

Risk Assessment

ANNUAL REPORT: 2022–2023

May 1, 2022 to April 30, 2023

I. Officers/Committees

Officer

President:
Vice President:
Vice President-Elect:
Secretary/Treasurer:
Past President:
Councilors:

Postdoctoral Representative:
Graduate Student Representative:

2022–2023

Daniele Wikoff
Cecilia Tan
Bernard Gadagbui
Jessica Wignall
Laura Plunkett
Miao Li
Kimberly Zaccaria
Anna Kreutz
Alan Valdiviezo

2023–2024

Cecilia Tan
Bernard Gadagbui
Anne Loccisano
Katy Goyak
Daniele Wikoff
Sarah Burnett
Kimberly Zaccaria
Anna Kreutz
Alyssa Bellomo

Committees:

| Position | Fiscal Year 2022-2023 | Fiscal Year 2023-2024 |
|--|--|---|
| Volunteer Pool Coordinator | Alea Goodmanson | Alea Goodmanson |
| RASS Webinar Series Coordinator | Annie Jarabek | Annie Jarabek |
| RASS Training Syllabus Series Coordinating Committee | George Woodall Gary Minsavage Fabian Grimm Laura Plunkett Li Yang Jessica Wignall | George Woodall Gary Minsavage Fabian Grimm Laura Plunkett Li Yang Jessica Wignall |
| RASS Endowment Fund Steward Committee | Anne Loccisano David Szabo Tami McMullin Chiedu Onwordi | Anne Loccisano David Szabo Tami McMullin Chiedu Onwordi Laura Plunkett |
| Student and Postdoctoral Award Committee | Cecilia Tan (Chair)* Miao Li* Bindu Prabhakar Laurie Roszell Kel Hanson Melissa Heintz Jennifer Raynor | Kim Zaccaria (Chair) Juliane Beier Rhiannon Hardwick Melissa Heinz Miao LI Alexandra Lobach Rebecca Mccullough Archit Rastogi Kel Hanson Gina Hilton Leslie Patton Kelly Salinas Lisa Sweeney |

| | | |
|-------------------------------------|--|--|
| RASS Best Abstract Awards Committee | Cecilia Tan (Chair)* Bindu Prabhakar Nathan Pechacek Kim Zaccaria Evisabel Craig Matthew Wolter Jennifer Raynor Jalissa Nguyen | Kim Zaccaria (Chair) Mary Francis Elaine Freeman Jennifer Hsieh Jalissa Nguyen Jennifer Rayner Alberto Tohme Matthew Wolter Xiaoling Zhang |
| RASS Best Paper Awards Committee | Miao Li* Kelly Salinas Alberto Tohme Norm Healy Lisa Sweeney Elaine Freeman Nathan Pechacek Stefanie O'Neal Penny Fenner-Crisp Matthew Wolter Kim Zaccaria Jon Urban Laura Markley | Cecilia Tan (Chair) Evisabel Craig Kristin Noell Norm Healey Stefanie L. O'Neal Alberto Tohme Jennifer Rayner Matthew Wolter Katy Goyak Theresa Onwordi Casey Fisher Nathan Pechacek Penelope Fenner-Crisp |

II. 2022 Membership total: 776

III. Key Outcomes in 2022–2023:

Fundraising for RASS Endowment Funds: RASS has five endowments funds supporting awards to students and postdocs – the John Doull Student Award Endowment Fund, Perry J. Gehring Risk Assessment Student and Postdoctoral Award Endowment Funds, Robert J. Rubin Student Travel Award Endowment Fund, and the Andersen-Clewell Trainee Award Endowment Fund. We encourage our members to contribute to our endowment funds, as they provide stipends to graduate student and postdoc members who display excellence in Risk Assessment. Our goal in the next year is to increase each fund by at least \$2,000 (\$8,000 in total). With your help to reach this goal, the annual RASS merit-based Endowment Fund awards will continue to increase each year. Please help us meet this goal and continue to support the next generation of toxicologists. Please visit the Endowment website to see current contributors and learn more about the endowments. Contributing is easy: <http://www.toxicology.org/endowment/contribute/donate.asp>

RASS Mixer at SOT 2023: Despite having a Wednesday evening slot in the program, the RASS mixer was highly attended, with standing room only. Working quickly through the buffet line, we shortened the business program to allow more time for networking and acknowledging award winners. Posters winning awards were displayed at the mixer, along with information signs about endowment funds.

RASS Continues Its Training Syllabus Series in 2022: The SOT/RASS Risk Assessment Syllabus has presented two more Training Syllabus webinars since June 2022. These webinars were designed to comprehensively present key concepts of risk assessment to those

in any career stage. The third webinar in this series was held on November 15th, 2022, entitled "*Evaluations of Epidemiology and Human Studies for Risk Assessment*". The presentation focused on understanding the general principles of epidemiology and how research from epidemiological studies can be used for risk assessment.

The fourth and most recent syllabus webinar took place on August 3, 2023, entitled "*Basics of Exposure Assessment*". The presentation focused on the basic development and considerations of an exposure assessment, the relationship between exposure and dose, and how it relates to human health risk assessment.

Presentation materials and recordings are available for download (<https://www.toxicology.org/groups/ss/rass/events.asp>)

IV. Activities

A. SOT Annual Meeting Activities (e.g., courses, scientific sessions, receptions):

2023 Annual Awards were presented at the SOT Annual Meeting in Nashville: Three different categories of awards were given this year by RASS. They included student awards, Best Abstract awards, and Best Risk Assessment paper awards (one for application of risk assessment and one for advancing the science of risk assessment. The 2022-2023 award winners are listed below.

B. 2023 Awards Recipients:

STUDENT AWARDS:

- There was one winner of the Perry J. Gehring Graduate Student Award in 2023. The winner was Haley Moyer of Texas A&M University. Her presentation was entitled "Evaluating Mechanistic Underpinnings of Environmental Chemical Effects on Feto-Maternal Interface Using a Human Organ-On-Chip Model".
- There was one winner of the John Doull Student Award in 2023. The winner was Lucie Ford of Texas A & M University, and the presentation was entitled "Hazard Characterization and Grouping of PFAS using a Compendium of Human Cell Lines from Different Organs".
- The winner of the 2023 John Doull Postdoctoral Award was Pavani Gonnabathula at U.S. FDA and the presentation was entitled "Development and Application of a Paxlovid PBPK Model for Modeling-Based Dose Recommendations in the Pediatric Population".
- The winner of the 2023 Andersen-Clewell Trainee Award (Presented Jointly with Biological Modeling SS) was Elise Hickman of University of North Carolina at Chapel Hill. Her presentation was entitled "Interindividual Variability Assessments through Benchmark Dose-Response Modeling of Primary Human Bronchial Epithelial-Fibroblast Co-Culture Responses to Acrolein".
- The winner of the Robert J. Rubin Award (Presented Jointly with Mechanisms SS) was Arthur Stem of University of Colorado Anschutz Medical Campus. His

presentation was entitled “Sugarcane Ash and Sugarcane Ash-Derived Silica Nanoparticles Alter Cellular Metabolism in Human Proximal Tubular Kidney Cells”

BEST ABSTRACT AWARDS

The RASS 2023 Best Abstract award was presented to Lisa Yang, Jillian Parker, Suren Bandara, Ernest Fung, and Andrew Maier (Cardno Chemrisk) for their presentation entitled “Risk Assessment Framework to Evaluate Persistent Organic Pollutant Contaminations in Dietary Supplements”.

There were nine honorable mention award winners in this category as well as follows:

- [P598] **Ernest Fung** et al. Cardno ChemRisk. In Silico Occupational Exposure Banding Framework for Data-Poor Compounds in Biotechnology.
- [P134] **Cindy Woodland** et al. Health Canada. Government of Canada Commitment to Uphold the 3Rs of Replacing, Reducing, and Refining Animal Toxicity Tests in Chemical Risk Assessment (CRA) through the Use of Refined Juvenile and Adult Zebrafish Models as New Alternative Toxicity Assays (NATAs) for Use in Quantitative Human Health and Environmental CRAs.
- [P203] **Srijit Seal** et al. University of Cambridge. PKSmart: A Public Tool to Predict *In Vivo* Pharmacokinetics of Small Molecules.
- [P403] **En-Hsuan Lu** et al. Texas A&M University. Assessing the Concordance of In Vitro and In Vivo Protective Points-of-Departure: A Case Study of ATSDR Substance Priority List Chemicals.
- [P324] **Gang Yan** et al. Procter & Gamble. Refine and Strengthen SAR-Based Read Across by Considering Bioactivation and Mode of Action.
- [P101] **Lee Ellis** et al. National Research Council Canada. Optimizing Protection for Human Health and the Environment Using Zebrafish Models in an Integrated Approach to Testing and Assessment-IATA for Predicting Endocrine Disruption and Systemic General Toxicity in Quantitative Chemical Risk Assessments.
- [P328] **Shimpei Terasaka** et al. Kao Corporation. Investigating the Uncertainty of Prediction Accuracy for the Application of Physiologically Based Pharmacokinetic Models to Animal-Free Risk Assessment.
- [P666] **G. Rabussier** et al. MIMETAS. 3D Microphysiological Placenta *In Vitro* Model as a Tool for Drug Transport Studies and Risk Assessment.
- [P874] **Martyn Chilton** et al. Lhasa Limited. Assessing whether Expert Knowledge-Based and Statistical *In Silico* Models Can Be Used to Predict the Sensitization Potential of Extractables and Leachables.

BEST PAPER AWARDS

This year RASS changed the methods for identifying candidate papers to increase efficiency and ensure at least one author is a SOT member. Candidate papers were identified via two sources. The first one is Nomination by RASS members by January 6, 2023. The second one is Risk Assessment papers published in the SOT’s official

journal, Toxicological Sciences (searched by keywords “risk assessment” or “safety assessment” and screened by Cecilia Tan, RASS VP). There were a total of 21 nominations and 12 publications from Toxicological Sciences. RASS Executive Committee reviewed and voted for the top 10 papers for each category. The Best Paper Advancing the Science of Risk Assessment that was published in 2022 was by Alves VM, Borba JVB, Braga RC, Korn DR, Kleinstreuer N, Causey K, Tropsha A, Rua D, Muratov EN entitled “*PreS/MD: Predictor of Sensitization Hazard for Chemical Substances Released From Medical Devices*” (Toxicol Sci 2022; 189(2): 250-259). The Best Paper Demonstrating the Application of Risk Assessment that was published in 2022 was by De Abrew KN, Natoli T, Lester CC, Wang X, Shobair M, Subramanian A, Daston GP entitled “*A New Approach Methodology (NAM) Based Assessment of Butylated Hydroxytoluene (BHT) for Endocrine Disruption Potential*” (Toxicol Sci 2022; 190(2): 227-241).

C. Other Educational Activities Conducted (e.g., webinars, in-person meetings):

- 1) Wednesday, April 19, 2023: **Engineering Complex Systems for Predictive Toxicology in the Animal-free Zone**; Hosted by Risk Assessment Specialty Section; Speakers: Dr. Deisenroth, PhD, US EPA and Dr. Knudsen, PhD, US EPA.
- 2) Monday, February 6, 2023: **Silicone Wristbands: Personal Exposure Monitors to Help Support Research on the Exposome**; Co-Hosted by: SOT Risk Assessment Specialty Section, SOT Exposure Specialty Section, and the International Society of Exposure Science; Speakers: Heather M. Stapleton, PhD and Ronie-Richele Garcia-Johnson Distinguished Professor of Environmental Health, Nicholas School of the Environment, Duke University.
- 3) Wednesday, January 11, 2023: **Mixture Assessment Factors-Motivations, Derivations and Uses**; Hosted by: SOT Risk Assessment Specialty Section and Mixtures Specialty Section; Speaker: Andreas Kortenkamp, PhD, Brunel University London, Centre for Pollution Research and Policy
- 4) Wednesday, December 14, 2022: **Generic Pharmacokinetic Models for Mother-to-Offspring Transfer of Chemicals**; Jointly Sponsored Webinar with the Biological Modeling Specialty Section; Speaker: Dustin F. Kapraun, PhD, US EPA.
- 5) Tuesday, November 15, 2022: **Evaluations of Epidemiology and Human Studies for Risk Assessment**; Hosted by: SOT Risk Assessment Specialty Section (RASS); Speakers: Rachel Shaffer, PhD, US EPA and Rebecca Nachman, PhD, US EPA; Moderator: Ronald Hines, PhD, ATS, Yale University School of Public Health; Panelists: Daniel Krewski, PhD, University of Ottawa and Raghavendhran Avanasri, PhD, Syngenta Crop Protection LLC. This was the third of a webinar series on similar topics; the first was held in June 2021, and the second was held in June 2022.
- 6) Wednesday, October 12, 2022: **A Community-Integrated Geographic Information System Study of Air Pollution Exposure Impacts in Colfax, Louisiana**; Speakers: Jennifer Richmond-Bryant, PhD, Associate Professor of the Practice, Department of Forestry and Environmental Resources and the Center for Geospatial Analytics, North Carolina State University, Raleigh, North Carolina and Margaret Reams, PhD, Professor and Joseph D. Martinez Professor of Environmental Sciences, Department of Environmental Sciences, College of the

Coast and Environment, Louisiana State University (LSU), and Leader, Community Engagement Core, LSU Superfund Research Center, Baton Rouge, Louisiana.

- 7) Wednesday, September 14, 2022: **Combined Effects of Chemical Mixtures Are Predictable for the Whole Transcriptome-a Proof of Concept Toxicogenomic Study With Zebrafish Embryos**; Jointly Sponsored Webinar with the Mixtures Specialty Section; Speaker: Wibke Busch, PhD, Group leader iTox-integrative toxicology, Helmholtz-Centre for Environmental Research-UFZ, Leipzig and Lucie Ford, Doctoral Student, Interdisciplinary Faculty of Toxicology, Texas A&M University.
- 8) Tuesday, June 7, 2022: **Animal Toxicology in Risk Assessment-Study Design and Evaluation Considerations**; Speaker: Margaret Pratt, PhD, Toxicologist, ORD, USEPA, Washington DC; Facilitator/Moderator: George Daston, PhD, Victor Mills Society Research Fellow, Proctor & Gamble Co., Mason, OH; Panelists: John Lipscomb, PhD, Toxicologist, CTEH, North Little Rock, AR, Elaina Kenyon, PhD, Research Toxicologist, ORD, USEPA, Durham, NC and Elaine Faustman, PhD, Professor, University of Washington.
- 9) Wednesday, May 11, 2022: **Establishing Scientific Confidence in New Approach Methodologies (NAMs): Eye Irritation Testing and Beyond**; Jointly Sponsored Webinar with the In Vitro and Alternative Methods Specialty Section (IVAM); Speakers: Hans A. Raabe, MS, VP and Chief Operating Officer, Institute for in Vitro Sciences (IIVS) and Amy J. Clippinger, President, PETA Science Consortium International e.V. (PSCI)W

D. Communication Activities:

1. Newsletter publication frequency: Volume 12 and 13 in November 2022
2. Communication Highlights: RASS LinkedIn Account
 - A. RASS actively distributed other Specialty Section webinar announcements that were of interest to the RASS membership.
3. Highlights of website enhancements: Updated the website periodically to suit changing needs.

- E. Mentoring Activities: RASS participated in a joint mentoring event at the 2023 Annual Meeting with BTSS, MSBSS, MechSS, SCCT, and OTA. The event was comprised of 128 participants (25 mentors; 103 mentees).

V. **Feedback and Ideas:**

- A. In what ways is your group fostering and maintaining an inclusive environment? Please give examples of any current practices used to support inclusion in processes such as 1) leadership selection and promotion, 2) award descriptions and selection, and 3) endorsement of proposals for the annual meetings.

RASS EC strives to foster and maintain an inclusive environment by maintaining open communication with our membership, as well as via numerous collaborative opportunities for learning and networking. This is highlighted by the RASS webinar series and RASS syllabus training, as well as numerous volunteer opportunities (awards, proposals, endowment committee, etc.) These activities are open to all members, though emphasis is often placed on trainees. RASS has also expanded communication efforts beyond the newsletter and website by using LinkedIn to better communicate events and RASS-related opportunities.

- B. What is one thing the Society should be doing that we currently do not do (or do not do effectively) that would be of importance/benefit to the members of your component group?

At this point in time, we have nothing significant to recommend that needs to be changed. Our SS liaison has been an excellent, responsive, and respectful partner and deserves recognition for that.

It may be helpful to develop and/or make more prominent the description of a SS liaison, their role, and how to best utilize this resource. As part of such, it would be helpful to better understand and document the process for how to work with SOT on setting up webinars, marketing, etc.

RASS also spent time developing a “manual” for officers over the last 2 years; this manual is meant to better explain how to carry out the duties for the roll. This has included timelines, specific tasks, examples, etc. This may (or may not) be something that could be helpful to further develop and apply more generally as a template for other SS in future.

- C. What is one thing that the Society is currently doing that impacts your component group that should be changed (e.g., stopped, modified, etc.)?

We commonly encounter challenges with documentation management, and over the past several years, we have used ToXchange less simply because of its cumbersome nature. Our group is currently using Google Docs to help manage documents and processes, though we also have challenges with this system, and thus do not have a particular recommendation to make to the Society. We are not confident training on how to better use it would improve its utility and apologize that we do not have a particularly productive suggestion.

We also use a RASS Gmail to receive emails about awards, etc., so we believe that the Society’s efforts to help streamline communication coming into the SS about awards is an excellent step forward.