Endowment page](#).

2024 SOT Conference Awardees

Travel Awards

MaryAnn Hawks

Environmental Protection Agency; Mentor: Mary Gilbert; Title: Identity Crisis: Parvalbumin Expressing GABA Neurons Disappear Under Conditions of Iodine Deficiency of Iodine Deficiency and Perchlorate Exposure

Dipro Bose

University of California Irvine; Mentor: Saurabh Chatterjee; Title: Germ-Free Mice Exhibit Attenuated Gut-Brain Axis Linked Neuroinflammation in Gulf Ware Illness Chemical Toxicity

Nadia Herold

Helmholtz-Centre for Environmental Research; Mentor: Tamara Tal; Title: Multi-Behavioral Fingerprints in Larval Zebrafish Can Identify Neuroactive Environmental Chemicals and Underlying Mechanisms

Catherine Rojas

Rutgers University; Mentor: Troy Roepke; Title: Interaction of Maternal Diet and Perinatal Exposure to Flame Retardants on Offspring Metabolism and Gene Expression

Congratulations to the winners, and thank you to everyone who Participated! The judges were impressed by the high quality of the work and the student presentations.

2023 SOT Conference Awardees

Best Poster Graduate Student

1st. Luke Liu

PhD Mentor: Wei Zhang; Title: Novel Discovery of the Choroid Plexus (CP)-Subventricular Zone (SVZ) Regulatory Axis: Evidence from Small-sized Extracellular Vesicles Released from the CP to Altered Adult Neurogenesis in SVZ and Implications in Manganese-induced Non-motor Syndromes



1st. Neda Ilieva

PhD Mentor: Briana De Miranda; Title: Oxidative Damage from Parkinson's Disease Associated Environmental Toxicants is Attenuated by LRRK2 Kinase Inhibition



2nd. Kian Afsharian

PhD Mentor: Peter Wells; Title: Oxidative DNA Damage Epigenetically Decreases Gene Expression in Brca1 KO Fetal Brains Exposed *In Utero* to Saline or Ethanol



3rd. Peter Andrew

PhD Mentor: Pam Lein; Title: Natural History of Acute and Subchronic Electrophysiologic Responses to Acute Intoxication with the Organophosphate Diisopropylfluorophosphate in Male and Female Rats



Best Poster Postdoctoral Trainee

1st. Savannah Rocha

Mentor: Ron Tjalkens; Title: Juvenile Exposure to Manganese Sensitizes to Rotenone Induced Neuropathology and is Not Ameliorated by Genetic Inhibition of IKK2/NfkB Signaling in Microglia in a Mouse Model of Parkinson's Disease



2nd. Megan Bucher

Mentor: Gary Miller; Title: Environmental and Pharmacological Regulators of Vesicular Dopamine Dynamics



3rd. Isha Mhatre-Winters

Mentor: Jason Richardson; Title: APOE-Genotype and Sex Alters Effects of Organochlorine Pesticide DDT in Humanized APOE Mice



2023 SOT NTSS Reception

The 2023 SOT NTSS reception attendance was impressive, and we were ecstatic to see everyone in person in Nashville, TN. The receptions are great to catch up with colleagues as well as network meeting new people with similar interests.



2024 NTSS
Meeting/Reception
Wednesday, March 13,
2024 from 6:00-7:30 PM

SOT
63RD ANNUAL MEETING & TOXEXPO
SALT LAKE CITY, UTAH • MARCH 10–14, 2024

Join the Neurotoxicology Specialty Section for their Business Meeting and Reception. The event will include: a report of section activities in the past year, award announcements, introductions of the 2024-2025 officers, and ample networking opportunities to connect with colleagues. It is also a great juncture to discuss workshops and sessions for next year SOT conference! This event is open to all in-person Annual Meeting attendees interested in joining the section, regardless of current membership status with the group.

While enjoying the conference, make sure to check out the NTSS sponsored sessions and workshops highlighted below. Additionally, attend and support all the neurotoxicology posters presented on Tuesday and Wednesday.

2024 SOT Conference

NTSS Sponsored Sessions/Workshops

Date/Time

Symposium Sessions

Harmful Algal Blooms and Human Health

Mon, Mar. 11 9:15-12:00

Neuroinflammation as a Central Mediator of Neurotoxicity: Implications for Environmental Links to Chronic Neurodegenerative Diseases

Mon, Mar. 11 1:45-4:30

The State of the Science Linking Environmental Chemicals to Age-Related Neurocognitive Disease

Tue, Mar. 12 8:00-10:45

Accelerating Discovery in Parkinson's Disease: A Blueprint for Modeling Environmentally Relevant Exposures through Cross-Disciplinary Collaboration

Wed, Mar. 13 1:30-4:15

Thyroid System-Disrupting Chemicals and the Developing Brain

Wed, Mar. 13 1:30-4:15

The Lifesaver or the Devil? Identifying Key Molecular-Signaling Pathways and Their Roles in Chronic Exposure-Induced Neurological Diseases

Thu, Mar. 14 8:30-11:15

Workshop Sessions

Advancements in Utilizing Zebrafish-Based Behavioral Assays for Detecting Developmental Neurotoxicity and Understanding Associated Cellular and Molecular Changes

Wed, Mar. 13 8:00-10:45

Poster Sessions

Neurotoxicity: Neurodegeneration

Mon, Mar. 11 11:45-1:45

Neurotoxicity: Metals

Mon, Mar. 11 11:45-1:45

Neurotoxicity: Developmental I

Tue, Mar. 12 2:15-4:15

Neurotoxicity: General

Tue, Mar. 12 2:15-4:15

Neurotoxicity: Pesticides

Wed, Mar. 13 11:45-1:45

Neurotoxicity: Developmental II

Wed, Mar. 13 11:45-1:45

2024 SOT NTSS Member Awardees

Congratulations to all NTSS members that have received 2024 SOT awards! The notable range of awardees extends across undergraduates to lifetime achievement awards.

Undergraduate Research Awards

Vishnupriya Alavala

Title: Neurodevelopmental Vulnerability to Gestational Ozone Exposure

Check out the poster: Tues, Mar 12 2:15-4:15; 3811: Poster Board – P313



Caylee A. Brown

Title: Exploring the Role of Microglia Cells in Dysregulated Orexin System Function in Rats Exposed to Bisphenol A during the Peripubertal Period

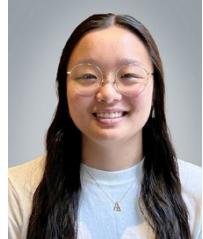
Check out the poster: Tues, Mar 12 2:15-4:15; 3769: Poster Board – P262



Audrey Luo

Title: Seizure Inhibition Mitigates Blood-Brain Barrier Impairment in a Male Rat Model of Acute Organophosphate Intoxication

Check out the poster: Mon, Mar 11 2:15-4:15; 3584: Poster Board – P872



Colgate-Palmolive Award for Student Research Training in Alternative Methods

Gianna Nossa, BS

Title: The Role of GABA and Glutathione in Manganese Neurotoxicity

Check out the poster: Mon, Mar 11 11:45-1:15 3180: Poster Board – P288



Perry J. Gehring Diversity Student Travel Award

Gia Marie Valdez

Title: Effects of Early Life Exposure to Polychloridinated Biphenyls (PCBs) on Neural Responses to Acute Alcohol Intake in Adolescent Rat Prefrontal Cortex

Check out the poster: Tues, Mar 12 2:15-4:15 3814: Poster Board – P316



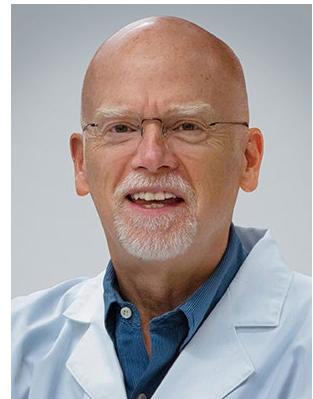
Honorary Membership

J. Tomothy Greenamyre, MD, PhD

SOT is pleased to bestow Honorary membership to J. Timothy (Tim) Greenamyre, MD, PhD, in recognition of his paradigm-shifting research, developing the rotenone model of Parkinson's disease, which provided the first proof-of-concept that systemic mitochondrial impairment could cause highly selective neurodegeneration.

Dr. Greenamyre's mentorship and service to the scientific community has helped advance the science and increase the impact of toxicology. Dr. Greenamyre received his MD and PhD in neuroscience from the University of Michigan in 1986 and has become an internationally recognized researcher into the causes and novel treatments of neurodegenerative diseases. Conducting research as an assistant and associate professor at the University of Rochester and Emory University,

Dr. Greenamyre arrived at the University of Pittsburgh in 2005, where he is currently the Love Family Professor and Vice-Chair of Neurology. In addition to his research, he also is the Chief, Movement Disorders Division and Director, Pittsburgh Institute for Neurodegenerative Diseases. Dr. Greenamyre's rotenone model of Parkinson's disease resulted in a paradigm shift, where prior neurotoxicology studies primarily focused on selective toxicant accumulation in dopaminergic neurons as a primary mechanism of toxicity. Moreover, his work has prompted epidemiological studies, which have translationally linked basic and clinical studies resulting in the identification of possible biomarkers of disease/progression and potential new therapeutic pathways. As a mentor, Dr. Greenamyre has trained many scientists who have gone on to advance the field of neurotoxicology, providing insight to trainees that has in-turn fueled successful research careers in toxicology. He is a member of the NIEHS National Advisory Environmental Health Sciences Council (NAEHS).



Distinguished Toxicology Scholar Award

James P. O'Callaghan, PhD

Recognizing an illustrious career of scientific contributions to the field of neurotoxicology and his seminal work in the development of a rodent model of Gulf War Illness, James O'Callaghan, PhD, is presented with the 2024 SOT Distinguished Toxicology Scholar Award. After receiving his doctorate in neuropharmacology from Emory University, Dr. O'Callaghan has had a notable career working for the US federal government. At the US EPA, his work expanded the growing field of neurotoxicology by focusing on the need to identify potentially neurotoxic compounds that could lead to long-term illness and disease. This includes the identification of the glial fibrillary acidic protein as a biomarker for neurotoxicity and the development of a quantitative assay that could be used with brain tissue to assess neurotoxicity. In 1997, he assumed a leadership role as Head of the Molecular Neurotoxicology Laboratory at the Centers for Disease Control's Occupational and Safety Health Institute. In addition, his collaborations have produced influential contributions to the field of neuroscience, including the use of focused microwave fixation in rodent models, contributing to Nobel prize winning research on understanding DARPP-32 signaling in dopaminergic neurons and bringing BAC-TRAP methodology for assessing cell type-specific gene expression into studies of neurotoxicity. Dr. O'Callaghan has more than 250 peer-reviewed publications and as many invited presentations. It is through his research the concept of Gulf War Illness as a neuroinflammatory disorder driven by persistent neuroimmune dysfunction has become widely supported by experimental evidence. Furthermore, his animal model of Gulf War Illness is recognized by the Congressionally Directed Medical Research Program as one of the few acceptable models of the illness. Since joining SOT in 1986, Dr. O'Callaghan has been an active member of the Neurotoxicology Specialty Section. He also served on the SOT Continuing Education Committee from 2010 to 2012.



Distinguished Neurotoxicologist Award

Anumantha G. Kanthasamy, PhD

Anumantha G. Kanthasamy, PhD, is awarded the 2024 SOT Distinguished Neurotoxicologist Award for his service to the fields of toxicology and neuroscience and particularly for his leadership in unraveling novel signaling pathways contributing to neurotoxicity and Parkinson's disease. Dr. Kanthasamy is recognized for his research studying the relationships of protein aggregation and neurotoxicology and disease, mechanisms of misfolded protein propagation, oxidative stress in dopamine neurons, stress signaling, and mitochondrial biology in neurological function. His research program has been supported by grants from the National Institute of Environmental Health Sciences, National Institute of Neurological Disorders and Stroke, and National Institute on Aging, US Department of Defense Congressionally Directed Medical Research Program, the Michael J. Fox Foundation and National Institutes of Health Small Business Innovation Research, as well as others. Dr. Kanthasamy is internationally recognized for his work related to neurotoxicity and neurodegeneration. His impact in these areas can be measured by the enormous number of invited presentations, the number of grant review panels he serves on, and the more than 180 published manuscripts. His work has been cited a total of 25,503 times. He has mentored more than 30 doctoral students who have won more than 200 awards, published high-impact papers, and gone on to careers at top institutions in academia, industry, and government.



Visit Dr. Kanthasamy's [faculty page](#) to learn more about his research.

Check out all 2024 SOT Awardees: [Full List](#)

We would like to recognize your achievements! Please send your accomplishments from this past year to Marissa Sobolewski (marissa_sobolewski@urmc.rochester.edu).

Congratulations to the Incoming 2024-2025 Neurotoxicology Specialty Section Officers:

Vice President-Elect: **Alison Bernstein**

Secretary-Treasurer: **Briana De Miranda**

Councilor: **Edward Levin**

Postdoctoral Representative: **Adam Schuller**

Graduate Student Representative: **Jessie Badley**

2023-2024 Neurotoxicology Specialty Section Officers:



President:
Marissa Sobolewski



Vice President
Vanessa A. Fitsanakis



Vice President-Elect:
Rodrigo Franco



Secretary/Treasurer:
Muhammad Hossain



Past President:
Jason R. Cannon



Councilor:
Megan Culbreth



Councilor:
Marcia Ratner



**Postdoctoral
Representative:**
Anna Kreutz



**Graduate Student
Representative:**
Alyssa Merrill



Previous Past President:
Jason R. Richardson



**Toshio Narahashi
Endowment Fund
Steward:**
Pamela J. Lein

A Special Thank You to Our Donors

**Special thanks to Elsevier and Neurocrine for funding
the 2024 Best Poster Presentation Awards!**

SOT 2022-2023 Honor Roll of Contributors to the Toshio Narahashi Neurotoxicology Endowment Fund!

Peter S. Spencer (Paracelsus Circle)
Jason Cannon (Paracelsus Circle)
Kristina D. Chadwick (Benefactor)
Pamela J. Lein (Benefactor)
Richard Nass (Leader)
Gary and Patti Miller (Leader)
Marion F. Ehrich (Leader)
Nikolay and Anjela Filipov
Marcia Ratner
Christine Perdan Curran
Yukun Yuan

