

Nanoscience and Advanced Materials Specialty Section

ANNUAL REPORT: 2020-2021

May 1, 2020 to April 30, 2021

I. Officers/Committees:

<u>Officers</u>	<u>2020-2021</u>	<u>2021-2022</u>
President:	Jenny R. Roberts	Jared M. Brown
Vice President:	Jared M. Brown	Salik Hussain
Vice President-Elect:	Salik Hussain	Christie Sayes
Secretary:	Amy K. Madl	Amy K. Madl
Treasurer:	Amy K. Madl	Amy K. Madl
Past President	Flemming R. Cassee	Jenny R. Roberts
Councilors:	Phoebe Stapleton	Phoebe Stapleton
	Todd A. Stueckle	Zhoumeng Lin

PDA Representative:	Cynthia L. Browning	Alba Garcia-Rodriguez
Graduate Student Representative:	Dorothy J. You	Mariana T. Farcas
Vice Student Representative:	Mariana T. Farcas	Rebekah Kendall

Committees:

Awards Committee: Salik Hussain (Chair)
Jared Brown
James Bonner
Jenny Roberts
Todd Stueckle
Andrij Holian
Vamsi Kodvali
Phoebe Stapleton
Amy Madl

II. 2020 Membership total: 159

III. Key Outcomes in 2020-2021:

NAMSS created a student/trainee webinar series to allow trainees a chance to present to the NAMSS and SOT membership.

IV. Activities:

A. **2021 SOT Annual Meeting Virtual Activities** (e.g., courses, scientific sessions, or virtual receptions):

Virtual Reception: We hosted a virtual reception at the 2021 Annual Meeting which included a guest speaker, Dr. Andrew Nelson who discussed, “Advances in the Area of Safer and Sustainable by Design in Nanotechnology and Advanced Materials”

Symposium: From Inhaled Particles to Neurodegeneration and Toxicity: Evidence from Studies in Volunteers, Experimental Animals, and Cell-Based Systems

Chair: Flemming Cassee, Rijksinstituut voor Volksgezondheid en Milieu (RIVM), Netherlands

Co-Chair: Deborah Cory-Slechta, University of Rochester Medical Center

Primary Endorser: Nanoscience and Advanced Materials Specialty Section

Workshop: Tackling the Potential Human Health Impacts of Microplastics and Nanoplastics: Challenges for Toxicologists in the Assessment of Real-World Complex Mixtures

Chair: Nigel Walker, NIEHS/NTP

Co-Chair: Anil Patri, US FDA/NCTR

Poster Session: Nanotoxicology: *In Vitro*; Nanotoxicology: *In Vivo*; Nanotoxicology: Methodologies and Assessments

B. 2021 Awards Information:

Best Publication Award – Dorothy J. You, Ho Young Lee, Alexia J. Taylor-Just, Keith E. Linder, James C. Bonner. Sex Differences in the Acute and Subchronic Lung Inflammatory Responses of Mice to Nickel Nanoparticles. *Nanotoxicology*. 2020.

Best Publication Runner-Up – Saeed Alqahtani, Lisa Kobos, Li Xia, Christina Ferraira, Jackeline Franco, Xugin Du, Jonathan H Shannahan. Exacerbation of Nanoparticle-Induced Acute Pulmonary Inflammation in a Mouse Model of Metabolic Syndrome. *Frontiers in Immunology*. 2020.

Outstanding Postdoctoral Award – Wei-Chun Chou

Outstanding Postdoctoral Award runner up - Antonella Marrocco

Outstanding Graduate Student Award – Mariana T. Farcas

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

Trainee Webinars: We hosted a series of trainee webinars that allowed several graduate student/postdoctoral trainees to present their research to the NAMSS community. The presenters were:

Bridging the Gap: Public Health Emergencies and Advanced Materials Solutions - Kazi Tasneem, Vanderbilt University

Chronic Titanium Dioxide Nanoparticle Inhalation and Reduced Placental Glucose Transfer- Jeanine N. D’Errico, Rutgers University

Pulmonary Exposure of Mice to Perfluoro-2-Propoxy Propanoic Acid(GENX) Transforms Alveolar Macrophages from a Pro-inflammatory Phenotype to a Proliferative Phenotype - Ho Young Lee, North Carolina State University

The Role of Microbiota and Metal Oxide Nanoparticles on Small Intestinal Enzyme Activity - Alba Garcia-Rodriguez, Binghamton University

Sex-differences and Macrophage Phenotype in Nanoparticle-induced Lung Inflammation -
Jessica Ray, University of Montana

D. Communication Activities:

Newsletter publication frequency: Fall 2020, Winter 2020 and Spring 2021

Key Announcements/blogs: N/A

Website highlights: The NAMSS website has been maintained and updated as needed.

NAMSS is on the rotation schedule for a website upgrade in 2021-2022.

E. Mentoring activities: N/A

V. Feedback and Ideas:

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

We do not discriminate based on any racial, ethnic, gender, etc. differences regarding involvement, membership, leadership etc. Otherwise, we do not currently have a specific active program for recruitment or fostering an inclusive environment. While I believe our membership and particularly our leadership is highly inclusive, we will address this in the upcoming year to actively foster and maintain an inclusive environment.

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 your component group?):

Reception costs are continually increasing, with some cities more expensive than others. We have also lost some membership in our SS over the past few years as it is a relatively new section, and the field is changing with time. There are two points related to this:

- 1. We have sought sponsorship from companies and partners in the past to help defray these costs. Can we increase this or is this tactic in conflict with headquarters receiving donations from the same groups? I believe this is also relevant to starting an endowment fund also. Are there any other ways to defray the costs?*
- 2. Membership recruitment guidance from other sections that have done this successfully or headquarters would be helpful. We expanded our webinar series and included a guest speaker at our reception to help increase attendance. Although being online this past year it's hard to judge whether this had an impact.*

A related point to consider is whether to have an evening or a luncheon reception. I think we are better attended in the evenings, which cost more, but our membership overlaps greatly with other sections, particularly cardiovascular, inhalation, and immunotoxicology. Can receptions be staggered differently in the evenings to accommodate this? Can SOT do an analysis of overlap of section membership and schedule the reception slots to maximize attendance and avoid scheduling SS with high degrees of overlap on the same evenings?

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.)?

There are no major concerns that the society is doing that is impacting us other than noted about regarding conflicting Specialty Section meetings at the Annual Meeting when held in person.

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

Plan to implement an active effort to foster, promote and maintain an inclusive environment. We plan to further expand our trainee webinar program.