



Dear MSBSS Members,

2022 was the first time in three years we met face-to-face, often with masks, in San Diego. After our hiatus from in-person meetings, it felt celebratory to see one another again. Our reception was over-capacity. We welcomed many new faces and took notes for 2023. Next spring, we will continue to lead the organization of the fifth annual SOT mentoring event. This event began as a small gathering in San Antonio and has grown into a keystone event supported by multiple Specialty Sections with 150+ attendees. Next year, we will again partner with the Biotechnology and Mechanisms Specialty Sections and, for the first time, with the Out Toxicologists and Allies Special Interest Group and Risk Assessment and Sustainable Chemicals through Contemporary Toxicology Specialty Sections! In addition to our fantastic mentoring event, MSBSS will continue to highlight early career scientists through our undergraduate, graduate, and postdoctoral awards. Be on the lookout for a new series of three-minute videos from all award winners and a fresh website. A landmark study was published last year stating that chemical pollution is at unsafe levels (Persson et al. 2022). To respond to the societal demand for safer chemicals, MSBSS members develop high-throughput new approach methods and apply molecular and systems-level approaches to decode chemical toxicity events. Our work has never been more important. I look forward to seeing exciting MSBSS science in Nashville next spring. I hope you will join us there! 😊



Tamara Tal
2022-2023 MSBSS President

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Don't forget to vote in this year's MSBSS elections!
Online ballots will be distributed through ToXchange in December.

2022-2023 MSBSS Officers

President

Tamara Tal

*Helmholtz Centre for
Environmental Research–UFZ*



Vice President

Kari Sant

San Diego State University



Vice President-Elect

Jessica L. LaRocca

Corteva



Secretary/Treasurer

Lindsay A. Holden

US Army Public Health Center

Past President

Brian N. Chorley

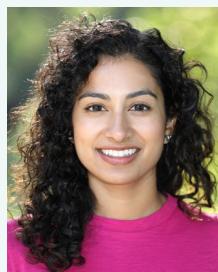
US EPA



Senior Councilor

Leah Wehmas

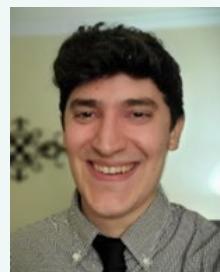
US EPA



Junior Councilor

Elizabeth M. Martin

NIEHS



Postdoctoral Rep.

David A. Gallegos

US EPA

Senior Student Rep.

Lindsay B. Wilson

Oregon State University



Junior Student Rep.

Marjorie Marin

University of Massachusetts



2022 MSBSS Undergraduate Student Trainee Award



First Place, Caroline Sturgis, University of Mississippi
BaP-Induced Multigenerational Gene Expression and DNA Methylation Changes are Primarily Influenced by Paternal Genotype



Second Place, Hyland Gonzalez, Med. U. of S. Carolina
Subcellular Targeting of Induced CYP2E1 in the Brain During Alcohol Use



Third Place, Taina Moore, Rutgers University
Nitrated Fatty Acids Inhibit NF- κ B Pathway in LPS-Stimulated RAW 264.7 Macrophage Cells

2022 MSBSS Graduate Student Trainee Award



First Place, Lindsay Wilson, Oregon State University
Combining RNA-sequencing with bioactivity screening reveals phenotypically-anchored gene profiles associated with increasing retene concentration in zebrafish



Second Place, Marjorie Marin, UMass Amherst
*Embryonic Perfluorooctanesulfonic Acid (PFOS) Exposure Increases β -cell Sensitivity to Nitroreductase-Mediated Ablation in Zebrafish (*Danio rerio*)*



Third Place, Eva Vitucci, Univ. of N. Carolina/US EPA
A Novel In Vitro Model of the Alveolar Capillary Region: Bridging the Gap Between Inhalation Toxicology and Cardiovascular Disease

2022 MSBSS Postdoctoral Scholar Research Award



First Place, David Leuthold, Helmholtz Centre for Environmental Research - UFZ

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



Second Place, Lauren Poole, Michigan State University

Canonical activation of protease-activated receptor-1 drives experimental liver fibrosis



Third Place, Subham Dasgupta, Oregon State University

Characterizing the developmental role of AhR-dependent sox9b long intergenic noncoding RNA (slincR) using CRISPR-Cas9-gene editing

Upcoming MSBSS Award Deadlines

MSBSS award deadlines are rapidly approaching! We are currently asking for applications for the following awards:

- Graduate Student Research Award
- Paper of the Year Award
- Postdoctoral Scholar Research Award
- Undergraduate Research Award

For more MSBSS Award information, please go to our website:

<https://www.toxicology.org/groups/ss/msbss/awards.asp>

Award applications are due December 2, 2022. SOT abstracts for the Annual Meeting are due December 1, 2022.

2022 MSBSS Paper of the Year Award



First Place, Milan Prajapati, Brown University

Prajapati, M., Conboy, H. L., Hojyo, S., Fukada, T., Budnik, B., & Bartnikas, T. B. (2021). Biliary excretion of excess iron in mice requires hepatocyte iron import by Slc39a14. *The Journal of biological chemistry*, 297(1), 100835. <https://doi.org/10.1016/j.jbc.2021.100835>

Second Place, Kathleen Hudson, NC State University

Hudson, K. M., Shiver, E., Yu, J., Mehta, S., Jima, D. D., Kane, M. A., Patisaul, H. B., & Cowley, M. (2021). Transcriptomic, proteomic, and metabolomic analyses identify candidate pathways linking maternal cadmium exposure to altered neurodevelopment and behavior. *Scientific reports*, 11(1), 16302. <https://doi.org/10.1038/s41598-021-95630-2>



Third Place, Rance Nault, Michigan State University



Nault, R., Fader, K. A., Bhattacharya, S., & Zacharewski, T. R. (2021). Single-Nuclei RNA Sequencing Assessment of the Hepatic Effects of 2,3,7,8-Tetrachlorodibenzo-p-dioxin. *Cellular and molecular gastroenterology and hepatology*, 11(1), 147–159. <https://doi.org/10.1016/j.jcmgh.2020.07.012>

Since 12/1/2021, MSBSS members published 329 PubMed-indexed papers!

For a complete list of MSBSS member publications, go to:

<https://docs.google.com/document/d/1baEMSMq5OOfERDXtx-giuVubphfVrcZ3p-Huj8ol68/edit>

Want to have your papers highlighted in next year's newsletter? Look out for periodic emails from MSBSS requesting professional updates, award notifications, and publications!

2023 MSBSS-Endorsed Sessions at the Annual Meeting

Monday, March 20

- A Transformative Vision for an 'Omics-Based Regulatory Chemical Testing Paradigm
 - Roundtable Session 12:10 PM–1:30 PM
- Playing with Fire: Human Exposure, Health Risks and Safer Design of Flame Retardants
 - Symposium Session 1:45 PM–4:30 PM
- Annual Molecular & Systems Biology Mentoring Reception
 - 7:00 PM–9:00 PM
 - Location: TBD

Tuesday, March 21

- Molecular & Systems Biology SS Reception
 - Specific Time TBD
 - Location: TBD

Wednesday, March 22

- Metals Matter: The Potential Effects of Metal-Mediated Cell Death in the Pathogenesis of Cardiopulmonary Diseases
 - Symposium Session 8:00 AM–10:45 AM
- Cancers, Chemicals, and the Microbiome
 - Workshop Session 8:00 AM–10:45 AM
- Grappling with the Grim Reaper: Epigenetics of Aging
 - Workshop Session 1:30 PM–4:15 PM

Thursday, March 23

- High-Content Imaging: Cell Painting Basics and Emerging Applications to Toxicological Research
 - Symposium Session 8:30 AM–11:15 AM

RECAP: 2022 MSBSS Mentoring Reception

We were thrilled to host this event in person once again in San Diego in 2022. MSBSS partnered with Biotechnology and Mechanisms Specialty Sections to host over 100 mentees and mentors representing various disciplines in toxicology including academia, industry, consulting, government, and science communication. Following the event, we sent a survey to acquire feedback from attendees. In the “speed-mentoring” style event, mentors and mentees alike appreciated the



opportunity to network with a diverse group of attendees in a fun, informal way, while making connections that we hope will be long-lasting and fruitful. In 2023, we plan to use this feedback to make the event even more successful, with smaller group sizes and rotations more tailored to trainee interests. Once again, we will be partnering with other SOT sub-groups and all students and postdocs within partnering groups are eligible to attend, but keep an eye out for further announcements because space is limited!



Help MSBSS Continue to Support Trainees!

One of the key aspects of the MSBSS Mission is to support trainees. We recognize outstanding research at the undergraduate, graduate and postdoctoral stages; provide travel and Paper of the Year awards; and host the popular Mentorship Reception at the annual SOT conference. Help MSBSS maintain this exceptional level of support for our trainees by making a tax-deductible donation to our specialty session. Some of your employers may have programs for matching employee contributions to charitable organizations like SOT, so check with your employers to maximize your giving. You can give directly to the [Molecular Biology Student Award Fund](#) or work through the MSBSS Treasurer (Lindsay Holden) to coordinate your donation.

2022 MSBSS Treasurer's Report

The MSBSS finances (as of the end of Fiscal Year 2022) are below. Our General Fund is used to support the annual reception, mentoring event, and overrun award costs and the Endowment fund supports trainee awards. Our specialty section is in good financial standing with sufficient funds to support our meeting and award activities in the upcoming year.

	Balance
Endowment fund	\$ 63,201
General fund	\$ 32,579

Stay Connected!

In an effort to improve year-round communications, we have a MSBSS Twitter handle. Follow for award updates, features, and scientific content!



@msbss_sot



msbss.sot@gmail.com

Save the Date!

Annual MSBSS Mentoring Reception at the 2023 SOT meeting in Nashville

Tentative date and time: Monday, March 20th, 7-9pm

Partners: Risk Assessment SS, Biotechnology SS, Sustainable Chemicals through Contemporary Toxicology SS, Mechanisms SS, Out Toxicologists and Allies SIG

Location: Nashville Convention Center (Room TBD)

Stay tuned in January 2023 for registration and mentor information!

We want to celebrate YOU!

Send us updates on your accomplishments on Twitter (@MSBSS_sot), or to our email address: MSBSS.sot@gmail.com

2022 MSBSS Member Accolades

Sarah Avila-Barnard, UC Riverside

- Best presentation- UCR ETOX Graduate student symposium
- Society for Birth Defects Research and Prevention 62nd Annual Meeting Travel Award

Subham Dasgupta, Clemson University

- New job as Assistant Professor, Clemson University

Marjorie Marin, UMass Amherst

- 1st Place (tie), NESOT Student Poster Award

Yvonne Rericha, US EPA

- Dr. Eric A. Andreasen Graduate Student Award (2022)
- New job at EPA, Narragansett Bay as a postdoc

Kari Sant, San Diego State University

- Received tenure and promotion to Associate Professor

Lindsey St. Mary, Oregon State University

- Best Platform presentation (3rd)- PANWAT 2022

Alicia Timme-Laragy, UMass Amherst

- Promoted to Professor

Madeline Tompach, UMass Amherst

- NESOT Student Oral Presentation Award

Jenna Wiegand, UC Riverside

- Outstanding Teaching Assistant award (UC Riverside)
- Best Student Poster award – SoCal SETAC
- Society for Birth Defects Research and Prevention 62nd Annual Meeting Travel Award

Lindsay Wilson, Oregon State University

- Won MSBSS Best Graduate Student Award (SOT 2022)
- Best Poster Award (3rd)- PANWAT 2022