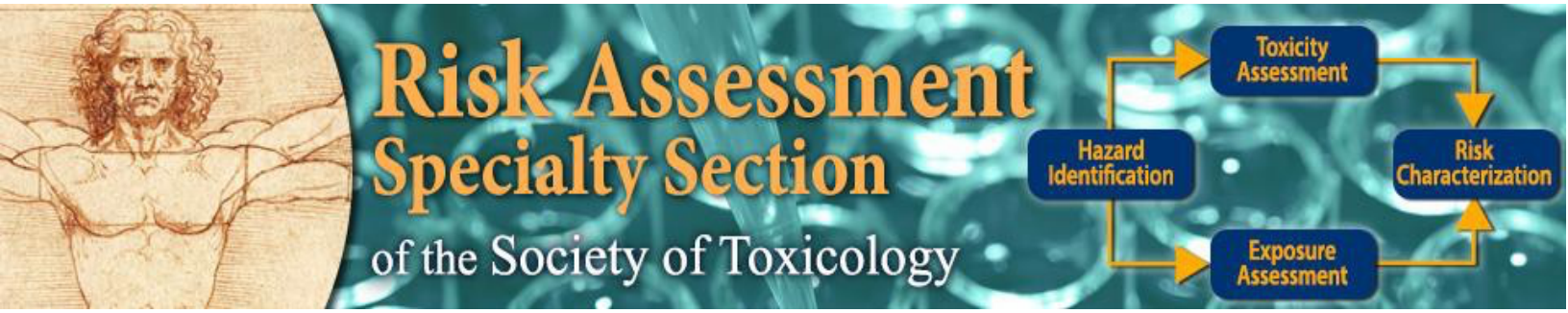

President's Message

Hello, fellow risk assessors! What an exciting time to be a practitioner–to be at the center of evolving science ranging in themes from navigation of the reduction of animal testing and use of NAMs in risk assessment to increased use of mechanistic and epidemiological data in decision making. We are fortunate to have so many members of this Specialty Section doing cutting edge work in risk assessment, as well as mentoring the next generation of risk assessors. I am quite excited to see all the science that RASS members will present at this year's annual meeting in Nashville, Tennessee!

I am proud to highlight a number of RASS activities–these opportunities to learn about new risk assessment techniques and applications via the RASS webinars, or to learn about fundamental concepts in risk assessment via the RASS Syllabus activities, continue to be flagship offerings of this Specialty Section. Annie Jarabek continues to lead the webinar series, coordinating an action-packed schedule of webinars, including several webinars organized jointly with other specialty sections. The RASS Syllabus activities have gained particular momentum, highlighted by the attendance (>250 participants!) on the November webinar regarding use of epidemiological data in risk assessment. I offer a special thank you to all of the RASS members that have contributed to the organization and presentation of these activities, as well as to the members for attending!

This is also the time of year to think about awards, both application/nomination as well as volunteering to assist in the award selection process. RASS offers many student/postdoc awards, as well as awards for Best Abstract at the annual meeting, and two Best Paper awards. The nomination process is open, please visit the website for instructions on applying for awards and nominating best papers. With so many awards, we are thankful to the many volunteers that help with screening, evaluation, and selection of award winners. Please see additional details in this

newsletter on being involved as a volunteer for this process. This is a great way to see first-hand some of the most novel and impactful work going on in our field.

It is an honor to serve as President of the Risk Assessment Specialty Section, and I am grateful to be serving with an amazing team of officers on the Executive Committee. We are continually interested to hear any feedback or suggestions you have. Please email or send us a note on our LinkedIn page to let us know how you can help and/or what new ideas you might have for RASS activities.

I hope to see you in Nashville,

Daniele Wikoff
RASS President 2022-2023
dwikoff@toxstrategies.com

2023 RASS OFFICER NOMINATIONS

RASS is one of the largest SOT Specialty Sections. Our members have a broad spectrum of scientific experience and influence and participate in many of the most important decisions for applying toxicology for the greater good. This standing is and will continue to be only as strong as the RASS leadership. If you or someone you know would be interested in helping direct RASS's continuing presence in the field, then there are officer opportunities for which you may be a terrific fit. Serving as an officer presents a great opportunity to get involved in our specialty sections and SOT, and most importantly, serving on the Executive Committee is fun!

There are four upcoming RASS officer vacancies for which nominations are being received: Vice President-Elect (Presidential chain: 4-year commitment), Secretary/Treasurer (2-year commitment), Junior Councilor (2-year commitment), and Graduate Student Representative (2-year commitment). This year's RASS officer nominations committee is headed by our RASS immediate Past President, Dr. Laura Plunkett (lplunkett@biopolicysolutions.com). Please submit your nomination of yourself or a colleague to Dr. Plunkett as soon as possible (initial deadline was November 15, 2022).

NOTE: All candidates in the presidential or treasurer chain must be Full, Associate, Retired, or Emeritus members of SOT, and Student and Postdoctoral Representatives must be Student or Postdoc members of SOT.

If anyone is interested in reviewing the roles and responsibilities of each position before committing, these can be found on the RASS webpage at: https://www.toxicology.org/groups/ss/RASS/officers.asp.

RASS WEBINAR SERIES AND OTHER UPCOMING WEBINARS

RASS webinars are held from Fall through Spring, generally on the 2nd Wednesday of each month. If you cannot participate in any of the live RASS webinars, links to the past webinar slides and recordings are available on the RASS website:
https://www.toxicology.org/groups/ss/RASS/downloads.asp
Also included below is the next in our RASS Syllabus Training series (November).

June 7, 2022

Second RASS Risk Assessment Syllabus Training Webinar
Animal Toxicology in Risk Assessment – Study Design and Evaluation Considerations

Margaret Pratt, PhD
Office of Research and Development
Center for Public Health and Environmental Assessment
US EPA
Panelists:
John Lipscomb, PhD, Toxicologist
CTEH, North Little Rock, AR
Elaina Kenyon, PhD, Research Toxicologist
ORD, US EPA, Durham, NC
Elaine Faustman, PhD, Professor
University of Washington

September 14, 2022

Co-sponsored with the Mixtures Specialty Section (MixSS)

Combined Effects of Chemical Mixtures Are Predictable for the Whole Transcriptome—a Proof of Concept Toxicogenomic Study With Zebrafish Embryos

Wibke Busch, PhD, Group leader iTox
Integrative toxicology, Helmholtz
Centre for Environmental Research
UFZ, Leipzig

A Population-based Human In Vitro Approach to Quantify Inter-individual Variability in Responses to Chemical Mixtures

Lucie Ford, Doctoral student
Interdisciplinary Faculty of Toxicology
Texas A&M University

October 12, 2022

A Community-Integrated Geographic Information System Study of Air Pollution Exposure Impacts in Colfax, Louisiana

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

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)
Leader, Community Engagement Core, LSU Superfund Research Center
Baton Rouge, Louisiana

November 15, 2022

Third RASS Risk Assessment Syllabus Training Webinar
Evaluations of Epidemiology and Human Studies for Risk Assessment

Rebecca Nachman, PhD, Epidemiologist
US EPA Office of Research & Development

Rachel Shaffer, PhD, Epidemiologist
US EPA Office of Research & Development

Moderator:
Ronald Hines, PhD
Yale School of Public Health

Panelists:
Daniel Krewski, PhD
Risk Sciences International

Raga Avanasi, PhD
Human Safety - Risk Assessment, Syngenta

TRAINEE SPOTLIGHT

We are spotlighting three trainee members of RASS as they describe the current state of their career and aspirations for next steps. If you would like to be the next trainee in the spotlight, please send Miao Li (miao.li@fda.hhs.gov) an email.

We are looking forward to hearing from you!

Alexandra Cordova, Texas A&M University

2022 Perry J. Gehring Graduate Student Risk Assessment Award Winner

1. Why did you choose to study/pursue research in the field of toxicology/RA?

My journey to find toxicology and risk assessment was somewhat serendipitous! My undergraduate education was at Southern Methodist University, where I majored in chemistry and finance and fell in love with research while working in one of my professors' labs. I enjoyed this course of study, but always knew I wanted to work in a more applied field. I came across the area of toxicology as I was searching for graduate programs and was intrigued by the possibilities for impact across several fields. Once I started my graduate program, I was fortunate to be introduced to the world of risk assessment thanks to my advisor and professors here at Texas A&M and found a real passion for it. I haven't looked back since!

2. How does your research support risk assessment?

My research focuses on developing an analytical-to-in vitro approach to decipher the bioactive fraction of complex substances, many of which have an unknown and variable chemical composition. Understanding the hazards associated with a substance is key in conducting risk assessment, but several challenges arise when samples contain thousands of constituents and no two samples are alike. New approach methods and improved resolution of nontarget analytical techniques give researchers the opportunity to answer some of these questions much more rapidly than conventional approaches. We are trying to bridge the gap between analytical and high-throughput *in vitro* assays to inform exposure assessment of such substances, and in turn, risk assessment.

3. **What do you like to do outside of work?**

Outside of work, I most enjoy spending time with my family and friends! I also love watching and playing baseball, photography, working out, and some retail therapy at the mall. :)

4. **What challenges do you see the area of risk assessment facing in the near future?**

The field of risk assessment is evolving quickly, and several challenges are rising to the forefront of toxicology. There is still much growth needed in the assessment of mixtures as opposed to individual chemicals, and we are beginning to see similar obstacles arise in the study of various classes of contaminants, including PAH, PFAS, atmospheric and inhalation toxicants, and even microplastics. Understanding, speciating, and modeling exposures from "real-world" scenarios is very important, and incorporating novel analytical resources such as remote sensing instruments would help us move in the right direction.

5. **How should SOT attract future graduate students and post-docs into the field of risk assessment?**

Risk assessment toxicology is such an important field, but I feel that not enough undergraduate and even high school students are aware of the discipline. Reaching out to instructors of toxicology and other basic sciences at high schools and universities who are interested in hosting a guest lecturer may be a way to promote the field and engage students early on.

Anna Kreutz, United States Environmental Protection Agency (Current Affiliation: NIH/NIEHS)

2022 Perry J. Gehring Postdoctoral Risk Assessment Award Winner

1. **Why did you choose to study/pursue research in the field of toxicology/RA?**

I have had a longstanding interest in the environment and risk factors for neurodevelopment. I have since come to appreciate that these two may share some overlap—that there may be factors in our environment that could contribute to disruption of neurodevelopment. This has led me to the field of developmental neurotoxicity. By incorporating risk assessment I can realize the translational nature of my research.

2. **How does your research support risk assessment?**

Working in government, both at EPA and NIEHS, it's hard to not be working on something related to risk assessment- and that's one of the aspects of my work I really appreciate. My research addresses risk assessment in a number of ways. Default uncertainty factors are used in risk assessment to account for inter and intraspecies variability. By studying population and life-stage variability in metabolism, I am trying to understand if the default uncertainty factors that are used for toxicokinetic variability are really appropriate for sensitive individuals in a population to understand if our risk assessment approach is sufficiently health protective. NAMs are being used for a wide range of toxicological endpoints to move away from traditional in vivo guideline studies. This is particularly true in the field of developmental neurotoxicity, for which we have minimal *in vivo* data. While NAMs provide numerous advantages over *in vivo* studies, the concentrations do not equate to in vivo human dosages. For that we need to perform *in vitro* to *in vivo* extrapolation. I recently developed an *in vitro* to *in vivo* extrapolation approach for developmental neurotoxicity so that we can determine the human equivalent dose needed to elicit developmental neurotoxicity bioactivity. These dosages can then be compared against exposure estimates to derive margin of exposure metrics, which can be used for chemical prioritization for risk assessment.

3. **What do you like to do outside of work?**

Rock climbing! Preferably outdoors. Also road biking.

4. **What challenges do you see the area of risk assessment facing in the near future?**

Addressing population and life-stage variability. This is an area my work tries to address, but does so in only a minimal way. As scientists we always want to reduce variability to get a significant p value, but then we really can't understand how individuals respond. I'm curious to see in what ways this is addressed in the coming years with the push to address issues of environmental justice.

5. **How should SOT attract future graduate students and postdocs into the field of risk assessment?**

Incorporating risk assessment into whatever line of toxicological research can be actually relatively simple thanks to all the tools and models available. I think graduate students and postdocs don't realize this, figuring it's just something for risk assessors and individuals in government. By creating workshops targeted directly to trainees, this might help graduate students and postdocs realize how readily risk assessment can be incorporated into their own work, or at least how their work can help to inform risk assessment.

Bevin Blake, United States Environmental Protection Agency

2022 Perry J. Gehring Postdoctoral Risk Assessment Award Winner

1. Why did you choose to study/pursue research in the field of toxicology/RA?

I became interested in the field of toxicology after taking an undergraduate course in ecotoxicology as an elective class for my biology major. Little did I know this "filler" class would completely change my educational trajectory! I was captivated by the relationship between human activity and the health of the environment and all the creatures that inhabit it (including humans). When I was developing my PhD thesis, I began to wonder about how the research that happens at the bench ultimately gets translated into policy. This curiosity led me to my current postdoctoral fellowship working as a toxicologist in human health risk assessment, which I like to think of as being an important intermediate step between primary research and policy decisions.

2. How does your research support risk assessment?

As a postdoctoral fellow at US EPA, my work is primarily focused on supporting agency-led risk assessment products, including Integrated Risk and Information System (IRIS) assessments, provisional peer-reviewed toxicity values (PPRTVs), and fit-for-purpose assessments. I use my toxicology expertise to contribute to the hazard identification step of the risk assessment process, which can include synthesizing evidence for specific health hazards, such as developmental and reproductive toxicity, for a given chemical. I also contribute to and lead research projects that explore the application of new approach methodologies (NAMs) in the context of human health risk assessment.

3. What do you like to do outside of work?

Outside of work I love to be, well, outside! I love spending time outdoors and enjoy hiking, backpacking, camping, mountain biking, running, and rock climbing. I'd like to think my experience as a risk assessor has given me the tools I need to appropriately assess the risk for each of these activities (just kidding, I am actually very risk-averse!).

4. What challenges do you see the area of risk assessment facing in the near future?

One of the challenges that the area of risk assessment will continue facing in the near future is how to integrate evidence derived from new approach methodologies (NAMs). This is something that I

am currently working on in the context of reproductive toxicants and hope to help pave the way forward so that we can build confidence in the use of NAMs-based data in human health risk assessment.

5. **How should SOT attract future graduate students and post-docs into the field of risk assessment?**

I think risk assessment can seem a little nebulous and unapproachable to bench-based trainees who might not have much familiarly, training, or experience in the field of risk assessment—at least it did for me until I learned more about how scientific thinking and method are applied in risk assessment, just in a slightly different way than in the lab. So for trainees coming from a bench-based background, I think it could be useful to highlight the connection between the skills they already have and the skills one needs to be successful as a risk assessor. I think it could also be helpful for trainees to have opportunities to learn about the various types of risk assessment work and what skills are valued in each. Having this information might make it easier for a potential future risk assessor to visualize themselves being successful in the field.

RASS AWARDS

Nominate yourself or a well-deserving Toxicologist for the awards.
Please Contact RASS (sotrassawards@gmail.com) to apply for one of the following awards:

- Best Overall Abstract Award
- Best Published Paper Advancing the Science of Risk Assessment Award
- Best Published Paper Demonstrating an Application of Risk Assessment Award
- Perry J. Gehring Best Graduate Student Abstract Risk Assessment Endowment Award
- Perry J. Gehring Best Postdoctoral Fellow Abstract Risk Assessment Endowment Award
- Robert J. Rubin Student Risk Assessment SS Travel Award (Joint with MechSS)
- John Doull Risk Assessment Endowment Award
- Andersen-Clewell Trainee Award (Joint with BMSS)

The deadline for application is December 31st!
Application details can be found here

VOLUNTEER POOL

There are numerous opportunities for RASS members to get involved with RASS-related activities. Fall and Winter are busy times, as the reviewing and judging of best papers as well as student and postdoc award applications, are in full force. Your help is greatly needed! Benefits of serving as a RASS volunteer include the following:

--**Getting your name and your ability to help recognized**. When you get involved, your willingness to serve and help out get recognized. This is especially important for graduate students and postdocs who are looking to get more involved in SOT.

--**Working with colleagues**. In volunteering, you have the opportunity to work on committees with people that you might not otherwise have the opportunity to work with, in a fun and collegial way.

--**It is an AWESOME learning opportunity**. When you review award applications and candidates for best paper, you have the opportunity to learn about recent developments in risk assessment. Helping out and learning about risk assessment—what more can one ask for? Opportunities available:

- Session proposals review committee
- Student Awards selection committee (Jan-Feb)
- Best Abstracts selection committee (Jan-Feb)
- Best Papers selection committee (Jan-Feb)
- Newsletter Committee (Sept-Oct, Jan-Feb)
- Nominating Committee (Nov-Dec)

If you would like to enter your name into the RASS Volunteer Pool, please email Alea Goodmanson (aleagoodmanson@chevron.com).

Thank You
Volunteers!
We couldn't do it without you

RISK ASSESSMENT SYLLABUS

The Society of Toxicology RASS leadership committee proposes the development of a dedicated "Risk Assessment Syllabus," a new training series that will complement the existing RASS webinar series and other RASS-related mentoring initiatives.

The objective of this syllabus is to provide participants with an introduction to the fundamental concepts and terminology associated with chemical risk assessment, as well as a practical perspective on the application of risk assessment principles to inform decision making. Each event in the series will be focused on a selected risk assessment-related topic, and will have speakers from academia, government, and/ or industry, with each speaker providing their perspective on what risk assessment means in their respective sector.

Trainees will be provided with valuable insights that will enhance their awareness of the potential importance and sector-specific aspects of risk assessment in their professional careers as well as required skills for the respective job profiles. For current professionals, the syllabus will provide an opportunity to refresh and advance understanding of risk assessment principles and an opportunity to develop sector-specific perspectives on contemporary topics in human and environmental health sciences.

RASS currently envisions a web-based format to maximize attendance; combining webcasts with local in-person events may be considered for future training events. Individual events may be structured to contain a formal presentation focusing on a specific aspect relevant to risk assessment, followed by an open panel discussion with invited experts in the field.

The first RASS Syllabus webinar, with the title of "Introduction to Human Health Risk Assessment", was held on June 9, 2021. Dr. Laura Carlson and Dr. George Woodall from US EPA were the instructors. With over 320 participants and over 500 initial registered participants, tremendous interest was demonstrated. The second RASS Syllabus webinar, with the title of "Animal Toxicology in Risk Assessment–Study Design and Evaluation Considerations", was held on June 7, 2022. The last webinar was on November 15, 2022 with the title of "Evaluations of Epidemiology and Human Studies for Risk Assessment" with over 200 attendees. RASS is currently seeking experts in any of the disciplines associated with chemical risk assessment to consider volunteering to participate as panelists and share their experiences and perspectives in one of the open discussions. In addition, we would like to use this opportunity to collect feedback on additional input and suggestions from the RASS.

RASS Syllabus Planning Committee

Fabian Grimm, RASS Councilor 2019-2021
Gary Minsavage, RASS Past President 2019-2020
George Woodall, RASS Past President 2018-2019
Nathan Pechacek, RASS Secretary/Treasurer 2019-2021
Laura M. Plunkett, RASS President 2020-2021
Jessica Wignall, RASS Secretary/Treasurer 2021-2023
Li Yang, RASS Councilor 2020-2022

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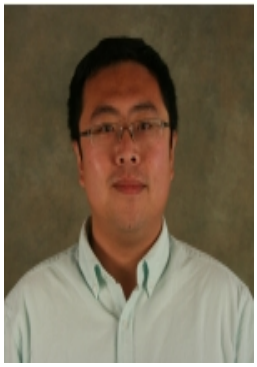

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