



***34th Annual Virtual Meeting of the
Allegheny-Erie Society of Toxicology
Regional Chapter***

**October 13th, 16th and 19th
2020**

Toxicology in the Real World

The theme for the 2020 Allegheny-Erie Society of Toxicology Annual Virtual Meeting will be the application of toxicology to real-world problems and scenarios, including occupational, environmental and consumer product-related. Keynote speakers will headline each of the three scientific sessions on October 13th, 16th and 19th. A “Rapid Fire” presentation format is being implemented to allow undergraduate, graduate students, post-doctoral fellows, and young investigators to highlight their research in each virtual session.

Meeting highlights:

- 1) Hear about cutting edge toxicology research in our plenary presentation by **Dr. Kent Pinkerton**, University of California, Davis; **Dr. Olivier Jolliet**, University of Michigan, Ann Arbor and **Dr. Aleksandr Stefaniak**, CDC-NIOSH, Morgantown.
- 2) Network with leading toxicology researchers in our region and get a snapshot of toxicology research being conducted in our region.
- 3) Sign up for a virtual Mentor-Mentee matching program. Get the guidance you need from the experts.
- 4) Awards and a lot of them!!! 😊 will be presented at the end of each session for each category of the presentation.
- 5) No Registration Fee!!
- 6) Sponsors & Exhibitors will showcase virtually their state-of-the-art services and scientific equipment.

Undergraduate Researchers and Mentors: Attend, present your current research, network, and benefit from unique programming for students. Like what you see and want toxicology experts to give a talk at your institution? Sign up for the **ToxScholar Program** where you can request experts to come and give a talk virtually or in-person at your institution, **free of charge**

Undergraduate Students – Come learn about a new Undergraduate Travel Award to support travel to attend the 2021 National SOT Meeting in Orlando, Florida.

For additional information, please contact Vamsi Kodali, Ph.D., A-E SOT President (ywu0@cdc.gov) or Britt McAtee, Ph.D., AE-SOT President-Elect (mcatee@ppg.com).

A-E SOT Website: <http://www.toxicology.org/groups/rc/allegheny/index.asp>



PRELIMINARY SCHEDULE

Session 1: October 13th (Starts at 1:00 PM EST)

- 1:00 Welcome Message
- 1:10 **Keynote Speaker: Dr. Kent E Pinkerton University of California, Davis; “Health Effects of Exposure to Particulate Matter: A Community, Student and Laboratory-Based Study.”**
- 2:00 Rapid Fire Session (Undergraduate, Graduate and Postdoctoral Students)
- 3:00 Young Investigator Presentation
- 3:10 “Advancements in Inhalation and Exposure Research” by UV Shemesh, DSI Inc.
- 3:20 Award Ceremony for Session 1 (Rapid Fire Participants)

Moderator: Prof. Dr. Timothy R Nurkiewicz, Director, Center for Inhalation Toxicology, WVU.

Session 2: October 16th (Starts at 9:00 AM EST)

- 9:00 Welcome Message
- 9:10 **Keynote Speaker: Dr. Olivier Jolliet, University of Michigan, Ann Arbor; “High Throughput Risk and Impact Screening of Chemicals in Consumer Products.”**
- 10:00 Rapid Fire Session (Undergraduate, Graduate and Postdoctoral Students)
- 11:00 Young Investigator Presentation
- 11:10 “Advancement in Electronic Cigarettes Research” by UV Shemesh, DSI Inc.
- 11:20 Award Ceremony for Session 2 (Rapid Fire Participants)

Moderator: Dr. Marisa Kreider, Principal Science Advisor, Cardno Chemrisk Inc.

Session 3: October 19th (Starts at 9:00 AM EST)

- 9:00 Welcome Message
- 9:10 **Keynote Speaker: Dr. Aleksandr Stefaniak, CDC-NIOSH, Morgantown.; “When Additive Manufacturing and Toxicology Cross Paths: Challenges and Opportunities.”**
- 10:00 Rapid Fire Session (Undergraduate, Graduate and Postdoctoral Students)
- 11:00 Young Investigator Presentation
- 11:10 “Advancement in Whole-Body Plethysmography Systems” by UV Shemesh, DSI Inc.
- 11:20 Award Ceremony for Session 3 (Rapid Fire Participants)
- 11:30 Closing Comments and Adjourn.

Moderator: Dr. Yong Qian, Senior Scientist, Health Effects Laboratory Division, NIOSH.



Session 1

Dr. Kent Pinkerton.



Kent Pinkerton, MD, is professor of pediatrics, School of Medicine, and director of the Center for Health and the Environment at the University of California, Davis. His research focuses on the health effects of inhaled environmental air pollutants to alter respiratory, cardiovascular, and neurological structure and function. Special areas of interest include the interaction of gases and airborne particles to produce cellular and structural changes within site-specific regions and cells of the respiratory tract in both acute and chronic timeframes of exposure. Recent studies have focused on environmental and biological impacts of synthesized nanomaterials as well as the effects of environmental tobacco smoke and combustion particles on lung growth and development. He is associate director for the San Joaquin Aerosol Health Effects Research Center (SAHERC) to study airborne particles of the San Joaquin Valley. He is also the associate director for the Western Center for Agricultural Health and Safety (WCAHS) to study the health effects of airborne particles in an agricultural setting.

Keynote Presentation

Health Effects of Exposure to Particulate Matter: A Community, Student and Laboratory-Based Study.

Imperial Valley, located in Southern California next to the border with Mexico, experiences one of the highest rates of juvenile asthma in the state of California. Particulate matter (PM) in Imperial Valley comes from a variety of sources including, but not limited to agriculture, feedlots, vehicles at the border crossing, the megacity of Mexicali, and the dry lakebed of the evaporating Salton Sea. Residents in Imperial Valley have access to 24-hour air quality data from 50 different monitors that give real-time levels of PM_{2.5} and PM₁₀ and recommendations on healthy practices, dependent on the current AQI (air quality index). However, no information is available on particle source or chemical composition. Working with the local community and high school students, studies were conducted to collect, characterize and examine the biological effects of PM of various size fractions in human immortalized cells and a mouse model of asthma. Students were involved in the collection of particles from a field station based at their school and spent one week at UC Davis to experience college life and to perform laboratory experiments on the particles they assisted in collecting. Such studies are increasingly more important to promote science and greater public health awareness.



Session 2

Dr. Olivier Jolliet.



Dr Olivier Jolliet is Professor in life cycle impact and risk modeling at the Department of Environmental Health Sciences in the School of Public Health, University of Michigan. His teaching and research aim to a) compare the life cycle human health risks and benefits of chemicals in consumer products and foods, and b) model population exposure, intake fractions and pharmacokinetics of chemicals at global level. He pioneered the incorporation of near-field exposure to consumer products, defining the product intake fraction as an adequate metrics to assess exposures, using large data bases for chemical screening in Alternatives Assessment, Life Cycle Assessment and

Risk Assessment. He co-initiated the UN Life Cycle Initiative and is one of the lead authors of the UN Environment Global Chemical Outlook.

Keynote Presentation

High Throughput Risk and Impact Screening of Chemicals in Consumer Products.

The ubiquitous presence of 30,000 to 80,000 chemicals in thousands of consumer products used on a daily basis stresses the need for screening a broader set of chemicals than the traditional well-studied suspect chemicals. This study presents new High Throughput Screening method to assess exposure to chemicals in consumer products for both product users and the general population. It then compares exposure with toxicity data to assess risks and impacts of for 1000 chemicals in hundreds of personal care, cleaning, home maintenance products and toys, looking at potential impacts expressed in minutes of healthy life lost per person and per day.

Risks can be substantial for multiple home maintenance products, such as paints or paint strippers, for some home-applied pesticides, leave-on personal care products, and cleaning products. 57% of the chemical-product combinations have hazard quotients exceeding 1 (up to 10,000) and 8% of the combinations have lifetime cancer risks exceeding $10E-4$ (up to $10E-2$). Population-level impacts of household products ingredients can be substantial, representing 5 to 500 minutes of healthy life lost per day.

This screening study calls for more scrutiny, advancing the exposure and toxicity assessment of most impacting chemical-product combinations, fully ensuring from a regulatory perspective consumer product safety for high-end users, and using protective or exposure reduction measures for product users.



Session 3



Dr. Aleksandr Stefaniak.

Aleks Stefaniak is a Research Industrial Hygienist in the Respiratory Health Division at NIOSH. He conducts research on lung diseases related to inhalation of particulate. His current focus is emissions from various additive manufacturing processes with attention to asthmagenic compounds. He also supports the translation of additive manufacturing workplace exposure assessment data to the design of collaborative *in vitro* and *in vivo* toxicology studies with NIOSH colleagues.

Keynote Presentation

When Additive Manufacturing and Toxicology Cross Paths: Challenges and Opportunities

Additive manufacturing (AM) is an umbrella term that refers to various processes used to build objects from a computer file, often using layer-by-layer methodologies. AM has existed since the 1980s, though with the expiration of several key patents on technologies in the 1990s and the spawning of digital open-source initiatives in the 2000s, referred to as “democratization” of the technology, the prices of AM machines has decreased dramatically, making them available to the public. This rapid expansion in availability has gained the attention of the environmental, health, and safety community as some AM processes such as material extrusion 3-dimensional printers have become common fixtures in manufacturing environments as well as non-industrial settings such as small businesses, schools, libraries, and homes. AM has many potential benefits (reduced waste, decreased energy consumption, shorter lead-times, etc.) relative to traditional subtractive and formative manufacturing methods; however, there is little understanding of the health and safety implications from use of these processes. The purposes of this presentation are: 1) introduce toxicologist to the seven basic AM process categories, 2) provide an overview of challenges to evaluating the toxicity of AM process emissions and printed parts, and 3) explore opportunities to use AM as a tool for enabling toxicology experimentation.



MEETING REGISTRATION

The 2020 AE-SOT Virtual Annual Meeting is Free but requires registration. You need to register for the three sessions separately. Registration confirmation and link to each session will be sent via email.

Links to Registration

Session 1:

<https://aim-hq.webex.com/aim-hq/onstage/g.php?MTID=eaea660ab02b61fdcde4db7bea371249d>

Session 2:

<https://aim-hq.webex.com/aim-hq/onstage/g.php?MTID=ec071f48739fbbb9c3298c54832110d43>

Session 3

<https://aim-hq.webex.com/aim-hq/onstage/g.php?MTID=e2ed383b7ec1a46a74920a625b131c8a8>

If you have any challenges or issues, you can reach out to Vamsi Kodali (ywu0@cdc.gov) or Ashley Black (ashley@toxicology.org) for help.

CALL FOR ABSTRACTS

- 1) Abstract submission deadline: October 2nd, 2020
- 2) Abstract submission guidelines (please see template and adhere to the stated format):
 - a. Awards will be weighed 80% based on the abstract. Clearly state in the abstract the hypothesis, aims, methods, results and conclusion/potential impact of the work.
 - b. The abstracts can be Maximum one page in length with a character limit of 2300 characters. This includes title, body, authors, institutions, figures and spaces.
 - c. Single spaced, 11-point Arial font
 - d. Title should be UPPERCASE and bold
 - e. Authors' Names: First and middle initial, if desired, (no punctuation) then last name (*Ex. PC Zeidler-Erdely, P Stapleton*)
 - f. Include Funding/Support source(s)



- 3) Abstract submission:
 - a. Email abstract to Vamsi Kodali, Ph.D.: ywu0@cdc.gov
 - b. Indicate in your e-mail your status as an Undergraduate Student, Graduate Student, Post-Doctoral Fellow, or Young Investigator (typically <10 years after earning Doctoral degree).
 - c. Undergraduates who would like to be considered to get nominated for the competitive RC4 Travel Award to financially support travel to attend the 2021 National SOT Meeting in Orlando, Florida must include a reference letter from their mentor, submit an abstract on their work, and present in a Rapid Fire session. For more information, contact Todd Stueckle, Ph.D., (jux5@cdc.gov).

- c. If you do not receive confirmation of receipt of your abstract within 72 hours of submission, please contact Dr. Kodali via email.

- 4) Accepted abstracts need to submit their 3-4 slide deck for rapid fire presentation by 9th October 2020.

- 5) Meeting dates: October 13th, 16th and 19th.

Contact Vamsi Kodali, Ph.D., (ywu0@cdc.gov);
<http://www.toxicology.org/groups/rc/alleggheny/index.asp> for further information.

ABSTRACT EXAMPLE

PLACE TITLE HERE (With Maximum Two Lines If Needed)

First Author's Name¹ (first name initial, middle initial, last name), Second Author's Name², Third Author's Name³,

¹ *First author's affiliation, City, State*

² *Second author's affiliation, City, State*

³ *Third author's affiliation, City, State*

The body of your abstract begins here. It should be a clear summary of your presentation that clearly states the hypothesis, aims, methods, results and conclusion/potential impact of the work. The abstract can be 1 page in length with a character limit of 2300. This includes title, body, authors, institutions, and spaces. Single-spaced, 11-point Arial font. The abstracts are to be submitted by October 2nd, 2020. The content of the abstract will be used to weigh 80% of the award. The program Committee has the right to reject an abstract.

(Funding/Support)



Rapid Fire Presentations

Rapid Fire presentation is an exciting new way to succinctly present your work. Undergraduate, graduate students, post-doctoral fellows, and young investigators will be using this format to present their research findings at the 2020 AE-SOT Virtual Annual meeting.

- You will need to present your work in 5 minutes using 3-4 slides.
- 20% of your award score weight will be based on your presentation. You will be scored for Brevity, Clarity and Presentation style.
- Your presentation slide deck of 3-4 slides (PowerPoint Slides) need to be submitted by October 9th, 2020 for review by the Program Committee. All slides must follow SOT presentation policy. <https://www.toxicology.org/events/am/AM2021/platform-session.asp#instructions>

The Mentor-Mentee Matching Program

The Mentor-Mentee matching program is an effective way to provide professional guidance so that mentees can successfully navigate the career maze. It is a symbiotic relationship and helps mentors give back and expand their expertise.

Mentors and Mentees can sign up for this program by emailing the program coordinator William Mandler, Ph.D., (oex1@cdc.gov)

In order to effectively match mentee with a potential mentor, mentees must provide in their email

- Specific guidance that they are looking forward to, i.e. Job Document Review, Research Guidance, Career Outlook and Advice, Professional Development and Guidance etc.
- Are you looking forward to an Academic, Industry, Consulting or a Government Mentor?

Based on availability although we cannot promise an exact match to your specific criteria, we will try to match you with a high-quality mentor close to your requested criteria.



Membership with Allegheny-Erie Chapter of the Society of Toxicology

Want to be a member of the Allegheny-Erie Chapter of the Society of Toxicology. Find more information and fill the application at

<https://www.toxicology.org/groups/rc/allegheny/membership.asp>.

<https://www.toxicology.org/groups/rc/allegheny/docs/AESOTMembership2020.pdf>

The Current Annual Dues for **AE-SOT only** Membership are

Undergraduate	0\$
Grad Student	10\$
Postdoc	10\$
Full Member	25\$

If you are an undergraduate or graduate student and have been thinking about joining the premier society representing the discipline of toxicology, **now is the time to join**. The **A-E SOT will cover the cost of a National SOT membership** for the first year. In addition, the A-E SOT will cover the cost of becoming a new Allegheny-Erie Chapter member.

For more information and application

<https://www.toxicology.org/groups/rc/allegheny/StudMbrshpDrive.asp>



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