

Neurotoxicology Specialty Section

February 2023

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 San Diego after way too many virtual meetings. We had a very full room of excited scientists at the 2022 NTSS reception. I am very much looking forward to seeing many more of you at the 2023 NTSS reception and throughout the SOT Annual Meeting. This newsletter describes so many wonderful opportunities to connect with NTSS members and support our trainees. There are a few things I would especially like to highlight. First, the good news is that for 2023, NTSS sponsored sessions/workshops had a 100% SOT acceptance rate (see later in this new letter)! However, it is worth noting that we only received 4 submissions, far lower than usual. Please watch for details on 2024 proposal submission and review details to come both at the NTSS reception and in emails. Second, our Trainee 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. I hope you will enjoy reading about all our activities and NTSS member accomplishments as much as I did! Safe travels and see you in Nashville!

Jason Cannon, Current NTSS President

Highlights of this Edition

Toshio Narahashi Neurotoxicology SS Graduate Student and Postdoctoral Fellow/Associate Poster Endowment Award	Submission Deadline: February 28, 2023 Award Description
Poster Judges Needed	Volunteer
Kudos to 2022 Awardees	See 2022 Awardees
Kudos to 2021 Awardees	See 2021 Awardees
Recap of 2022 Reception	2022 Reception
2023 SOT Conference & Reception Plans	2023 SOT Conference
2023 SOT NTSS Members Awardees	2023 SOT NTSS Awardees
NTSS Council Elections	Vote by Friday February 17, 2023 Election
NTSS Council	Council Members

2023 Toshio Narahashi Poster Competition

Toshio Narahashi Neurotoxicology SS Graduate Student and Postdoctoral Fellow/Associate Poster Endowment Award Details

Graduate students and postdoctoral fellows who are members of NTSS are invited to participate in the 2023 Poster Competition! The competition will consist of an extended abstract, mentor letter of support, and an in-person poster presentation. Awards will be given for the top 3 graduate students and postdoctoral scholars in each category from the Toshio Narahashi Neurotoxicology Fellowship Award Endowment Fund. Applicants will need to submit an extended abstract and a letter of support from their mentor to [Briana De Miranda](#) by February 28, 2023 and note NTSS Trainee Awards in the subject line.

Please use this link: <https://www.toxicology.org/groups/ss/NTSS/awards.asp> to learn more about NTSS awards, eligibility, submission instructions, and deadlines.

For any questions regarding NTSS Trainee Awards, please email Briana De Miranda (NTSS Councilor) at brianademiranda@uabmc.edu and note NTSS Trainee Awards in the subject line.

Volunteer Judges Needed

NTSS *Full Members* are encouraged to support the 2023 Poster Competition by volunteering to judge extended abstracts and/or posters at the Annual Meeting this March!! Please contact Briana De Miranda at brianademiranda@uabmc.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 provides 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 so early in their careers and will continue to do so in perpetuity. To make a donation, please visit [SOT endowment website](#) and download the donation form.

2022 SOT Conference Awardees

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.

Travel Awards

1st. **Rachel Lacroix**

University of Calgary; Mentor: Deborah Kurrasch; Title: Impaired Development of Social and Locomotor Behaviors in Zebrafish Exposed to Glyphosate during Primary Neurogenesis



2nd. **Naomi Kramer**

Wayne State University/University of Georgia; Mentor: Brian Cummings; Title: The Brominated Flame Retardant Hexabromocyclododecane Systemically Alters Polyunsaturated Fatty Acid Metabolism within Mouse Phospholipids



3rd. **Ola Wasel**

Purdue University; Mentor: Jennifer Freeman; Developmental Neurotoxicity of GenX and PFBS Using Zebrafish Model



Best Abstract Graduate Students

1st. **Ola Wasel**

PhD Mentor: Jennifer Freeman; Title: Developmental Neurotoxicity of GenX and PFBS Using Zebrafish Model



2nd. **Neda Ilieva**

PhD Mentor: Briana De Miranda; Title: LRRK2 Kinase Inhibition Protects Dopaminergic Neurons from Parkinson's Disease-Associated Environmental Toxicants



3rd. **Yi-Hua Tsai**

PhD Mentor: Pam Lein; Title: Characterization of Cellular Senescence in Adult Rat Model of Acute Diisopropylfluorophosphate (DFP) Intoxication



Best Abstract Postdoctoral Trainees

1st. Isha Mhatre-Winters

Mentor: Jason Richardson; Title: Sex-Specific Responses of Primary Microglia and Astrocytes from Humanized APOE3 and APOE4 Mice to Inflammatory Stimuli



2nd. David Leuthold

Mentor: Tamara Tal; Title: A Novel Battery of Behavior-Based Assays in Larval Zebrafish and its Potential to Elucidate Neurodevelopmental Toxicity Mechanisms with a Focus on Deficits in Learning and Memory



3rd. Paige Mundy

Mentor: Pam Lein; Title: Royal Demolition Explosive (RDX) Triggers Seizure Activity in Larval Zebrafish



Best Poster Graduate Student

1st. Ferass Sammoura

PhD Mentor: Jason Richardson; Title: DDT and its Metabolite DDE Increase Levels of Amyloid Precursor Protein and Secretion of Amyloid Beta



2nd. Arturo Barahona

PhD Mentor: Jason Richardson; Title: The Effects of Organochlorine Pesticide DDT and its Metabolite DDE on Amyloid Beta Pathology in the 5xfad Mouse Model of Alzheimer's Disease



3rd. Alyssa Merrill

PhD Mentor: Marissa Sobolewski; Title: Effects of Gestational Low-Dose Perfluorooctanoic Acid on Maternal and "Anxiety-Like" Behavior in Dams



Best Poster Postdoctoral Trainee

1st. Paige Mundy

Mentor: Pam Lein; Title: Royal Demolition Explosive (RDX)
Triggers Seizure Activity in Larval Zebrafish



1st. Megan Culbreth

Mentor: Josh Harrill; Title: Optimization of an Animal Component-Free System for High-Throughput Phenotypic Profiling of Human Neural Progenitor Cells



2nd. Anna Kreutz

Mentor: Barbara Wetmore; Title: In Vitro-In Vivo Extrapolation (IVIVE) for Neurodevelopment: Toxicokinetics and In Vitro Point of Departure Evaluation of Putative Developmental Neurotoxicants



2nd. David Leuthold

Mentor: Tamara Tal; Title: A Novel Battery of Behavior-Based Assays in Larval Zebrafish and its Potential to Elucidate Neurodevelopmental Toxicity Mechanisms with a Focus on Deficits in Learning and Memory



2021 SOT Conference Awardees

We wanted to commend and congratulate the winners who participated in the virtual 2021 SOT Conference. This was a new platform for all, and we appreciate everyone who worked to make it a wonderful virtual conference experience.

2021 Virtual Poster Competition Graduate Students

1st. Tim Andersen PhD Mentor: Deborah Cory-Slechta; Title: Neurotoxicity of Inhaled Paraquat: A Translationally Relevant Route of Exposure

2nd. Hendrik Greve PhD Mentor: Michelle L. Block; Title: Ozone Exposure in a Mouse Model of Alzheimer's Disease: Evidence for a Bi-Directional Lung-Brain Axis

3rd. Emma Foster PhD Mentor: Christine Curran; Title: Using High Performance Liquid Chromatography to Assess Genetic Susceptibility to Gestational and Lactational Benzo[a]pyrene Exposure

4th. Hyunjin Kim PhD Mentor: Aaron Bowman; Title: A Differential Gene Expression Study of Two Siblings with Genetic Risk for Parkinson's Disease

Outstanding Virtual Presentation Awards Graduate Students

1st. Hendrik Greve PhD Mentor: Michelle L. Block; Title: Ozone Exposure in a Mouse Model of Alzheimer's Disease: Evidence for a BiDirectional Lung-Brain Axis

Virtual Poster Competition Postdoctoral Trainee

1st. Katherine O'Shaughnessy Mentor: Mary Gilbert; Title: Bypassing the Brain Barriers: Identification of Serum microRNAs Reflective of Developmental Neurotoxicity

2nd. Callie Goeke Mentor: Marissa Sobolewski; Title: Neurotoxic Impact of Developmental Iron-Sulfur and Ambient Air Pollution Exposure in the Mouse Nucleus Accumbens

2nd. David Pamies Mentor: Marie-Gabrielle Zurich; Title: A Human derived Brain Model to Study Chemical Induced Myelin Disruption

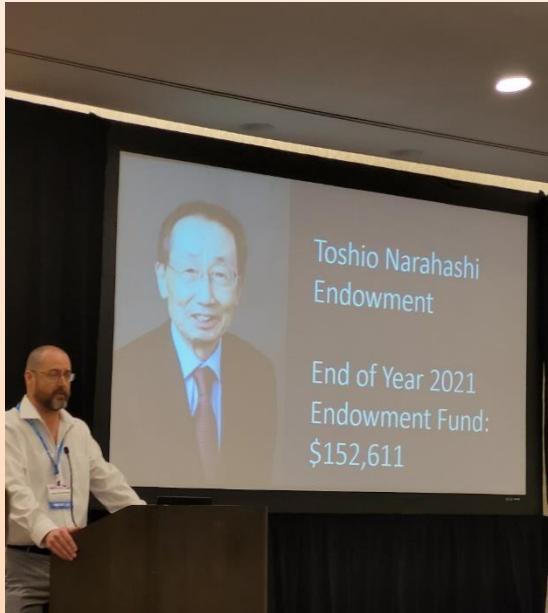
2nd. Tauqeernnisa Syeda Mentor: Jason Cannon; Title: Heterocyclic Aromatic Amines Promote Protein Aggregation and Induce Alzheimer's Disease Relevant Neurotoxicity

Outstanding Virtual Presentation Awards Postdoctoral Trainee

1st. David Pamies Mentor: Marie-Gabrielle Zurich; Title: A Human derived Brain Model to Study Chemical Induced Myelin Disruption

2022 SOT NTSS Reception

The 2022 SOT NTSS reception attendance was impressive, and we were ecstatic to see everyone in person in San Diego, CA. The receptions are great to catch up with colleagues as well as network meeting new people with similar interests.





62nd Annual Meeting & ToxExpo • Nashville, TN March 19–23, 2023



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 2023-2024 officers, and ample networking opportunities to connect with colleagues. It is a great juncture to discuss workshops and sessions for next year's 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 hosting group.

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

2023 NTSS

Meeting/Reception

Tuesday March 21, 2023

6:00-7:30 pm

2023 SOT Conference

NTSS Sponsored Sessions/Workshops

Platform Session

Mechanisms of Neurotoxicity, Neurodegeneration, and Neurodevelopmental Dysfunction Induced by Metals and Pesticides

Date/Time

Tue, Mar 21 8:00 AM - 10:30 AM

Symposium

Mechanistic Insights on Gene x Environment Interactions in Autism
Breaking Down Barriers: Blood-Brain Barrier Model Development and Applications in Drug Safety

Mon, Mar 20 9:15 AM - 12:00 AM

Tue, Mar 21 8:00 AM - 10:30 AM

Workshop Session

Expanding Our Knowledge of Neurological Disease Etiologies: Current Research on the Neural Exposome

Wed, Mar 22 8:00 AM - 10:45 AM

Poster Session

Neurotoxicity: Developmental I
Neurotoxicity: Developmental II
Neurotoxicity: General
Neurotoxicity: Neurodegeneration
Neurotoxicity: Metals
Neurotoxicity: Pesticides

Tue, Mar 21 2:30 PM - 4:15 PM

Wed, Mar 22 2:30 PM - 4:15 PM

Wed, Mar 22 2:30 PM - 4:15 PM

2023 SOT NTSS Member Awardees

Congratulations to all NTSS members that have received 2023 SOT awards! The notable range of awardees extends across undergraduates to lifetime achievement awards.

Undergraduate Research Awards

Anantha Akshitha Korrapati

Title: Heavy Metal Exposure Induces Senescence as a Mechanism of Dopaminergic Neurodegeneration

Check out the poster: Tues, Mar 21 2:30-4:15; 3909: Poster Board - P401



Jenna Swihart

Title: Comparing Effects of Atrazine Exposure on Neuroendocrine Molecular Targets at Two Developmental Exposure Periods in the Zebrafish

Check out the poster: Mon, Mar 20 9:00-10:45; 3529: Poster Board - P654



Bristol Myers Squibb Graduate Student Research Training Award to Promote Diversity in Toxicology

Arturo Barahona, MPH

Title: Gene Environment Interactions between APOE Genotype and Mn in Neurodegenerative Disease

Check out the poster: Tues, Mar 21 2:30-4:15 3922: Poster Board - P414



Best Postdoctoral Publication Awards

Isha Mhatre-Winters, PhD

Eid, Asell, **Isha Mhatre-Winters**, Ferass M. Sammoura, Melissa K. Elder, Richard von Stein, Muhammad M. Hossain, Yoonhee Han et al. 2022. "Effects of DDT on Amyloid Precursor Protein Levels and Amyloid Beta Pathology: Mechanistic Links to Alzheimer's Disease Risk."

Environmental Health Perspectives 130, no. 8 (August): 87005,

[Link to Best Postdoctoral Publication](#)



Toxicological Sciences Paper of the Year Award

Theodore A. Slotkin, Edward D. Levin, and Fredric J. Seidler. Paternal Cannabis Exposure Prior to Mating, but Not $\Delta 9$ -Tetrahydrocannabinol, Elicits Deficits in Dopaminergic Synaptic Activity in the Offspring.

2021. *Toxicological Sciences* 184, no 2. (December): 252-64.

[Link to Toxicological Sciences Paper of the Year](#)



Toxicologist Mentoring Award

Robyn Leigh Tanguay, PhD

Oregon State University, Corvallis, OR

Robyn Leigh Tanguay, PhD, has been awarded the 2023 SOT Toxicologist Mentoring Award for her commitment to mentoring and advancing the careers of dozens of toxicologists thus far in her career. Dr. Tanguay is a University Distinguished Professor in the Department of Environmental and Molecular Toxicology and Director of the Sinnhuber Aquatic Research Program at Oregon State University. She is a leader in the field of systems toxicology and a pioneer in using zebrafish as a model for predictive toxicology. Dr. Tanguay has mentored 35 graduate students, 18 postdoctoral scholars, more than 40 undergraduates, and served on 37 graduate committees. Recently, Dr. Tanguay has been working to mentor more individuals into positions in academia by sharing her experience and journey working in academia with postdoctoral groups. She educates and explains how the process works and is very forthright about the opportunities, challenges, and personal characteristics necessary to succeed. Dr. Tanguay also is supportive of all postdoctoral scholars who want to write grants. She makes herself accessible to serve on their committee and helps connect them with her network of researchers to facilitate their success. Dr. Tanguay also fosters collaborations across scientific fields in all her projects and makes a point to immerse mentees in collaborative experiences. She has been associated with SOT for more than 20 years. She is a member of councils and boards of numerous organizations, including SOT Council.



Distinguished Toxicology Scholar Award

Anumantha G. Kanthasamy, PhD

University of Georgia, Athens, GA

Distinguished Toxicology Scholar Award Lecture

Tuesday, March 21, 11:00 AM–12:00 Noon

Anumantha G. Kanthasamy, PhD, has been awarded the 2023 SOT Distinguished Toxicology Scholar Award for his service to the fields of toxicology and neuroscience, 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 2023 SOT Awardees: [Full Program](#)

NTSS Elections:

The time for nominations has passed. We sincerely thank all who have shown interest in various positions within NTSS council. Keep checking your emails for our 2023 election ballot or directly cast your vote [here](#) by Friday, **February 17, 2023!**

2022-2023 Neurotoxicology Specialty Section Officers:



President:
Jason R. Cannon



Vice President
Marissa Sobolewski



Vice President-Elect:
Vanessa Fitsanakis



Secretary/Treasurer:
Muhammad Hossain



Past President:
Jason R. Richardson



Councilor:
Briana De Miranda



Councilor:
Marcia Ratner



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



**Postdoctoral
Representative:**
Shannah Witchey



**Graduate Student
Representative:**
Alyssa Merrill