

Mixtures Specialty Section

ANNUAL REPORT: 2020-2021

May 1, 2020 to April 30, 2021

I. Officers/Committees:

| <u>Officers</u> | <u>2019-2020</u> | <u>2020-2021</u> |
|----------------------------------|---------------------------|---------------------------|
| President: | Thomas Webster | Mansi Krishan |
| Vice President: | Mansi Krishan | Paul S. Price |
| Vice President-Elect: | Paul S. Price | Esra Mutlu |
| Secretary: | Esra Mutlu | Jennifer Schlezinger |
| Treasurer: | Esra Mutlu | Jennifer Schlezinger |
| Past President | Danielle J. Carlin | Thomas Webster |
| Councilors: | Marie Bourgeois | Courtney Roper |
| | Courtney Roper | Justin Conley |
| PDA Representative: | Elizabeth Medlock Kakaley | Elizabeth Medlock Kakaley |
| Graduate Student Representative: | Krisa Camargo | Brianna Rivera |

Committees:

SOT 2022 program review, communications, webinar, fundraising, membership

II. 2020 Membership total: 129

III. Key Outcomes in 2020-2021:

IV. Activities:

A. 2021 SOT Annual Meeting Activities (e.g., courses, scientific sessions, or virtual receptions): Due to the pandemic, all activities were virtual this year, including the following:

- Continuing Education Course (March 12): Advances in Single Cell Genomic Analyses for Toxicological Testing
- Mixtures Specialty Section Reception (March 15)
- Mixtures Poster Session (March 16)
- Symposium Session (March 17): It Is Not Just Air: Exposure to Indoor Air Pollution, Diagnostic Tools, and Evaluation of Health Effects
- Continuing Education Course (March 19): Insider Secrets for Design and Analysis of Defined-Mixture Experiments
- Workshop Session (March 22): Tackling the Potential Human Health Impacts of Microplastics and Nano plastics: Challenges for Toxicologists in the Assessment of Real-World Mixtures
- Workshop Session (March 22): The Community Exposome: Effects of Environmental Contamination on Health Disparities and Marginalized Populations through the Lens of a Toxicologist
- Symposium Session (March 24): Botanical Mixtures: Predictive Approaches to Evaluating Pregnancy, and Reproductive and Developmental Health

B. 2021 Awards Information:

Postdoctoral Awards:

- Application of the Generalized Concentration Addition Model to Predict In Vitro Responses of Tertiary Mixtures of Glucocorticoid Ligands. **Emily Green, Nicola Evans, Elizabeth Medlock Kakaley.**
- Perinatal exposure to an environmentally relevant phthalate mixture accelerates biomarkers of reproductive aging in a multigenerational and transgenerational manner in female mice. **Emily Brehm.**

Mixtures SS Best Abstract Award – Top 5 Abstract Winners

1. A Novel Framework to Form Sufficiently Similar Mixtures from Environmental Exposure Data. **Brianna Rivera**
2. Dose Additive Developmental Toxicity of a Mixture of Three PFAS (HFPO-DA, NBP2, PFOS) in the Sprague-Dawley Rat. **Justin Conley**
3. Addressing the Activity of Binary and Complex Environmental Polychlorinated Biphenyl Mixtures toward the Dopamine Transporter. **Justin Griffin**
4. Pulmonary Tissue Dysfunction and Cytotoxicity in Precision-Cut Lung Slices Exposed to E-cigarette Condensate. **Jacklyn Kelty**
5. Flavor Ingredients in E-vapor Products: A Structure-Based Grouping Approach to Predict Their Biological Activity. **Davide Sciuscio**

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

- **Webinar with RASS, September 9, 2020:** Paul Price. Organizing Mechanism-related Information on Chemical Interactions Using a Framework based on Aggregate Exposure and Adverse Outcome Pathways.
- **Webinar with RASS, January 13, 2021:** L. Earl Gray Jr., Justin M. Conley. Characterization of Developmental Toxicity and Adverse Outcome Pathways (AOPs) for Emerging PFAS — Individual Compounds and Mixtures

D. Communication Activities:

1. Newsletter publication frequency: February 2021
2. New or Significant Announcements/blogs: N/A
3. Highlight of Website enhancements: Officer Roles and Responsibilities have been posted on the website. The MixSS website has been maintained and updated as needed. MixSS is on the rotation schedule for a website upgrade in 2021-2022.

E. Mentoring activities: Due to the virtual reception, no formal mentoring sessions were held this year at the annual meeting. As part of our reception, we did hold a virtual “Mixtures Mixer” with the aim of connecting experienced researchers with early career researchers and students/postdocs. We used breakout rooms with officers spread amongst groups; others were randomly assigned by SOT. In addition to an icebreaker activity, we discussed a number of questions including: 1) What mixtures research is important today? 2) What mixtures research is important for the future? 3) What can the MixSS do to help your research? 4) Which speakers and/or topics related to mixtures you would like to see at future SOT meetings or MixSS webinars?

Other and planned activities: In place of our annual officers’ breakfast meeting at the SOT Annual Meeting, we held a conference call. We are holding monthly calls between officers during the

coming year. We have two webinars planned in connection with RASS (Risk Assessment Specialty section) for the fall and winter. We reviewed a number of proposed sessions and courses for the 2022 meeting and provided feedback to organizers and then to SOT.

V. Feedback and Ideas:

A. In what ways is your group fostering and maintaining an inclusive environment?

MixSS welcomes every individual, advances their ideas, recognizes them for their efforts and contributions, and provides an environment that nurtures their growth.

B. 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 our component group?]):

Note: If funding is listed, please provide detail on the membership need that the finding would support.

SOT has provided good support this year: thank you to Belinda Inscho! We are thinking more about outreach to other members of SOT (and other professional societies such as SETAC) to collaborate and increase membership in the MixSS. For example, mixtures is an increasingly important topic scientifically (papers and grants) as well as in regulation (e.g., PFAS water quality standards). We would appreciate any suggestions or assistance on this.

Our newly formed membership and fundraising committees are working towards developing ideas for retaining existing members and expanding membership, identifying and contacts (names, contact information) for sources of potential funding for awards, travel costs, supporting costs for MixSS reception at SOT and would appreciate any assistance with this as well.

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.)?

It would be helpful if SOT can share suggestions/recommendations with smaller/relatively new Specialty Sections on how to increase membership and raise funds to help sustain SS activities.

D. What changes do your component group anticipate making in the way in which it operates in the coming year?

We are holding monthly officers phone calls and have set up four new committees: communications, webinar, fundraising, and membership. As a part of communication committee, we are working towards launching a LinkedIn MixSS page. Developed and published officers' roles and responsibilities document.