

ANNUAL REPORT: 2019-2020

May 1, 2019 to April 30, 2020

I. Officers and Committees

Officers

| | |
|------------------------------|------------------------|
| President: | Gary D. Minsavage |
| Vice President: | Barbara A. Wetmore |
| Vice President-Elect: | Laura M. Plunkett |
| Secretary: | Nathan R. Pechacek |
| Treasurer: | Nathan R. Pechacek |
| Past President | George M. Woodward Jr. |
| Councilors: | Anne E. Loccisano |
| | Fabian A. Grimm |
| PDA Representative: | Miao Li |
| Grad Student Representative: | Paige A. Bommarito |

2020-2021

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|--------------------|
| Barbara A. Wetmore |
| Laura M. Plunkett |
| Daniele Wikoff |
| Nathan R. Pechacek |
| Nathan R. Pechacek |
| Gary D. Minsavage |
| Fabian A. Grimm |
| Li Yang |
| Kiara Fairman |
| TBD |

Committees

RASS Endowment Fund Steward Committee

- Anne Loccisano
- Gary Minsavage
- David Szabo

Volunteer Pool Coordinator: Alea Goodmanson

Student and Postdoc Award Committee

- Stanley Agianu
- Sarah Campbell
- Brian Day#
- Andy Nong#
- Nathan Pechacek*
- Bindu Prabhakar
- Alberto Tohme
- Jon Urban
- Qiang Zhang#
- Laura Plunkett (Chair)*

* RASS Executive Committee Representatives

Jointly with Mechanisms (Rubin) & Biological Modeling (Andersen-Clewell) Specialty Sections

RASS Best Abstract Awards Committee

- Anne Loccisano*
- Nathan Pechacek*
- Bindu Prabakar
- Jon Urban
- Laura Plunkett (Chair)*

* RASS Executive Committee Representatives

Best Papers Awards Committees

- **Demonstrating the Application of Risk Assessment**

- Amanda Burns
- Neeraja Erraguntla
- Anne Loccisano*
- Yanelli Nunez
- Laurie Roszell
- Nina Wang
- Barbara Wetmore (Chair)*
- * RASS Executive Committee Representatives

- **Advancing the Science of Risk Assessment**

- Sherleen Adamson
- David Szabo
- Kan Shao
- Zemin Wang
- Jane Ellen Simmons
- Barbara Wetmore*
- Jessica Wignall
- George Woodall (Chair)*
- * RASS Executive Committee Representatives

II. 2019 Membership total: 781

III. Key Activities and Outcomes in 2019-2020

Based on the positive energy and collegial interaction of the RASS EC as well as via engagement and inspiration from a number of RASS members, this was the year of RASS experiments. The RASS EC and volunteers have had fun brainstorming, experimenting, and reimagining how we provide great offerings for RASS members - from enhanced mentoring to communications approached to new educational platforms for reaching the risk assessment community.

Activities

2020 SOT Annual Meeting Virtual Courses/Sessions

A number of courses / sessions were RASS supported for the cancelled face to face Annual Meeting. However, thanks to SOT organizers, some virtual sessions were held. Sponsored 2 Symposia, 2 Workshops, 1 Roundtable, 1 Informational Session, and 2 Continuing Education Courses.

2020 RASS Virtual Award Ceremony and Winner Presentations

- April 22, 2020 at 12:00 PM – 1:00PM ET
- Each RASS Award Winner was publically recognized
- Each Winner provided an executive summary of their work
- Dr. Minsavage called the meeting to order at 12:00 PM for the ceremony and awardee presentation. RASS members receiving SOT awards were recognized: Annie Jarabek (Arnold J. Lehman Award), James Klaunig (SOT Education Award), and Miao Li (SOT Best Postdoc Publication Award). Dr. Minsavage expressed many thanks to the RASS outgoing officers: George Woodall, Anne Loccisano, Miao Li, and Paige Bommarito and warmly welcomed incoming officers Danielle Wikoff, Li Yang,

Kiara Fairman, and Esther Omaiye. He expressed thanks for all those who have contributed to the RASS related Endowment Funds, helping to make the Awards possible.

- Dr. Wetmore and Dr. Plunkett introduced the 2020 Award Winners (student/post doc, best abstract, and best papers) before each provided an executive summary of their work to the attendees.
- Dr. Wetmore provided a brief update on the status of the RASS Endowment funds, the awards supported by the endowment funds, and encouraged members to continue to contribute to continue support for the next generation of toxicologists and risk assessors.
- The meeting closed with a brief statement by Dr. Wetmore on the expectations for the coming year.

Outcomes: 2020 Awards Information

RASS 2019 Trainee Awards

- **John Doull Risk Assessment Endowment Award** – Sarah Burnett, Texas A&M University, College Station, TX. “An In Vitro Human Population Model for Screening Environmental Chemicals for the Cardiotoxicity Hazard”
- **Perry J. Gehring Best Graduate Student Abstract Endowment Award** – Durgesh Dwivedi, National Institute of Pharmaceutical Education and Research (NIPER), S.A.S. Nagar, Mohali, India. “The Intervention of NLRP3 Inhibitor and Nrf2 Activator Protects Against Diethyl Nitrosamine and Thioacetamide-Induced Hepatic Precarcinogenesis in Rats”
- **Perry J. Gehring Best Postdoctoral Fellow Abstract Endowment Award** – Colette Miller, Oak Ridge Institute for Science and Education, Research Triangle Park, NC Ozone Exposure during Implantation Impairs Offspring Metabolic Processes in a Sex-Specific Manner in Rats”
- **Andersen-Clewell Trainee Award** (with the Biological Modeling Specialty Section) – Qiran Chen, Indiana University, Bloomington, IN “A Novel Dose-Response Framework with Quantitatively Integrated MOA Information”
- **Robert J. Rubin Student Risk Assessment Specialty Section Travel Award** – Alexa Murray, Rutgers, The State University of New Jersey, Piscataway, NJ. “Farnesoid X Receptor Regulates Macrophage Activation in Nitrogen Mustard-Induced Lung Injury in a Sex-Dependent Manner”

RASS 2019 Best Abstracts

Risk Assessment Specialty Section Best Overall Abstract Award

S. Jabba and S. Jordt, Duke University, Durham, NC “Human Health Risk Assessment for Pulegone, a Carcinogenic Flavor Chemical in Mint-and Menthol-Flavored Electronic Cigarette Liquids and Smokeless Tobacco Products”

Top 10 Abstracts

- **Estimating Acceptable Exposure Levels for Polybrominated Diphenyl Ether (PBDE) Based on In Vitro Models of Human Neurodevelopment and Biological Modeling.** S. Bloch¹, C. Chandrasekera², N.I. Kramer³, M. Bouchard¹ and M. Verner¹. ¹Universite do Montreal, Montreal, QC, Canada; ²Canadian Centre for Alternatives to Animal Methods, Windsor, ON, Canada; ³Institute for Risk Assessment Sciences, Utrecht, Netherlands.
- **Establishing a Tolerable Intake for Dimethyl 4-Toluidine through Use of Benchmark Dose Modeling.** M. Boylan, B. Wang, and M. H. Whittaker. ToxServices LLC, Washington, DC.

- **Risk Assessment of 1,1,1-Trifluoroethane (HFA-143a) as a Potential Impurity in HFA-134a in Metered Dose Inhaler Products.** R. Chang, I. Mohar, and T. Lewandowski. Gradient, Seattle, WA.
- **Derivation of No-Significant-Risk-Levels (NSRLs) for 4-Vinylcyclohexene and 4-Vinylcyclohexene Diepoxide.** Z. Guerrette, J. Ator, B. Reid, and M. H. Whittaker. ToxServices LLC, Washington, DC.
- **Toxicological Risk Assessment to the Typical Constituents of E-cigarettes in China.** J. Guo, P. Shang, H. Wang, H. Liu, and S. Liu. Zhengzhou Tobacco Research Institute of CNTC, Zhengzhou, China. Sponsor: R. Meng.
- **Glyphosate Risk Assessment to Assess Proposition 65 Requirements for Pesticide Applicators and Construction Workers: Risk Communication Case Study.** A. Holbrow Verwiel¹, D. Proctor², and M. Suh². ¹ToxStrategies Inc., San Rafael, CA; and ²ToxStrategies Inc., Mission Viejo, CA.
- **Physiologically Based Pharmacokinetic Modeling to Identify Upper Bound No Effect Thresholds for Human Tracheal Sensory Irritation.** B. Kerger¹, and A. E. Loccisano². ¹Exponent, Irvine, CA; and ²Exponent, Alexandria, VA.
- **Risk Assessment of the Drinking Water Treatment Chemical 2-phosphonobutane-1,2,4-tricarboxylic acid (PBTC).** M. G. LaFramboise, and K. A. Magurany. NSF International, Ann Arbor, MI.
- **Quantitative Analysis of Aristolochic Acid-Induced Genotoxicity in Rats.** N. Mei, X. Li, X. Guo, and T. Chen. US FDA/NCTR, Jefferson, AR.
- **Development of a Maximum Allowable Dose Level for Perfluorooctanoic Acid and Comparison of Exposures from Consumer Products, Drinking Water, and Natural Food Sources.** K. M. Scaife, S. Pham, S. West, J. M. Cybulskie, and L. A. Houghton. Intertek Group plc, Mississauga, ON, Canada.

RASS 2019 Best Published Papers in Risk Assessment

- **Best Published Paper Advancing the Science of Risk Assessment Award - Honesty Tohon,** Mathieu Valcke, and Sami Haddad. “An Assessment of the Impact of Multi-Route Co-Exposures on Human Variability in Toxicokinetics: A Case Study with Binary and Quaternary Mixtures of Volatile Drinking Water Contaminants” Journal of Applied Toxicology 2019; 39(7): 974-991
- **Best Published Paper Demonstrating an Application of Risk Assessment Award - A.M. Gannon,** M. Moreau, R. Farmahin, R.S. Thomas, T.S. Barton-MacLaren, A. Nong, I. Curran, and Carole Yauk. “Hexabromocyclododecane (HBCD): A Case Study Applying Tiered Testing for Human Health Risk Assessment” Food Chem Toxicol, 2019, 131: 110581

Outcomes: Endowment Fund Details (as of March 2020)

- John Doull Student Award Fund Net Assets: \$49,174
- Perry J. Gehring Risk Assessment Student Award Net Assets: \$50,550
- Robert J. Rubin Student Travel Award Fund (MSS) Net Assets: \$48,033
- Andersen-Clewell Trainee Award (BMSS) Net Assets: \$55,650

IV. Other Educational Activities Conducted

Teleseminars

- Series summary
 - 4 in Fall (Sept – Dec) and 4 in Spring (Jan, Feb, April, May)
 - Average attendance: 60 lines

- Diverse set of cutting-edge topics and speakers across all sectors
- Recordings can be found at: <https://www.toxicology.org/groups/ss/RASS/downloads.asp>
- Noteworthy
 - Continuing co-sponsorship with Mixtures Specialty Section (MixSS)
 - Co-sponsorship with Biological Modeling Specialty Section (BMSS)
 - Co-sponsored with the International Society for Exposure Science (ISES)
 - Co-sponsored with the Computational Toxicology Specialty Section (CTSS)

September 11, 2019

[Co-sponsored with the Mixtures Specialty Section \(MixSS\)](#)

A Novel Empirical Strategy using Human Biomonitoring Data to Estimate Regulatory Guideline Values

Eva Tanner, PhD and Chris Gennings, PhD

Department of Environmental Medicine and Public Health, Icahn School of Medicine at Mount Sinai New York, NY

October 9, 2019

[Co-sponsored with the Biological Modeling Specialty Section \(BMSS\)](#)

Comparison of Various Approaches to AOP Quantification

Frederic Bois, PharmD, PhD

Simcyp Division, Certara UK Limited

Sheffield, UK

November 13, 2019

Chemical Carcinogenicity Revisited in Three Parts

Part 1: A Unified Theory of Carcinogenicity based on Contemporary Knowledge

Penelope Fenner-Crisp, PhD, DABT

Independent Consultant

North Garden, VA

Part 2: Current Knowledge of Carcinogenesis Shows that Categorization as a Carcinogen or Non-Carcinogen is not Scientifically Credible

Rita Schoeny, PhD

Rita Schoeny LLC

Washington, DC

Part 3: Risk Assessment of Carcinogenic Potential Based on the Current State of Knowledge of Carcinogenesis in Humans

Samuel Cohen, MD, PhD

Havlik-Wall Professor of Oncology

University of Nebraska Medical Center

Omaha, NE

December 11, 2019

Dose-Response Modeling for Risk Assessment—BMDS 3.2 and Bayesian Model Averaging

Allen Davis, MSPH

USEPA NCEA

Cincinnati, OH

Jeff Gift, PhD

USEPA NCEA

RTP, NC

Matt Wheeler, PhD

NIOSH

Cincinnati, OH

January 8, 2020

Co-sponsored with the Mixtures Specialty Section (MixSS)

Rapid Hazard Identification of Environmental Chemicals and Mixtures

Ivan Rusyn, MD, PhD

Department of Veterinary Integrative Biosciences

Texas A & M University

College Station, TX

February 12, 2020

Co-sponsored with the International Society for Exposure Science (ISES)

Challenges and Opportunities in Assessing Health Risk from Unconventional Oil and Gas Development

Donna Vorhees, PhD

Director of Energy Research

Health Effects Institute (HEI)

Boston, MA

April 16, 2020

Co-sponsored with the Computational Toxicology Specialty Section (CTSS)

Computational Methods in Next-Generation Risk Assessment of Consumer Products

Steve Gutsell, PhD

Unilever Safety and Environmental Assurance Centre

Colworth Science Park

Sharnbrook, London, UK

May 13, 2020

Mechanistic and Pharmacokinetic Considerations to Aid in Determining Causality: New Frontiers for Data Integration

Kun Lu, PhD

Assistant Professor

Department of Environmental Sciences and Engineering

Gillings School of Global Public Health

UNC-Chapel Hill, NC

Chad Thompson, PhD

Managing Scientist

ToxStrategies, Inc

Katy, TX

Robinan Gentry, PhD, DABT

Ramboll US Corporation

Monroe, LA

Communication Activities

A. Newsletters (December 2019 and March 2020)

- a. Available online at <https://www.toxicology.org/groups/ss/RASS/newsletters.asp>

B. LinkedIn Rollout: RASS is now utilizing LinkedIn as an additional avenue of communication to our members. <https://www.linkedin.com/in/sotrass/> We observed a positive association between posting the newsletter and clicks on the newsletter as well as between posting the ballot notice and a 32% increase in number of voters versus last year.

C. Risk Assessment Syllabus: We further tested the hypothesis that there is an opportunity to provide training on fundamental aspects of risk assessment. The RASS EC, with input from prominent risk assessment experts and RASS members, developed a novel RASS Risk

Assessment Syllabus training approach and will announce to members the path forward in the coming months.

- D. **Webinar Collaborations:** We've added more 'n' to collaborative RASS Webinar events to test the benefit and reach of such collaborations. Collaborative webinars included those with the Mixtures Specialty Section, Computational Toxicology Specialty Section, Biological Modeling Specialty Section, and the International Society for Exposure Sciences.
- E. **Endowment Importance:** We continue to test the hypothesis that RASS members love to support the risk assessment community and trainees, in particular. With that in mind, we have put out a challenge for membership to contribute to the Endowment Funds for the sustained benefit of our Trainees.
- F. **Contributions to SOT website:** The RASS website was updated several times during the year to provide current information for members. Newsletters, award winners, and photographs from previous meetings were posted. RASS webinars and recordings are posted to the website for each presentation.

2020 Mentoring Event (co-sponsored by RSESS)

Previous RASS/RSESS mentoring sessions at SOT received strong positive feedback. The plan was to build upon the valuable feedback received to continue to provide trainees with opportunities to learn about risk assessment-related careers. That we could not have the face to face session, we are reimagining via a virtual session.

V. Feedback and Ideas:

How might SOT better support your group's activities (perhaps something 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?): *Note: If funding is listed, please provide detail on the membership need that the funding would support.*

Feedback and Ideas from RASS

Obtained via informal discussions with prominent risk assessment experts who are members of RASS and discussed by the RASS EC:

- 1) The SOT staff are extremely professional, proactive, and helpful to RASS in so many ways. We thank the staff, and Rosalie and the team that helps so efficiently with the webinar series, in particular, for their amazing support!!
- 2) RASS EC would like to pass on the observation by multiple experts that the number of Specialty Sections seems to have expanded to a point as to possibly dilute/fragment the value provided by Specialty Sections. It is suggested to carefully consider the value of adding any additional SSs and understand how they may impact the opportunities and engagement across all other SSs.
- 3) Consider reimagining the approach for Endowments across SSs. There are a number of Endowments and it has become challenging for SSs to obtain sponsors for the wide number. Suggestion is to think about a higher-level approach to streamline how Endowment Funds are funded by sponsors and a collaborative and equitable approach across SSs.
- 4) Perhaps a niche area that SOT would like to leave to smaller / other organizations, but there is strong appetite for 'hands on' training / interactive sessions on tools and approaches that are much more prominent today in toxicology/risk assessment. RASS is happy to consider bringing such approaches to RASS sponsored sessions at SOT Annual Meetings and/or smaller 'satellite' meetings that RASS may develop. Appreciate if SOT can consider the potential value of having SOT offices help prepare for and coordinate more 'hands on' / interactive sessions (e.g. computer-based training at continuing ed). New virtual platform proficiency may provide open doors and opportunities for such approaches.