Joint meeting of the
INTERNATIONAL SOCIETY OF EXPOSURE SCIENCE
and the
INTERNATIONAL SOCIETY OF INDOOR AIR QUALITY AND CLIMATE

August 18 - 22, 2019
The built, natural, and social environments: impacts on exposures, health and well-being

PROGRAM
## Schedule-at-a-Glance

<table>
<thead>
<tr>
<th>Time</th>
<th>Sunday August 18</th>
<th>Monday August 19</th>
<th>Tuesday August 20</th>
<th>Wednesday August 21</th>
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<tr>
<td>8:30</td>
<td>WELCOME &amp; OPENING</td>
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<td>OPTIONAL TOURS (add'l fee)</td>
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Dear Colleagues,

Welcome to the joint ISES-ISIAQ 2019 meeting! We are excited to host this exceptional event, providing a platform for cross-cutting presentations and interdisciplinary discussions.

The conference marks the end of the second decade in the XXI century. Progress in analytical technology, research methods, and data analysis have advanced the fields of exposure and indoor air sciences. We have a greater understanding about pollutant fate and transport, are able to measure concentrations at increasingly lower levels, and can distinguish substances within complex mixtures in both environmental and human media. We also have a better understanding about the importance of indoor environmental quality, and its relationships with both sustainability and health endpoints.

While regulatory bodies work continuously to control emissions and exposures, numerous populations still experience adverse health effects from a variety of chemicals and air pollutants. The potential impact of chemical and air pollutant exposures, therefore, needs to be considered in the context of an individual’s or population’s total environment, comprised of the built, natural, and social environments. Yet, knowledge gaps exist on how interactions between these three different environments affect the biological response in humans and impact human health and well-being at the individual, community, and national level.

It is obvious that research on new measurements, methods, and models must convert to practical solutions to make an impact on every person worldwide. For example, new regulations should be established, alternative and less polluting products must be developed, and intelligent cleaning/ventilation technologies embraced. However, these may not work if we do not address human perception and behavior.

We therefore selected the conference theme, “The built, natural, and social environments: impacts on exposures, health, and well-being” in order to focus on the relationships between numerous and complex factors affecting environmental health.

Once again, welcome to Kaunas, the European Capital of Culture 2022!

Co-Chairs, Technical Organizing Committee, ISES ISIAQ 2019

Lisa Baxter
Research Triangle Park, NC USA

Ulla Haverinen-Shaughnessy
Järvanpää, Finland
and Tulsa, Oklahoma, USA

Dainius Martuzevicius
Kaunas, Lithuania

Natalie von Goetz
Bern, Switzerland
Dear Colleagues,

It is our honor and great pleasure to welcome you on behalf of the International Society of Exposure Science and International Society Indoor Air Quality to the annual conference in Kaunas, Lithuania. Kaunas is a city of old traditions and filled with young people thanks to the seven universities. It is the perfect setting to engage into this year’s conference focus “Built, natural, and social environments: impacts on exposures, health and well-being.”

Held in the distinctive Zalgirio Arena, this year’s conference will be a time to remember. It will provide unique opportunities for communication and organizing among members of both Societies as they participate in many different activities to promote interdisciplinary scientific, and of course social, exchange. It will allow us to build upon the collaborations we started at our last joint meeting in Basel in 2013. The conference will offer chances to connect and learn with colleagues from around the world in a place where some of the biggest challenges towards sustainable environmental practices are already being actively negotiated.

We hope to see you all at our annual membership meetings as well as the Committees Fair to which everyone is invited. The student and new researcher meet-ups will promote peer-to-peer communication amongst our many disciplines and practitioners. We are certain that the wide range of activities and topics of this conference will allow for a rich atmosphere of dialogue and debate during tours, the Women’s Networking Event, and dinners.

Every annual meeting requires a phenomenal amount of work and dedication from the meeting co-chairs. Many thanks to Dainius Martuzevicius and Ulla Haverinen-Shaughnessy of ISIAQ and Lisa Baxter and Natalie von Goetz of ISES for chairing this year’s conference. Their leadership, along with the hardworking Technical Organizing Committee, numerous reviewers and organizers of symposia and the generosity of sponsors, together have made this conference possible. Let us use this meeting to strengthen our networks and build or maintain connections across disciplines and continents and make this event one more stepping stone towards a truly sustainable future on a livable planet.

Marzenna Dudzinska, PhD
ISIAQ President

Paloma Beamer, PhD
ISES President
# Meeting Organization

## 2019 Annual Meeting Co-Chairs

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization/University</th>
<th>Country</th>
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<tbody>
<tr>
<td>Lisa Baxter</td>
<td>Environmental Protection Agency</td>
<td>USA</td>
</tr>
<tr>
<td>Ulla Haverinen-Shaughnessy</td>
<td>Tampere University</td>
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<tr>
<td>Dainius Martuzevicius</td>
<td>Kaunas University of Technology</td>
<td>Lithuania</td>
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<tr>
<td>Natalie von Goetz</td>
<td>Swiss Federal Office of Public Health</td>
<td>Switzerland</td>
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## 2019 Technical Organizing Committee Chairs

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<tr>
<th>Name</th>
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<tr>
<td>Liuliu Du</td>
<td>Lappeenranta University of Technology, Finland</td>
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<tr>
<td>Jelle Laverge</td>
<td>Ghent University, Belgium</td>
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<tr>
<td>Donghai Liang</td>
<td>Emory University, USA</td>
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<tr>
<td>Corinne Mandin</td>
<td>Scientific and Technical Center for Building, France</td>
<td>France</td>
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<tr>
<td>Elizabeth Marder</td>
<td>Cal/EPA Office of Environmental Health Hazard Assessment, USA</td>
<td>USA</td>
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<tr>
<td>Pertti Pasanen</td>
<td>University of Eastern Finland</td>
<td>Finland</td>
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<tr>
<td>Tadas Prasauskas</td>
<td>Kaunas University of Technology, Lithuania</td>
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<tr>
<td>Hua Qian</td>
<td>Exxon Mobil Corporation</td>
<td>USA</td>
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<td>Tungha Salthammer</td>
<td>Fraunhofer Institute for Wood Research Wilhelm-Klauditz-Institut</td>
<td>Germany</td>
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<td>Lina Seduikyte</td>
<td>Kaunas University of Technology, Lithuania</td>
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<tr>
<td>Lindsay Stanek</td>
<td>Environmental Protection Agency, USA</td>
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<td>Laura Stasiuliene</td>
<td>Kaunas University of Technology, Lithuania</td>
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<tr>
<td>Neha Sunger</td>
<td>West Chester University</td>
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<td>Jennifer Thomasen</td>
<td>Bayer AG, USA</td>
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<tr>
<td>Nicolle Tulve</td>
<td>Environmental Protection Agency, USA</td>
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<tr>
<td>Virpi Leivo</td>
<td>Tampere University, Finland</td>
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<tr>
<td>Jurate Virkutyte</td>
<td>University of Cincinnati, USA</td>
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## 2019 Technical Organizing Committee Members

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<tr>
<td>Laura Kwong</td>
<td>Marsha Morgan</td>
<td>USA</td>
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<td>Ana Rule</td>
<td>Sarah Paralovo Lima</td>
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<td>Marcel Loomans</td>
<td>Rich Corsi</td>
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<td>Rich Kaden</td>
<td>Andrew Persily</td>
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<td>Karen Galea</td>
<td>Glenn Morrison</td>
<td>USA</td>
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<td>Paul Scheepers</td>
<td>Philomena Bluyssen</td>
<td>USA</td>
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<td>Martin Taubel</td>
<td>Eunice Varughese</td>
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<tr>
<td>Jennifer Lantz</td>
<td>Brad Prezant</td>
<td>USA</td>
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Abstract Peer Reviewers

The following individuals contributed their time reviewing the oral and poster abstracts received. Their contribution to ensuring the quality of the meeting is gratefully acknowledged!

Amina Salamova
Aneta Wierzbicka
Anne Hyvärinen
Ben Blount
Brad Prezant
Brent Stephens
Carl Grimes
Carolyn Poutasse
Corinne Mandin
Debra Kaden
Derek Shendell
Dimitri Panagopoulos
Abrahamsson
Donghai Liang
Elizabeth Boyle
Elizabeth Marder
Eric Hall
Erica Hartmann
Erin Haynes
Frederik Lessmann
Glenn Morrison
Grainne McGill
Himanshi Rohra
Holger Koch
Hua Qian
Jamaji Nwanaji-Enwerem
James McGrath
Jane Hoppin
Jarek Kurnitski
John Kissel
John Pearce
Jonathan Thornburg
Judy LaKind
Karen Galea
Kathie Dionisio
Kim Lichtveld
Klaas De Jonge
Krystal Pollitt
Lesliam Quiros
Lina Seduikyte
Linda Hägerhed
Lindsay Stanek
Lisa Baxter
Lisa Melnyk
Maija Leppänen
Markey Johnson
Marko Hyttinen
Marsha Morgan
Martin Täubel
Mike Breen
Naohide Shinohara
Nicolle Tulve
Otto Hänninen
Paloma Beamer
Paul T.J. Scheepers
Pertti Häkkinen
Pertti Pasanen
Qingyu Meng
Rainer Otter
Robin Dodson
Samy Clinchard
Sonja Sax
Tadas Prasauskas
Tatsiana Dudzina
Tom Long
Tom McKone
Tunga Salthammer
Vasu Kilaru
Virpi Leivo
Vyt Garnys
William Bahnfleth
Zheng Li
Meeting-at-a-Glance

Sunday, August 18

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<td>7:30 am-6:00 pm</td>
<td>Registration</td>
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<td>8:30 am-12:30 pm</td>
<td>Effectively Communicating Risk Assessment Messages by Visualizing Uncertainty</td>
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<td>High-throughput Exposure Assessment of Chemicals in Consumer Products for Chemical Prioritization, Risk Screening, Substitution and Life-Cycle Impact Assessment – Theory and Practical Examples</td>
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<tr>
<td>1:30 pm-5:30 pm</td>
<td>Exposure to UFPs emitted from cooking using gas and electric stoves: What we need to know about the PM emission rate and its health effects, and opportunities for future studies</td>
<td>REACH Exposure Models and TREXMO. How to Deal with Different Exposure Predictions and to Conduct Reliable Exposure Assessments</td>
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<td>6:00 pm-7:00 pm</td>
<td>Welcome and Opening Plenary (Basic Hall)</td>
<td>Communities Creating Health: Collaborative Innovation for Better Environmental and Public Health</td>
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<td>Monika Petraite, Kaunas University of Technology, Lithuania</td>
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<td>7:00 pm-9:00 pm</td>
<td>Welcome Reception and Student Poster Competition</td>
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Ancillary Meetings:
- ISES Board Meeting (closed) 10am – 3:30pm University, Room 403
- ISIAQ Board Meeting (closed) 3pm – 5pm University, Room 402
- Indoor Air Editorial Board Meeting (closed) 12pm – 2pm University, Room 303
- ISES Thank You Reception (by invitation) 4pm – 5pm Arena Restaurant

Speaker Ready Room

The Speaker Ready Room is located on Floor 0. Hours are:
- Sunday 7:30am – 5:30pm
- Monday 7:00am – 5:30pm
- Tuesday 7:30am – 1:00pm
- Wednesday 7:30am – 5:30pm
- Thursday 7:30am – 10:30am

The room is equipped with two computers, Internet connections and a printer. This room is to be use to make presentation changes or to review your presentation. YOU WILL NOT be able to upload your presentation. Please stop by the registration desk to have your presentation uploaded. If a speaker or chairperson requires assistance, please come to the registration desk and ask for Cate Langley.
# Meeting-at-a-Glance

## Monday, August 19

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<td>MO-SY-C1</td>
<td>MO-PL-D1-EAM</td>
<td>MO-PL-E1-SEM</td>
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<tr>
<td>9:30 am-</td>
<td>Human Exposure to SVOCs</td>
<td>Improving Indoor Air Quality by Controlling sources of Pollutants: Progress, Opportunities and Challenges of the EU-LCI Concept</td>
<td>Holistic View on the Interaction Between Residents and Indoor Air Quality in Dwellings</td>
<td>Sensors and Tools</td>
<td>Monitoring of VOCs Indoors</td>
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<td>MO-PL-E2-SEM</td>
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<td>11:30 am-</td>
<td>Consumer Products</td>
<td>Cleaning for Healthy Environmental Surfaces, and Implications for Transmission of Disease</td>
<td>Holistic View on the Interaction Between Residents and Indoor Air Quality in Dwellings (continued)</td>
<td>Characterizing Transportation Related Exposures</td>
<td>Consumer Products and Building Materials</td>
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<td>MO-PL-A3-EHR</td>
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<tr>
<td>2:00 pm-</td>
<td>Exposure to Fine and Ultrafine Particles I</td>
<td>National Indoor Air and Health Programme 2018-2028 in Finland</td>
<td>Characterizing Exposures and Potential Health Effects Related to Use of Conventional and Newly Emerging Tobacco Products such as E-Cigarettes</td>
<td>Exposure Modeling of Consumer Products</td>
<td>Biomarkers and Biomonitoring Studies</td>
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<td>3:30 pm-</td>
<td>MO-PL-A4-EHR</td>
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<td>MO-PL-E4-CPC</td>
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<td>4:00 pm-</td>
<td>Determination and Modeling of SVOCs in Dust</td>
<td>The Dutch Residential Exposure to Pesticides Study</td>
<td>The Healing Power of Indoor Air and Material Surfaces</td>
<td>Use of Biomarkers to Assess Health Risks</td>
<td>Housing and Health</td>
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</tbody>
</table>

## Ancillary Meetings
- **ISES Strategic Planning Meeting—Soapbox Meetings**
  - 10am – 1pm
  - Arena, Press Room
- **ISIAQ STC 11 Committee Meeting**
  - 5:30pm
  - Univ., Room 402

**KTU/Kaunas City Reception**
- Santaka Valley, Barsauko g. 59, Kaunas

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2019 ISES ISIAQ Joint Annual Meeting
August 18-22, 2019, Kaunas, Lithuania
# Meeting-at-a-Glance

## Tuesday, August 20

<table>
<thead>
<tr>
<th>Time</th>
<th>Basic Hall</th>
<th>Nemunas</th>
<th>Amphitheatre</th>
<th>Baras 11</th>
<th>VIP Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 am-2:00 pm</td>
<td>Registration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:30 am-9:30 am</td>
<td>Plenary 3: (Basic Hall)</td>
<td></td>
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<tr>
<td></td>
<td>Challenges in Monitoring Exposure in the 21st Century: Harmonization, Collaboration and Legal Requirements</td>
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<tr>
<td></td>
<td>Manike Kolossa-Gehring, PhD and Corinne Mandin</td>
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</tr>
<tr>
<td>11:00 am-11:30 am</td>
<td>Coffee Break and Poster Viewing</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1:00 pm</td>
<td>Lunch - on own</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00 pm</td>
<td>Optional Tours</td>
<td></td>
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<tr>
<td></td>
<td>Free Time to explore Kaunas</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6:30 pm-9:30 pm</td>
<td>Conference Dinner (Raudondvaris manor)</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Buses begin departing downtown at 6:00 pm</td>
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</tr>
</tbody>
</table>

**Ancillary Meetings**  
- ISES Strategic Planning Meeting—Soapbox Meetings  
  - Time: 10am – 1pm  
  - Location: Arena, Press Room  
- ISIAQ Chapter Meeting  
  - Time: 1pm – 2:30pm  
  - Location: Univ., Room 402
### Meeting-at-a-Glance

**Wednesday, August 21**

<table>
<thead>
<tr>
<th>Time</th>
<th>Basic Hall</th>
<th>Nemunas</th>
<th>Amphitheatre</th>
<th>Baras 11</th>
<th>VIP Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 am-5:00 pm</td>
<td>Registration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:30 am-9:30 am</td>
<td>Plenary 4: (Basic Hall)</td>
<td>Keeping ecosystem services safe: Spotlight on climate change and water supply</td>
<td>Pakk Pietilä, PhD and Speaker TBD</td>
<td></td>
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</tr>
<tr>
<td>9:30 am-11:00 am</td>
<td>WE-PL-A1-EHR</td>
<td>Health Impacts from Heat and Chemicals</td>
<td>WE-SY-B1</td>
<td>WE-SY-C1</td>
<td>WE-PL-D1-EAM</td>
</tr>
<tr>
<td></td>
<td>WE-PL-B2-HBM</td>
<td>Health Effects of Traffic Related and Environmental Exposures</td>
<td>WE-SY-C2</td>
<td>WE-PL-D2-EAM</td>
<td></td>
</tr>
<tr>
<td>11:00 am-11:30 am</td>
<td>Coffee Break and Poster Viewing</td>
<td></td>
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</tr>
<tr>
<td>11:30 am-12:30 pm</td>
<td>WE-PL-A2-EHR</td>
<td>Metals: Exposure and Risk</td>
<td>WE-PL-B2-HBM</td>
<td>WE-PL-D2-EAM</td>
<td>WE-PL-D2-EAM</td>
</tr>
<tr>
<td></td>
<td>WE-SY-B1</td>
<td>Exposure Science Studies from Asian Perspectives - Environmental and Study Diversities Among Asian Countries</td>
<td>WE-SY-C2</td>
<td>Assessing Exposures to Susceptible and Vulnerable Populations</td>
<td></td>
</tr>
<tr>
<td>12:30 pm-2:00 pm</td>
<td>Lunch (Basic Hall 2)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2:00 pm-3:30 pm</td>
<td>WE-PL-A3-EHR</td>
<td>Inhalation Exposure</td>
<td>WE-SY-B3</td>
<td>WE-SY-C3</td>
<td>WE-PL-D3-EAM</td>
</tr>
<tr>
<td>3:30 pm-4:00 pm</td>
<td>Coffee Break and Poster Viewing</td>
<td></td>
<td></td>
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<tr>
<td>4:00 pm-5:00 pm</td>
<td>ISES and ISIAQ Membership Meetings</td>
<td>(ISES - Nemunas)</td>
<td>(ISIAQ – Baras 11)</td>
<td></td>
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</tr>
<tr>
<td>5:00 pm-6:30 pm</td>
<td>Exhibit/Sensor/Committee Fair</td>
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</tr>
</tbody>
</table>

**Ancillary Meetings**
- ISES Strategic Planning Meeting—Soapbox Meetings 10am – 1pm Arena, Press Room
- Meet the Editors 12:30pm – 2pm Amphitheatre
- ISIAQ STC 31 Meeting 5pm – 6pm Univ., Room 303
- ISIAQ STC 13 Meeting 5pm – 6pm Univ., Room 403
- JESEE Editorial Board Meeting (closed) 6:30- 8:30pm Univ., Room 402
- Chairs’ Reception for Volunteers (by invitation) 6:30pm Arena, Restaurant
# Meeting-at-a-Glance

**Thursday, August 22**

<table>
<thead>
<tr>
<th>Time</th>
<th>Basic Hall</th>
<th>Nemunas</th>
<th>Amphitheatre</th>
<th>Baras 11</th>
<th>VIP Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am-1:30 pm</td>
<td>Registration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:30 am-11:00 am</td>
<td>TH-PL-A2-EHR</td>
<td>TH-PL-B2-SSS</td>
<td>TH-SY-C2</td>
<td>TH-PL-D2-ECS</td>
<td>TH-PL-E2-CPC</td>
</tr>
<tr>
<td></td>
<td>Conceptual Approaches to Exposure and Risk Assessment</td>
<td>Children’s Exposure: Chemical and Non-Chemical Stressors</td>
<td>National and International IEQ Guidelines</td>
<td>VOCs, SVOCs and Particles: Toxicity and Effects on IAQ</td>
<td>Ventilation and Indoor Air Quality Studies</td>
</tr>
<tr>
<td>11:00 am-11:30 am</td>
<td>Coffee Break</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:30 am-12:30 pm</td>
<td>TH-PL-A3-EHR</td>
<td>TH-PL-B3-HBM</td>
<td>TH-PL-C3-PCP</td>
<td>TH-PL-D3-ECS</td>
<td>TH-PL-E3-CPC</td>
</tr>
<tr>
<td></td>
<td>Multi-Chemicals’ Assessment Indoors</td>
<td>Assessment of Exposures in Home and School Environments and Associated Health Effects</td>
<td>Community Involvement in Air Quality Studies</td>
<td>Minimizing Stressor Exposures: From Source Control to Workplaces</td>
<td>Indoor Environment, Occupant Health and Behavior</td>
</tr>
<tr>
<td>12:30 pm-2:00 pm</td>
<td>Lunch (Basic Hall 2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00 pm-3:30 pm</td>
<td>TH-PL-A3-EHR</td>
<td>TH-PL-B3-HBM</td>
<td>TH-PL-C3-PCP</td>
<td>TH-PL-D3-ECS</td>
<td>TH-PL-E3-CPC</td>
</tr>
<tr>
<td></td>
<td>Closing Plenary (Basic Hall)</td>
<td>Interdisciplinarity for Better Risk Assessment of Indoor Chemicals, A Lecture in Honor of Prof. Jan Sundell for His Lifelong Work on Indoor Air Quality and Health Carl-Gustaf Bornehag, PhD</td>
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</tr>
</tbody>
</table>

Ancillary Meetings

ises General Scientific Meeting/TOC Meeting 12:30pm – 2pm Arena, Press Room
General Information

Registration Desk Hours

The registration desk for General Registration, located on the Conference Level, will be open during the following times:

- Sunday, August 18: 7:30 am – 5:30 pm
- Monday, August 19: 7:30 am – 6:00 pm
- Tuesday, August 20: 7:30 am – 1:00 pm
- Wednesday, August 21: 7:30 am – 5:30 pm
- Thursday, August 22: 8:00 am – 1:30 pm

Registration Materials, Badges & On-site Staff

At check-in each attendee will receive an Onsite Guide, meeting name badge, and other promotional materials. Printed programs will only be available to those who purchased one as part of pre-registration. Each participant must wear his/her own badge during the entire meeting. The badge is the admission pass to meeting rooms, meeting areas, and social events.

Meeting staff can be identified by orange staff ribbons affixed to their name badges. Feel free to ask them for information at any time. During hours of operation the registration area will always be staffed by at least one person.

Wi-Fi Access

There will be Wi-Fi available in the meeting space.

Official Language

The official language of the meeting is English.

About Kaunas

Welcome to Kaunas [ˈkɐʊˑnɐs]! This is the second largest city in Lithuania, first mentioned in 1361, having rich history and traditions. It is a large centre of business and industry, booming during the last decade. It is a city of young people with over 40,000 students (the largest number in Lithuania) studying at the six universities here.

Kaunas is considered the greenest city in the country. Besides caring about our nature we also care a lot about our culture – from amazing architecture (famous of Art Deco) to galleries and theatres – Kaunas is truly full of culture. This is why we have been named as European Capital of Culture in 2022. We hope that you will be able to explore at least portion of it.
General Information

About Kaunas

The rapid developments in urban infrastructure also causes some necessary closures and inconveniences, but we hope that this will be a minor nuisance to the ISES-ISIAQ 2019 meeting and its guests.

Kaunas University of Technology (KTU) is one the largest technological universities in the Baltics, hosting 10,000 students. Known for its linkages with business, leadership in scientific research, flexible interdisciplinary study programs and study experience, KTU is fast forwarding to becoming an internationally acknowledged institution of higher education.

Kaunas University of Technology had its beginning on 16 February 1922, when the University of Lithuania and its technical faculties were established. The development of Lithuanian scientific ideas continued in the first Lithuanian independent technical school of higher education (in 1950–1990 titled Kaunas Polytechnic Institute (KPI)). In 1990 KTU regained its status of the university and took a path of rapid reforms of studies and research. The University continues to pursue sustainable partnership of science, business and industry, develops and implements new ideas, innovations and inventions. Since 1992 more than 144 thousand graduates graduated from the university.

KTU’s mission is to provide a research-based studies of international level, to create and to transfer knowledge and innovative technologies for sustainable development and innovative growth of the country, and to provide an open creative environment that inspires leaders and talented individuals.

KTU is the founder of 2 integrated centres of science, studies and entrepreneurship – "Santaka" and "Nemunas" valleys. National Innovation and Entrepreneurship Centre, which unites activities of valleys "Santaka" and "Nemunas", was established in 2014. Lithuanian intellectual, administrative and financial potential is expected to be concentrated here, creating the largest park of applied scientific research and innovations in Lithuania.
General Information

Meeting Site

Žalgirio Arena
Karaliaus Mindaugo pr. 50, Kaunas

The meeting will take place at Žalgirio Arena (Karaliaus Mindaugo pr. 50, Kaunas), which is located in the city center within walking distance from most of the hotels. The venue, opened in 2011, is the biggest multifunctional arena in the Baltic region. The city’s massive multipurpose arena features not only state-of-the-art sports facilities but a host of other entertainment options, plus restaurants, bars and other facilities.

Kaunas University of Technology
K. Donelaicio g. 73, Kaunas

After leaving the arena, take the left bridge (Simono Daukanto Bridge), and follow similarly titled pedestrian street until facing K. Donelaicio street (major construction behind). The KTU building will be on the left.
General Information

Sustainability Initiatives

The ISES-ISIAQ 2019 organizers are committed to meet the sustainability criteria by minimizing impacts to the environment, ensuring ethic and social responsibility, as well as transparent financial performance. Here we present main initiatives of the conference venue and organizing efforts devoted towards meeting goals of sustainability.

City of Kaunas

The city of Kaunas continuously devotes its efforts towards ensuring sustainability in everyday operations, business and tourism. Like many urban developments, Kaunas, the second-largest city in Lithuania, must manage the demands of economic growth, an increasing population, and environmental and green transport needs. Kaunas has adopted a number of commitments, with specific measures to help achieve sustainable and healthy mobility and transport by 2023.

The city of Kaunas encourages bicycle tourism. Bicycles are some of the most environmentally friendly public means of transport. More bike paths, adjusted pavements, and racks encourage people to travel and get to know the city in an eco-friendly way. There are also “Likebike” centers all over the city, where tourists can get the most important information about travelling by bike, maps, souvenirs and free water to refresh and fill their bottles. The idea is not only to encourage people to travel healthily and in the eco-friendly way but also to become familiar with important touristic places of the city.

Kaunas City: The municipality has implemented the Kaunas City Competitiveness and Attractiveness Development Programme. The collected taxes are being invested into attracting new flight companies, international city marketing, and infrastructure improvement. All these measures reduce tourism seasonality which in turn contributes to reduced impacts to environment.

Žalgirio Arena

The Žalgirio arena has established green policies that aims to reduce the negative effect of the Arena and its ongoing activities on the nature, environment, health and human being in general. Žalgirio Arena is the first sports arena in the world to receive the “BREEAM In-Use” certification. The main environmental protection activities are:

- The visitors of Žalgirio arena are strongly invited to recycle the waste, separating the food waste from paper and plastic, and glass. To assure the right way of recycling all Žalgirio arena waste is re-checked and recycled again if necessary. Waste of electric and electronic equipment is recycled separately.
- Use of organic materials. Žalgirio arena is working with only the suppliers who are operating with ISO 14001 or similar environmental protection systems. The cleaning materials in use are eco-friendly and go under the branding of “European Ecolabe” or have the documents proving its ingredients.
- Optimal paper usage. Žalgirio arena is gradually getting used to electronic documentation. The arena is also encouraging the staff to print less and, if possible, to print double-sided.

In an efforts to achieve a smaller negative impact for the environment, one of the policies for Žalgirio arena is aiming for the low usage of water, heating, and electricity in the arena. The main policies for energetics:

- Minimizing electricity, water and heating energy usage. In Žalgirio arena an
General Information

**Sustainability Initiatives [cont.]**

An electricity management system is implemented, which enables saving 200,000 kWh electricity and 100,000 kWh heating consumption. The water saving supplies are implemented in order to conserve water. To minimize the Arena’s heating usage, there is an innovative heating system as well as making the arena airtight. During 2017 the heating/cooling system was renovated, by implementing a hydro accumulation tank, which enables to heat/cool separate zones in the arena when they are being used at the exact moment. This helped to lower cooling costs enormously.

- Renewable energy sources. A 110 kW solar electricity system is projected on the roof of Žalgirio arena, which enables lower usage of electric energy, provided from the city. It helps to significantly lower the electricity costs and make a positive input to lowering CO2 output to the environment.

Another policy of Žalgirio arena is a strong focus on health and social responsibility which includes:

- A safe work environment. Žalgirio arena assures all the employees and tenants have the highest quality work environment and aims to protect the health of the staff.
- Quality of water and air. Every year the building has different check-ups for the water to ensure the drinking water quality. The fresh air in the arena is ensured by the air ventilating systems.
- Integration of the handicapped. Žalgirio arena is fully adjusted for the individuals with physical difficulties. Handicapped parking spaces are placed on the zero floor of the Arena. From here you can easily reach all the seats in the arena.
- The venue, Žalgirio Arena, is located in the city center within walking distance from most of the hotels, minimizing the need for the use of transportation.

**Kaunas University of Technology, KTU**

KTU is integrating the United Nations sustainable development goals (17SDG) in all areas of its activity. Following the guidelines of socially responsible activities, the University conducts educational activities, initiates projects, and the principles of sustainable development are integrated in various University activities. According to this attitude, the University aims for new knowledge and technologies to serve for the well-being of the people and the environment. It includes focusing on cultivating the culture of sustainable development and responsibility within the University’s community and strengthening of the University’s responsibility to the environment, society and region.

A responsible attitude towards environment and the society at the University is based on the philosophy of sustainable development activities, such as:

- Introducing the instruments of responsible and sustainable development at the University
- Conducting educational activities
- Initiating projects and activities contributing to the sustainability of the University, region and the world
- Integrating sustainable development principles in various University’s activities: studies, research and administrative processes, enhancing the awareness and involvement of KTU community and improvement of its infrastructure
- Cooperating in one of the main principles for the sustainability of environment, society and economic well-being
General Information

Sustainability Initiatives [cont.]

Conference Proceedings
Printed conference programs are not available in print, unless you opted to pay for it during the registration process. Proceedings are available only electronically. While this is a minor nuisance, we hope that attendees will appreciate the App, thereby saving resources for printing multiple copies of these items for all attendees.

Carbon Offset
The ISES-ISIAQ 2019 organizers are committed to meet the sustainability criteria by minimizing impacts to the environment, ensuring ethic and social responsibility, as well as transparent financial performance. Here we present main initiatives of the conference venue and organizing efforts devoted towards meeting goals of sustainability.

We encourage traveling attendees to CALCULATE AND COMPENSATE FOR YOUR EMISSIONS. Carbon offsets are schemes or initiatives aimed at reducing greenhouse gas or carbon dioxide emissions by compensating for or neutralizing the emissions made. In other words, it pertains to investment in environmental projects with the sole objective of balancing carbon footprints. It’s a practice that has increasingly gained popularity globally with more and more carbon offset providers joining the initiative.

The carbon offset providers primarily work to reduce future emissions by investing in clean energy technologies, planting trees, or buying and compensating for the carbon emitted from emissions trading scheme. Offset providers widely vary in terms of their areas of focus and charges, and their operations are determined by their respective locations. Overall, the central objective is to promote environmental sustainability.

A list of carbon offsetting providers can be found on the conference website (www.isesisiaq2019.org).

Mobile Event App
The ISES ISIAQ 2019 Event App is available for all registered attendees to download. Search for Infinity Events in the App Store or Google Play. It will install on your device, and the icon for Infinity Conference group will appear on your device when installation is complete. Once the icon is clicked, the ISES ISIAQ 2019 event will launch.
## General Information

### Ancillary Meetings

<table>
<thead>
<tr>
<th>Day</th>
<th>Event</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
<td>ISES Board Meeting (closed)</td>
<td>10:00 am – 3:30 pm</td>
<td>University, Room 403</td>
</tr>
<tr>
<td></td>
<td>ISIAQ Board Meeting (closed)</td>
<td>3:00 pm – 5:00 pm</td>
<td>University, Room 402</td>
</tr>
<tr>
<td></td>
<td>Indoor Air Editorial Board Meeting (closed)</td>
<td>12:00 pm – 2:00 pm</td>
<td>University, Room 303</td>
</tr>
<tr>
<td></td>
<td>ISES Thank You Reception (by invitation)</td>
<td>4:00 pm – 5:00 pm</td>
<td>Arena Restaurant</td>
</tr>
<tr>
<td>Monday</td>
<td>ISES Strategic Planning Meeting—Soapbox Meetings</td>
<td>10:00 am – 1:00 pm</td>
<td>Arena, Press Room</td>
</tr>
<tr>
<td></td>
<td>ISIAQ STC 11 Committee Meeting</td>
<td>5:30 pm</td>
<td>University, Room 402</td>
</tr>
<tr>
<td>Tuesday</td>
<td>ISES Strategic Planning Meeting—Soapbox Meetings</td>
<td>10:00 am – 1:00 pm</td>
<td>Arena, Press Room</td>
</tr>
<tr>
<td></td>
<td>ISIAQ Chapter Meeting</td>
<td>1:00 pm – 2:30 pm</td>
<td>University, Room 402</td>
</tr>
<tr>
<td>Wednesday</td>
<td>ISES Strategic Planning Meeting—Soapbox Meetings</td>
<td>10:00 am – 1:00 pm</td>
<td>Arena, Press Room</td>
</tr>
<tr>
<td></td>
<td>Meet the Editors</td>
<td>12:30 pm – 2:00 pm</td>
<td>Amphitheatre</td>
</tr>
<tr>
<td></td>
<td>ISIAQ STC 31 Meeting</td>
<td>5:00 pm – 6:00 pm</td>
<td>University, Room 303</td>
</tr>
<tr>
<td></td>
<td>JESEE Editorial Board Meeting (closed)</td>
<td>6:30 pm – 8:30 pm</td>
<td>University, Room 402</td>
</tr>
<tr>
<td></td>
<td>Chairs’ Thank You Reception (by invitation)</td>
<td>6:30 pm</td>
<td>Arena, Restaurant</td>
</tr>
<tr>
<td>Thursday</td>
<td>ISES General Scientific Meeting/TOC Meeting</td>
<td>12:30 pm – 2:00 pm</td>
<td>Arena, Press Room</td>
</tr>
</tbody>
</table>
Presenters and Session Chairs

Instructions for Symposium and Platform Presenters

• Each presentation should be 12 minutes with 3 minutes for questions, for a maximum presentation length of 15 minutes. Some symposium sessions may have shorter lengths; check with your chair to confirm the presentation duration.

• Each oral session will be 60 or 90 minutes and will feature 4, 5, or 6 presentations, respectively. Each session will have a chair to manage time and moderate discussion.

• In order to maintain consistency and allow attendees to move easily between sessions, chairs have been instructed to strictly keep presentation timing and will interrupt if the presenter exceeds the allotted time (15 minutes per presentation, including questions and discussion).

• Prepare your slides in PowerPoint using landscape orientation and the widescreen 16:9 format ratio.

• Each presentation room will include a standard laptop, LCD projector and screen. You will be able to operate your slides by means of a remote control.

• All presentations should be brought to registration, on a USB memory stick, by 5:00p.m. the day prior to your presentation. Title your presentation as your last name underscore first name (e.g. Jones_Jim). The conference organizers will pre-load your presentation on the laptop in the appropriate presentation room.

• Introduce yourself to your session chairs 15 minutes before the session starts in the presentation room.

• Staff will be available in the vicinity the presentation rooms to assist you if necessary.

• When speaking, make sure to face the microphone for good sound quality.

• Make sure your presentation does not exceed the allotted time (15 minutes per presentation, including questions and discussion). Session chairs will interrupt if you exceed the maximum allotted time.

Instructions for Poster Presenters

• Poster Boards are 1m x 2m (Portrait). Your poster should fit within the usable space of 100cm x 125cm.

• When preparing your poster, use adequate letter type and font size to ensure good readability. Well-designed figures, graphs and tables will enhance the readability and impact of your poster.

• Print your poster and bring it with you to the Kaunas Arena. Please note that printing services will not be provided.

• Poster boards in the poster area will be numbered and ordered using the abstract code (ex. MO-PO-10 is a Monday poster, board #10). You will find your abstract code in this program and the schedule of abstracts, both of which are on the ISES ISIAQ 2019 Joint Meeting website and in the meeting app.

• The title on your poster should be identical to the title of the submitted abstract.

• Posters should show the names of all contributing authors appearing in the abstract and the affiliation of the presenting author.
Presenters and Session Chairs

Instructions for Poster Presenters [cont.]

• On the day of your poster session (Sunday, Monday, Tuesday or Wednesday), all posters should be placed on the appropriate poster board no later than 10:00 a.m. and can be taken down after 4:30 p.m., but no later than 6:00 p.m. Important: the posters that are competing in the student poster competition should be in place on Sunday before 5:30 p.m. and taken down upon completion of the competition that evening at 9:00 p.m.

• Posters not removed by the presenters will be removed by the organizers and may be destroyed.

• Push pins will be available in the poster area.

• Student Poster Competition participants must be present at their poster from 7:00 p.m.-9:00 p.m. on Sunday. The presenting author must be a student to be eligible for the award. Please note that if you were accepted for the Student Poster Competition you need to present your abstract TWICE during the conference, once at the poster competition on Sunday, and a second time during your assigned Poster Session/Oral Date and time.

• If you are presenting a poster on Monday, Tuesday or Wednesday you must be at the poster during the poster viewing times noted in the meeting schedule on your assigned day.

• Consider bringing hard copies of your poster as handouts or providing a method for attendees to leave their email so you can send them a copy of your poster if requested.

Session Chair/Co-Chair Responsibilities

• Session Chairs/Co-Chairs are to be present in the session room no later than 15 minutes prior to the start of session.

• All presentations received by 5:00 p.m. the evening before will have been pre-loaded onto the computer in the session room. Ensure all have been pre-loaded.

• At the beginning of each session, remind the participants (presenters and audience) to place cell phones and pagers on “silent” mode or turn them off.

• Introduce each speaker prior to his/her presentation. In the interest of time, limit introductions to name, job title, and affiliation.

• Oral sessions are either 6 talks in 90 minutes) or 4 talks in 60 minutes (15 minute windows). Actual talks should be limited to 12 minutes. 3 minutes are available for transition/introduction and questions.

• In a few sessions, an extra talk may have been included. Please review your session contents before beginning and limit talk times and questions accordingly.

• It is essential that the session be kept on schedule. This allows people to go back-and-forth between parallel sessions. If a presentation is cancelled, conduct a question/answer period or a discussion portion in the session to fill the remaining time. Alternately, ask if there are poster presenters who would like to give a short introduction of their poster.
Presenters and Session Chairs

Session Chair/Co-Chair Responsibilities [cont.]

• Notify the speakers when they have 5 minutes and 1 minute remaining in their presentation. Observe the scheduled breaks and encourage the attendees to view posters during this time.

• A few minutes for questions and answers should be reserved out of the allocated time for each presentation. It is the Session Chair’s responsibility to ensure that lengthy discussions occur outside the session.

• Ask the questioner to state his/her name and affiliation. Make sure the question is repeated when there is no floor microphone.

• At the end of each session, the session chairs will show a list of posters with the designated poster session times and locations, encouraging the session audience to visit the posters. If time allows, the poster presenters may be asked to stand up.

• Finally, we would be happy if the session chairs could write a short (about 5-10 sentences) summary / highlights of their session(s) to be used by the societies for distributing information about the conference.
For Students and New Researchers

Student Poster Competition  
Sunday, August 18

The Student Poster Competition is scheduled during the Opening Reception on the evening of Sunday, August 18 from 7:00 pm – 9:00 pm. The competition provides a unique opportunity for students to practice and improve their critical thinking and oratory skills by presenting their research to a panel of judges, student peers, and other meeting attendees.

Competition eligibility requirements: Students currently enrolled in an undergraduate or graduate program (Master’s or Doctoral) at a university or college and who are involved in an original research program focused on exposure science are eligible to participate. If you have multiple presentations during the regular conference sessions, select only one for the student poster competition. Although the student is not required to be first author of the poster, they must play the main role in constructing the poster and be the main presenter at the conference.

Instructions:
1. Your abstract will be automatically entered in the Student Poster Competition if you selected “Yes” that you wanted your submission to be in the Poster competition in the abstract submission system, and it gets accepted for the general abstract session.
2. Be prepared to present your poster TWICE during the Annual Meeting — once at the competition on Sunday, August 18 and a second time during the regularly scheduled session assigned to you by the conference organizers.
3. Note that the Student Poster competition participation is ABOVE AND BEYOND your presentation during the regular conference sessions. If your regular conference presentation is an oral one but you would like to participate in the Student Competition, you will need to prepare a “posterized” version for the Sunday competition. If you are presenting a poster at the regular conference session, you will need to present the poster twice — once during the competition on Sunday night and once during the regularly scheduled conference poster session.
4. If you have multiple presentations during the regular conference sessions, select one for the student poster competition. If you have both oral and poster presentations during the regular conference sessions, you may select your poster or prepare a “posterized” version of your oral presentation for the student competition.
5. At the Sunday poster competition, each competitor will be required to present his/her poster(s) in a pre-assigned area for review. Posters will be grouped by research topics to enhance student communication and networking during the Sunday reception.
6. Competitors will need to stand near their poster during the judging and be prepared to answer questions about their work. If approached by the review panel, competitors will be asked to summarize their poster in a two-minute oral presentation and to respond to questions raised about their research by the viewing judges.
For Students and New Researchers

**Happy Hour**
Avilys Restaurant
Sunday, August 18
Following the poster session students and new researchers are encouraged to meet at Avilys restaurant in Kaunas. Folks will start gathering at 9:15 pm and can stay as long as they like. Appetizers will be provided by the joint SNR committees. Come and get to know your fellow young researchers!

**Networking Lunch**
Amphitheatre
Monday, August 19
After grabbing the lunch provided by the conference, join other students and new researchers to meet and network with senior Society members interested in offering advice for a career in the field.

**Happy Hour**
RePUBlic No 1
Wednesday, August 21
At 7 pm there will be a short presentation on mentoring in Baras 11 at the conference arena. From there mentors, mentees, and all other students and new researchers are invited to gather at RePUBlic No 1. Appetizers will be provided by the joint SNR committees. Come and celebrate the week!

**Food Fair**
Žalgirio Arena (outside)
Thursday, August 22
On Thursday evening Kaunas will host an open kitchen event of street food just outside the conference arena. Popular restaurants come to the area near the Arena and river Nemunas with food and drink trucks and live music. If you want to attend with others from ISES, meet at the front door of the conference center at 6 pm.
Pre-Conference Courses

The Organizing Committee is delighted to host opportunities for professional enrichment in the form of pre-conference (Sunday) courses (fee to attend). These courses will be eligible for Continuing Education credits for many professional societies.

**Sunday, August 18**
**8:30 am to 5:30 pm**
**FULL DAY COURSE**
(with a lunch break from 12:30-1:30 pm)

**Instructors:**
Peter Fantke, Associate Professor, Department of Management Engineering, Technical University of Denmark
Olivier Jolliet, Professor, School of Public Health, University of Michigan

**High-throughput Exposure Assessment of chemicals in consumer products for chemical prioritization, risk screening, substitution and life cycle impact assessment – theory and practical examples**

There is an increasing need for quantitatively assessing exposure to chemicals in consumer product applications for chemical prioritization, risk screening, substitution and life cycle impact assessment. This course provides a practical overview of the mass-balance based high-throughput tools to assess multi-pathway human exposure to chemicals in consumer products, and how to integrate these tools with high-throughput dose-response modelling based on comparative and quantitative metrics. We begin by explaining the assessment framework and basic concepts of mass balance modelling – including multiple transfers between near- and far-field environmental compartments. We next present the fundamentals of the multi-pathway resulting exposures for consumers and the general population, reviewing the high-throughput data and models available for detergents, building materials, food contact materials and personal care products. We will illustrate how the risks and impacts associated with consumer exposure can be evaluated in different contexts using a consistent set of dose-response information. We then guide the participants through examples developing exposure and impact factors for various exposure scenarios. We will conclude with a discussion of how this framework fills in important gaps in current assessments and how it can be used in various science-policy fields, including the prioritization and ranking of chemicals, chemical substitution and life cycle toxicity characterization.

**Specific Learning Objectives:** The aim of this course is to introduce participants to quantitative exposure assessment methods suitable for alternatives assessment, life cycle impact assessment and comparative risk assessment. Participants will learn to use and evaluate mass-balance tools for assessing various exposure pathways, using the product intake fraction relating chemical mass intake to chemical mass in a products. Participants will work with practical examples. The course is intended for environmental science practitioners interested in the scientific fundamentals of exposure and impact assessment of chemicals for a broad range of consumer products. Only basic background knowledge of environmental modelling, risk assessment or life cycle impact assessment is considered necessary. Participants will gain knowledge of basic concepts of exposure science for the impact assessment of chemicals in products and be able to apply the modelling framework and interpret results.

**Products/Course Materials:** Short course copies of all lecture presentation slides as well as working materials for the exercises will be distributed electronically. A copy of all presented exposure modelling tools will be distributed.
Pre-Conference Courses

**Sunday, August 18**
8:30 am to 12:30 pm
**HALF DAY COURSE**

**Effectively communicating risk assessment messages by visualizing uncertainty**

**Specific learning objectives:** This workshop will focus on two tools developed for uncertainty analysis of both hazard and exposure aspects with a visual depiction of risk assessment results.

**Target Audience:** Exposure scientists, toxicologists, human health risk assessment technical experts, chemical risk managers and communicators. Basic knowledge on Microsoft Excel is required.

**Skills and Knowledge the Audience will Gain:** Provide workshop registrants with a general background, access and hands-on training on the uncertainty visualization tools through case studies.

**Preparation:** The participants are asked to bring their own laptops. The Uncertainty Visualization in Risk Assessment tool is a web based application, which requires the Google Chrome web browser for functionality. APROBA-Plus requires Microsoft Excel 2010 (version 14) or higher. The APROBA-Plus tool will be distributed prior to the training course.

**Objective:** The objective of this half-day course is to provide participants with interactive training on newly developed tools for communicating uncertainty in chemical risk assessments, namely a web based application for Uncertainty Visualization in Risk Assessment and APROBA-Plus tool developed by RIVM1. The former tool is an extension of and web application for the semi quantitative method described in Beck et al 2016 and depicted in Table 9 of that publication2. The latter tool is an extension of the APROBA tool developed under the WHO IPCS Harmonization Project on uncertainty in hazard assessment3. Having a clear and understandable manner to communicate the uncertainty in chemical risk assessments (RA) is essential for transparency and credibility in risk management decision making. Without an understanding of the uncertainties incorporated into a RA decision makers, risk managers, or the public are unable to make judgments of how to use the information provided. Additionally, clear documentation of the uncertainty that was accounted for in an assessment allows for scientific dialogue and better understanding of what data could be generated to improve the precision of the assessment. Tools visualizing the uncertainty in the assessed risk offer promise as an improved means of communicating and conveying uncertainty to regulatory decision makers, risk managers, and the public.

**Instructors:**

Tanya Dudzina, ExxonMobil Biomedical Science, Inc. (EMBSI)

Kristen Magnuson, ICF

Floris Groothuis, RIVM
Pre-Conference Courses

Sunday, August 18
1:30 pm to 5:30 pm
HALF DAY COURSE

Exposure to UFPs emitted from cooking using gas and electric stoves: What we need to know about the PM emission rate and its health effects, and opportunities for future studies

Specific Learning Objectives: At the end of the workshop the students are expected to be able to:

• Understand the possible gases and PM compounds emitted during cooking
• Identify different factors impacting and reducing the PM emission rate during gas/electric stoves cooking
• Design an experiment to estimate the cooking PM emission rate using mass balance approach
• Describe the potential impact of PM from cooking on human health understood from existing clinical exposure studies
• Explain the pathways for the translocation of UFPs to extrapulmonary organs and its biokinetics

Outline:

• PM and gas compounds from cooking – Gas and particulate phase organic compounds; PM mass and size distribution; PM composition; Q&A
• Factors impacting the cooking PM emission rates/concentrations – Cooking methods; Energy sources; Cooking oil; Temperature; Meat; Additives; Cooking pan; Surface area; Q&A
• Estimation of the PM emission rate using mass balance approach – Definition of the source emission rate, emission factor and emission flux; Estimation of the air exchange rate; Estimation of the PM decay rate; Estimation of the source emission rate; Steady state approach; Q&A
• UFPs and health – UFPs from cooking; Translocation of UFPs to extrapulmonary organs including liver, heart and brain; Exposure to UFPs from gas and electric stove cooking and its effect on brain EEG, heart ECG and blood pressure: A case study of Iranian and Kazakh human subjects. Comparisons with neurodegenerative disease; Q&A
• Conclusion and Future work

Instructor:
Mehdi Amouei Torkmahalleh,
Associate Professor,
Chemical and Materials Engineering Department,
School of Engineering,
Nazarbayev University
and
Director for Chemical and Aerosol Research Team (CART),
School of Engineering,
Nazarbayev University
Pre-Conference Courses

Sunday, August 18
1:30 pm to 5:30 pm
HALF DAY COURSE

Instructor:
Nenad Savic
Institute for Work and Health

REACH exposure models and TREXMO. How to deal with different exposure predictions and to conduct reliable exposure assessments

Specific learning objectives:
• Students will gain an overall understanding of the differences between the exposure models under REACH
• To conduct health survey of cooks and non-cooks using questionnaires, spirometry, pulse oximetry and other techniques to assess health risk due to exposure to indoor air pollutants.
• Understand the backgrounds and benefits of using the TREXMO tool
• Learn how to enter exposure information in TREXMO, perform the necessary parameter translations, and interpret the different outcomes
• Students will learn about the upcoming TREXMO+ model, its backgrounds, performances, and different ways how it can be applied for exposure assessment

Outline:
Background (30 Minutes): It is intended to cover the structure, development, and the mathematics behind the exposure calculations of several REACH models. A focus will be also on the main differences in their structure, the between-model variability and the between-user variabilities.

TREXMO (60 minutes): The TREXMO tool includes six exposure models, which are inter-linked with a parameter translation system. Before using TREXMO, it is essential to understand how this translation system works and what translation outcomes can be expected. The other important aspect of TREXMO that will be covered is the interpretation of the obtained prediction. Since TREXMO provides six different exposure estimates, the correct interpretation of these results is important to draw reliable conclusions.

Practical demonstration (60 Minutes): Several real-world exposure situations will be presented to the students. Their content and the difficulties with the data interpretation into the models’ parameters will be demonstrated. The exposure situations will be used to perform exposure assessments in tools, such as ART, Stoffenmanger and ECOTOC TRAv3. Finally, the given exposure situations will be re-evaluated within the framework of TREXMO.

TREXMO+ (60 minutes): Recently developed model, TREXMO+, uses an advanced algorithm that combines the estimates of three existing REACH models to provide estimates that are more accurate. Its concept, the structure of algorithm, and evaluated performance will be presented to the students.

Conclusion and Outlook (30 Minutes): Based on the provided information during this session, conclusions will be drawn on the strengths and weaknesses of the presented exposure models. The future goals and the directions of development of TREXMO will also be shortly discussed.
Special Events

Women’s Networking Event
The conference organizers are excited to invite you to attend the first ISES-ISIAQ Joint Women’s Networking Event and the sixth ISES Women’s Networking Event! Enjoy an early evening of mingling and networking activities with other women engaged in science and research. This event is a great opportunity for women in exposure science and indoor air to share research ideas, expand professional networks, and discuss challenges and successes. Refreshments will include appetizers and a drink (plus a cash bar). Pre-registration is highly encouraged (so we can plan accordingly for food), but not required. Space is limited.

Kaunas University of Technology and City of Kaunas Welcome Reception
KTU and City of Kaunas cordially invite you to a welcome reception taking place in one of the centres for technology and innovation – the Santaka Valley. Recently raised building stands out with its unique architecture featuring glass facades. It host multiple institutes and research groups as well as serves as a venue for numerous events. Meals will be served together with entertainment from local bands and DJs, providing great evening for chatting with old and meeting new colleagues.

Tours - Take a little time to explore beautiful Kaunas!

BOAT TOUR: During the trip you will see the beauty of the old town of Kaunas, the Nemunas and Neris confluence, Nevėžis landscape. In Raudondvaris you depart the boat and take a walking tour and visit the beginning of the 17th century, the Lithuanian Renaissance monument – Raudondvaris castle estate, where the Countess Rozalija will lead you on an entertaining excursion.

For those attending the dinner: This option can be used as an alternative to taking the bus to Raudondvaris Manor. Dinner participants will take the bus back to Kaunas after the dinner.

Time: 2:00 – 7:00 PM; Price: $25 USD

GUIDED TOUR in Old Town: Visit the most interesting sites: the oldest stone castle in Lithuania, Town Hall, and the Cathedral Basilica. You will see the longest bridge in the
Special Events

**Tuesday, August 20**
Starting at 2:00pm [cont.]

world and hear what happened when Kaunas became a Hanseatic city. If you want to enjoy more of the city’s beauty by boat after the walking tour, you will depart from the Old Town pier.

**Walking Tour:**
- **Time:** 2:00 – 4:30 PM; **Price:** $15 USD

**Walking and Boat Tour:**
- **Time:** 2:00 – 5:45 PM; **Price:** $20 USD

**GUIDED TOUR in New Town:** Modernist architecture of the interwar period in Kaunas was included into UNESCO’s World Heritage Tentative List. Kaunas modernism was formed in the fourth decade of the last century, when the city was the temporary capital of Lithuania. You will find exceptional examples of modernist architecture and see a lot of street art while taking this tour.
- **Time:** 2:00 – 4:30 PM; **Price:** $20 USD

**GUIDED TOUR in Pažaislis Monastery:** Pažaislis Monastery is one of the most beautiful baroque ensembles in Lithuania. It was built in the 17th century for the Camaldolese Monastery. In the southern part of the complex is a monastery officina where you will find an open sacred Pažaislis monastery ensemble museum. Enjoy the magnificent view of Kaunas Region Lagoon.
- **Time:** 2:00 – 4:00 PM; **Price:** $20 USD

**Conference Dinner**
This year’s conference dinner will be a casual event held at Raudondvaris Manor. The manor, which is the monument to the beginning of 17th century Renaissance architecture in Lithuania, overlooks the right bank of the upper terrace of the river Nevėžis near the confluence of the Nemunas and Nevėžis. The main building of the Raudondvaris ensemble is the castle-palace with a tower. The estate includes 3.8 hectares of park, two Oficina buildings, an orangery, stables, and an ice-house.

The $70.00 USD fee includes round trip bus transportation from downtown Kaunas. Buses begin departing the Park Inn Hotel at 6:00 pm.

**Wednesday, August 21**
12:30-2:00pm
Amphitheatre

**Meet-the Editors**
Open House session featuring the editors of our society journals-- the Journal of Exposure Science and Epidemiology and Indoor Air-- as well as the International Journal of Hygiene and Environmental Health. Editors will be available to field questions and have one-on-one discussions about journal submissions, the peer review process, and publishing scientific papers. Drop in anytime during this session to take advantage of this opportunity to have one-on-one conversations with these leaders in our fields.

**Exhibit/Sensor/Committee Fair**
Join us for face-to-face meetings and hands-on opportunity to engage with your fellow researchers, exhibitors and committee/local chapter representatives. Discover the newest developments in technologies and tools for exposure research (e.g. monitors, personal sensors, technology platforms, analyzers, samplers, applications, etc.). We encourage all attendees to engage with exhibitors and learn about the most up-to-date products in their portfolios. Representatives from ISES and ISIAQ committees, and regional chapters, will be available to answer questions about how to get involved in the interesting and fulfilling activities within the societies. This is an opportunity you don’t want to miss!
ISES Awards

Excellence in Exposure Science Award

This award is inspired by the work of visionary individuals who have helped shape the field of exposure science and who supported the origins and growth of the ISES and have now passed on but left a strong legacy. The motivation for this award is the recent losses of iconic and ground-breaking researchers exemplified by Natalie Freeman, Michael Lebowitz, Paul Lioy, and Larry Needham. The award recognizes individuals who produce significant advances in the development and/or translation of exposure science and exhibit leadership and service in ISES and/or the exposure science community.

Excellence in Exposure Science Award Winner:

Antonia Calafat, Chief of the Organic Analytical Toxicology Branch, Division of Laboratory Sciences, National Center for Environmental Health, U.S. Centers for Disease Control and Prevention (CDC)

Dr. Antonia Calafat is the Chief of the Organic Analytical Toxicology Branch, Division of Laboratory Sciences, National Center for Environmental Health, U.S. Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia. She leads CDC’s biomonitoring programs for assessing human exposure to pesticides; flame retardants; polycyclic aromatic hydrocarbons; chemicals added to consumer and personal-care products such as phthalates and phenols; and persistent organic pollutants including polybrominated diphenyl ethers; polychlorinated dibenzo-p-dioxins, furans, and biphenyls; and per- and polyfluoroalkyl substances (PFAS).

She has developed and maintained extensive collaborative research with leading scientists in the fields of exposure science, epidemiology, toxicology and health assessment, and has published over 460 peer-reviewed articles. Her research has made important contributions to biomonitoring science, including CDC’s National Reports on Human Exposure to Environmental Chemicals.

Throughout her career, Dr. Calafat has served on numerous advisory committees and scientific panels. She was the vice-chairperson at the 2010 FAO/WHO Expert Meeting to assess the safety of bisphenol A. She serves as co-chair of the U.S. Association of Public Health Laboratories’ National Biomonitoring Network Steering Committee to establish a national network of public health laboratories for state-based environmental health surveillance. She also serves on the Advisory Board of the Human Biomonitoring for the European Union (HBM4EU, a joint effort of 28 countries, the European Environment Agency, and the European Commission). She served as ISES government councilor (2006-2008) and secretary (2009-2010). Since 2017, she is the co-Editor-in-Chief of the International Journal of Hygiene and Environmental Health.

Dr. Calafat earned her PhD in Chemistry in 1989 from the University of the Balearic Islands, Spain. She was a Fulbright Scholar at the Department of Chemistry of Emory University where she completed her postdoctoral training. She joined CDC in 1996.
ISES Awards

Joan M. Daisey Outstanding Young Scientist Award

Joan M. Daisey Outstanding Young Scientist Award to recognize outstanding contributions to the science of human exposure analysis by a young scientist. Joan Daisey was a founding ISEA member and past president (1995-1996), continuing to be active until her death in 2000. Daisey was senior staff scientist at the U.S. Department of Energy’s Lawrence Berkeley National Laboratory (Berkeley Lab) and one of the nation’s leading experts on indoor air quality.

Joan M. Daisey Outstanding Young Scientist Award Winner:

Lesliam Quiros-Alcalá, Assistant Professor at the Maryland Institute of Applied Environmental Health (MIAEH) at the School of Public Health in the University of Maryland, College Park

Dr. Quiroés-Alcalá is an Assistant Professor in the Department of Environmental Health and Engineering at the Johns Hopkins Bloomberg School of Public Health and Adjunct Assistant Professor in the Maryland Institute of Applied Environmental Health at the University of Maryland. She is also Affiliate Researcher at the Center for Environmental Research and Children’s Health (CERCH) at UC Berkeley. Her current research focuses on characterizing exposures to chemicals in consumer products and examining their potential health effects on vulnerable minority populations.

ISES Award for Best Student Paper

The Society seeks to recognize the scholarship of ISES students and recent graduates and their contributions to the field of exposure science. This award, beginning in 2017, is given to a student or recent graduate ISES member for authorship of a paper in the prior publication year that exemplifies the best student-authored work in the field of exposure science.

ISES Award for Best Student Paper Winner:

Jamaji Nwamaji-Enweren, MD/PhD/MPP candidate at Harvard Medical School

Jamaji C. Nwanaji-Enwerem is an 8th year MD/PhD/MPP candidate at Harvard Medical School. Jamaji graduated Phi Beta Kappa and Class of 2012 Valedictorian from Morehouse College with a BS in Biology. In 2018, he earned his PhD from the Harvard University Biological Sciences in Public Health program with a focus in Environmental Health. His dissertation examined the relationships of long-term air pollution exposure with biological aging in the elderly. He is presently in his final year of medical school.

Authors: Jamaji C. Nwanaji-Enwerem PhD, Andres Cardenas PhD², Peter R. Chai MD, MMS³, Marc G. Weisskopf PhD⁴, Andrea A. Baccarelli MD, PhD⁵, Edward W. Boyer MD, PhD⁶ (ISES member winner: Jamaji C. Nwanaji-Enwerem)

Date published: July 21, 2018

Published in: Nicotine & Tobacco Research

ISES Awards

ISES Award for Best JESEE Paper

This award recognizes innovative and creative exposure science research and scholarship from the ISES membership. This award, beginning in 2017, is given to ISES members for authorship of work published in the prior print volume year of the Journal of Exposure Science and Environmental Epidemiology (JESEE) that exemplifies the best in the field of exposure science.

2019 Winner - Best JESEE Paper
Title: Chemical and non-chemical stressors affecting childhood obesity: a systematic scoping review
Authors: Kim Lichtveld, Kent Thomas and Nicolle Tulve
Published: 27 September 2017
Citation: Journal of Exposure Science and Environmental Epidemiology volume 28, pages 1–12 (2018)

Kim Lichtveld, Assistant Professor in the Department of Environmental Safety and Occupational Health Management at The University of Findlay
Dr. Kim Lichtveld received her BA in Biology from Agnes Scott College, and her MSPH and PhD from UNC-Chapel Hill. She performed her postdoctoral research at the U.S. Environmental Protection Agency under the mentorship of Dr. Nicolle Tulve looking at childhood obesity and the myriad of factors related to this global epidemic.

Dr. Lichtveld is currently an Assistant Professor in the Department of Environmental Safety and Occupational Health Management at The University of Findlay.

Nicolle Tulve, Research Physical Scientist
Dr. Nicolle Tulve is an internationally recognized expert on young children’s exposures to chemical and non-chemical stressors found in their everyday environments and how stressors influence health and well-being. Her specific areas of expertise include multimedia exposures, activity patterns, exposure factors, and aggregate and cumulative exposures. Dr. Tulve has authored or co-authored 29 publications in this research area. She regularly presents at international meetings and is often invited as an expert participant.

Kent Thomas, Scientist at the U.S. Environmental Protection Agency, Office of Research and Development
Mr. Kent Thomas is a scientist at the U.S. Environmental Protection Agency, Office of Research and Development, with 39 years of experience in assessing human exposure to environmental contaminants. His experience includes multimedia and multi-pathway exposure studies and development of sampling and analytical methodology for air, water, food, dust, soil, and biological media. His research interests include improving exposure assessment in epidemiology and gaining more insight on the causes and effects of children’s exposures to chemicals.
ISES Awards

JESEE Young Investigator Meeting Award

This award, beginning in 2017, is given to either a student or new researcher (researcher within 10 years of terminal degree) to support young investigator participation in the ISES annual meeting. This award is sponsored by the Journal of Exposure Science and Environmental Epidemiology (JESEE), a Springer Nature publication.

JESEE Young Investigator Meeting Award Winner:
Nathan Lothrop, PhD candidate in Environmental Health Science and project manager in the Mel and Enid Zuckerman College of Public Health at the University of Arizona

Nathan Lothrop is a PhD candidate in Environmental Health Science and project manager in the Mel and Enid Zuckerman College of Public Health at the University of Arizona. His research focuses on how the built environment affects the health of vulnerable populations, notably children and rural residents. For his doctoral thesis, he is modeling historic, early-life air pollution exposures and assessing their influence on respiratory health from birth through adulthood.

IPA/DGUV Award for Young Exposure Scientists

This award, new in 2009 and formerly called the DGUV/BGFA Award, is to foster research in exposure areas with linkages to biomonitoring for superior doctoral students working on their dissertation or in the first year postdoctoral experience and whose doctoral field is exposure sciences, occupational/environmental health sciences, toxicology, biochemistry, biology or a related field. This award from the DGUV* Institute for Prevention and Occupational

IPA/DGUV Award for Young Exposure Scientists Award Winner:
Nicolas Lopez-Galvez, Doctoral Student, Research Specialist at the University of Arizona Mel and Enid Zucherman College of Public Health

Nicolas is a doctoral student in Environmental Health Sciences at the University of Arizona Mel and Enid Zucherman College of Public Health. He joined the doctoral program after completing a Master of Arts in Latin American Studies, and a Master of Public Health at San Diego State University (SDSU). While residing in San Diego, Nicolas worked on the analysis of human exposure to diverse groups of anthropogenic contaminants in soil. In addition, he investigated the presence of disinfectant byproducts in the largest water recycling plant of southern California.

*The DGUV (Deutsche Gesetzliche Unfallversicherung – German Social Accident Insurance) is an association of accident insurance institutions. Its members insure over 70 million people against the consequences of occupational, school and commuting accidents and occupational diseases.
Monika Petraite  
*Kaunas University of Technology, Lithuania*

**Communities creating health: Collaborative innovation for better environmental and public health**

Dr. Monika Petraite is a Full Professor and Principal Investigator of the Research Group Innovation and Entrepreneurship at School of Economics and Business at Kaunas University of Technology, Lithuania, and a Fulbright Visiting Scholar to SJSU, California, and a visiting researcher at MIT, Massachusetts. She is a Director of Global R&D research Centre Central Eastern Europe, and is a founder and a leader of Open Innovation Research cluster between Kaunas Universities, with the focus on the health innovation within cross-disciplinary domains.

She is a founding member of International Association of Knowledge Management, member of ISPIM, EURAM, Knowledge Economy Forum Lithuania. She is also an international advisory board member at Sheffield Hallam University Business School. She is acting as national and international expert on innovation policy and entrepreneurship, is an author of more than 50 academic publications, books and chapters. She promotes innovation and organizational development via research, business consulting practices and training, and is also a mentor and an inspirational speaker to promote innovation leadership and entrepreneurship via TEDx talks, Leadership forums, and other platforms. She is especially concerned about promoting youth and woman in leadership and innovation.

Previously, she has been acting on a number of academic roles, such as a dean of the Faculty of Social Sciences, Interim dean of The Faculty of Arts and Humanities, Interim director of Executive school, and head of the Department of Strategic management at Kaunas University of Technology.
Plenary Sessions

Balancing between health and energy consumption for healthy and sustainable buildings

Monday, August 19
8:30 am - 9:30 am
BASIC HALL

Elisa Van Kenhove
Ghent University, Belgium

How not to waste energy on Legionella
Elisa Van Kenhove (*1991) graduated with a Master of Science in Engineering: Architecture (Architectural Design and Construction Techniques) at Ghent University, Belgium in 2014. Since 2014, she has been working as a researcher at the Building Physics research group of Ghent University, mainly on technical installations in buildings, energy use in dwellings, healthy buildings and renovation of heritage buildings. She also conducts educational tasks. In 2016 she helped with the organization of Indoor Air 2016 in Ghent, Belgium. During the past two years she was the Student Representative for the ISIAQ Board of Directors. In 2015 she received a PhD-fellowship from the Flemish agency for Innovation by Science and Technology on the subject ‘Coupled thermodynamic and biologic modeling of Legionella pneumophila proliferation in domestic hot water systems’. In this PhD she developed a simulation model that allows her to investigate the contamination risk for Legionella pneumophila in the design phase of a domestic hot water system and to test the effectiveness of decontamination techniques on a contaminated system. With that model, domestic hot water system configurations that now dominate the market and alternatives with a lower energy demand are assessed to come to new ‘best practice’ guidelines. The balance between energy savings and health is crucial in this aspect.

Elisa received her doctoral degree in 2018. The work done during her PhD is now undergoing a valorization trajectory and resulted in a patent application.

Yuguo Li
University of Hong Kong, China

Respiratory infection in buildings: Transmission and roles of environment intervention
Yuguo Li is Chair Professor of Building Environment, Honorary Professor of School of Public Health, Associate Dean of Engineering, the University of Hong Kong. He studied at Shanghai Jiaotong University, Tsinghua and KTH in Stockholm, and was a Principal Research Scientist at CSIRO. His main research is on built environment engineering (indoor air quality, city climate, and environment studies of infection). He led the development of 2009 WHO guidelines on natural ventilation. He is currently serving as EIC of Indoor Air journal. He received the John Rydberg Gold Medal from SCANVAC in 2014, an Honorary Doctor Degree from Aalborg University, Denmark in 2015, and the Inoue Memorial Award of SHASE, Japan in 2016.
Corinne Mandin  
Scientific and Technical Building Centre (CSTB), France

Challenges in monitoring exposure to air pollutants: what, how and what for?  
Dr. Corinne Mandin earned her PhD in environmental chemistry from the University of Rennes, France. Previously she received a MSc from the ENSCM in organic chemistry and a MSc from Mines ParisTech in environmental engineering. She has been working on human exposure to chemicals in indoor environments, first at INERIS (French national institute for industrial environment and risks) for 8 years, and now at CSTB (French scientific and technical center for building) that she joined in 2009. She leads the French Indoor Air Quality Observatory, created by the French government in 2001 to carry out nationwide surveys on indoor air quality (IAQ) in buildings. Her research interests include human exposure to volatile and semi-volatile organic compounds, particles and fibers, especially in dwellings, schools and office buildings. Dr. Corinne Mandin is a member of the "expert committee related to air" at the French Agency for environmental health and she previously chaired the "IAQ guidelines expert committee" from 2009 to 2013. She collaborates with the World Health Organization and the European Joint Research Center. She was involved in several EU research projects (SINPHONIE, OFFICAIR, ALDREN). After having been the Vice-President for Research, she is now the President-Elect of the International Society for Indoor Air Quality (ISIAQ).
Plenary Sessions

Challenges in monitoring exposure in the 21st century: Harmonization, collaboration and legal requirements

Tuesday, August 20
8:30 am - 9:30 am
BASIC HALL

Marike Kolossa-Gehring
Umweltbundesamt (German EPA), Berlin, Germany

Coordinating and advancing human biomonitoring in Europe with HBM4EU - Pulling together cultures, legislations and perspectives

Dr. Marike Kolossa-Gehring is a biologist and toxicologist and earned her PhD from the Christian-Albrechts-University Kiel, Germany. Her research focuses on toxicology and human biomonitoring (HBM). She is Head of Section “Toxicology, Health-related Environmental Monitoring” at the German Environment Agency (UBA) and coordinator of the European Joint Programme HBM4EU, a joint effort of more than 110 partners from 28 countries, the European Environment Agency and the European Commission, co-funded under Horizon 2020. At the UBA she is in charge of managing the German Federal Human Biomonitoring Program consisting of German Environmental Survey (GerES), the Human part of the German Environmental Specimen Bank (ESB), the German Human Biomonitoring Commission, and the HBM cooperation between the German Chemical Industry Association (VCI) and the Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU).

Dr. Marike Kolossa-Gehring was involved in the development of assessment strategies and guidelines at the national, EU and OECD level and vice-chair and chair of the OECD Endocrine Disruptor Testing and Assessment Task Force from 2006 to 2010. She was Work Package Leader in the EU HBM projects ESBIO, DEMOCOPHES and COPHES, the Consortium to Perform Human Biomonitoring on a European Scale preparing and piloting a European human biomonitoring study. From 2011 to 2014 she was Governmental Councillor of the International Society of Exposure Science (ISES). She has authored and co-authored more than 100 peer reviewed papers, 10 book chapters and various scientific reports.
Plenary Sessions

Keeping ecosystem services safe: Spotlight on climate change and water supply

Wednesday, August 21
8:30 am - 9:30 am
BASIC HALL

Pekka Pietilä
Tampere University, Finland

Political and scientific challenges around water supply

DSc(CivEng) Pekka Pietilä has over 40 years’ experience in water and sanitation both in the private and public sector. His experience includes consulting engineering tasks in Finland and overseas, development cooperation tasks in Africa, and research and teaching duties at universities in Finland and overseas. His field of expertise includes: management and development of water services; public-private and public-public cooperation in environmental services; cooperatives in service provision; role of municipalities in technical services; organisational alternatives and regional cooperation in service provision.

SPEAKER TBD

Implications of climate change
Plenary Sessions

Excellence in exposure and indoor air quality sciences

Thursday, August 22
9:00 am - 9:30 am
BASIC HALL

ISES Award Presentations
and
A lecture by the ISES Excellence in Exposure Science Award winner

Antonia Calafat
U.S. Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, USA

Biomonitoring for public health action: challenges and opportunities.

Thursday, August 22
3:30 pm - 4:30 pm
BASIC HALL

Carl-Gustaf Bornehag
Karlstad University, Sweden; Icahn School of Medicine at Mount Sinai, New York, USA

Interdisciplinarity for better risk assessment of indoor chemicals. A lecture in honor of Prof. Jan Sundell for his lifelong work on Indoor Air Quality and Health

Dr. Bornehag’s research focuses on early life exposure for environmental factors such as endocrine disrupting chemicals (EDCs), food and nutrition, life styles etc. and how such factors interact and impact on children’s health and development. He has completed two major epidemiological studies in Sweden, the Dampness in Buildings and Health (DBH) study following more than 10,000 children from childhood up in adulthood and the SELMA study following more than 2,000 mother-child pairs from early pregnancy, over birth and up in school age. He is further involved in six major projects (where SELMA is playing a key role) in Europe and the U.S. with a major focus on how exposure for mixtures of chemicals may impact on human health and development. Dr. Bornehag is PI for the epidemiological part in EDC-MixRisk (funded by Horizon 2020 with €6.233 million) a study integrating epidemiological studies with experimental cell- and animal models in order to learn about how mixtures of EDCs impact on children’s health development and which biological mechanisms may be in action. He is PI for RACH-Mix (funded by Swedish Formas with €1.2 million) aiming to develop methods for risk assessment of chemical mixtures. He is co-investigator in ENDpoiNTs and ATHENA (funded by Horizon 2020 with €6.89 and €6.56 million respectively) with the aim to develop new screening tools for chemicals with endocrine disrupting properties. In the U.S., he is co-investigator in PRIME (funded by U.S. NIH with $2.5 million), focusing on food and nutrition in interaction with chemicals and human health partly based on SELMA-data, and APED (funded by U.S. NIH with $2 million) studying prenatal exposure for persistent chemicals and autism in children, a study conducted in Sweden. Dr. Bornehag has published more than 100 articles.
Technical Program

SESSION KEY
First two letters indicate day:
Su=Sunday, Mo=Monday, Tu=Tuesday, We=Wednesday, Th=Thursday

Next two letters indicate the type of presentation:
PO=Poster; SY=Symposium; PL=Platform

Next letter indicates room
A=Basic Hall, B=Nemunas, C=Amphitheatre, D=Baras 11, E=VIP Hall

First numeric digit indicates order of session in the day
1=early morning, 2=late morning, 3=early afternoon, 4=late afternoon

Topics
SEM: Sources and emissions
EHR: Concentrations, exposure, hazard, and risk assessment
EAM: Exposure assessment methods, models, simulation
HBM: Health, individuals, biomonitoring, and biological response
CPC: Comfort, productivity, community health and wellbeing
SSS: Advancing research/knowledge in an imperfect world: strategies, sampling, statistics
ECS: Exposure control strategies, practices
PCP: Perception, communication, policy

Examples

MO-PL-A1-EHR
Indicates a general platform session on Monday early morning that will take place in the basic hall and cover the topic “concentrations, exposure, hazard and risk assessment”

TU-SY-C2
Indicates a symposium on Tuesday late morning that will take place in the Amphitheatre (no specific topics for symposia)
**Technical Program**

**Sunday, August 18**

**7:00 pm - 9:00 pm - Welcome Reception & Student Poster Competition**

The following list of posters represents entries accepted for poster presentation later in the meeting. The poster competition is optional for students whose entered abstracts were accepted for presentation.

SU-PO-01  **Comparison of AOD from CALIPSO, MODIS, and AERONET**
Falah S.; Technion, Haifa, Israel

SU-PO-02  **HCHO, NO2 and SO2 vertical column density across the Caspian Sea: The contribution of five neighbor countries**
Yerkenov T.¹, Kuspaigaliyeva B.¹, Altazhanova K.², Amouei Torkmahalleh M.³, Darynova, Z.;¹ Nazarbayev University, Kazakhstan

SU-PO-03  **Impact of the deployment of electric vehicles on population exposure to air pollution**
Minet L.;¹, Gai Y.;¹, Wang A.;¹, Posen D.;¹, Hatzopoulou M.;¹;¹ University of Toronto, Toronto, Canada

SU-PO-04  **Land Use Regression models for Ultrafine Particles: development and transferability within a mega-city**
Yang Z.C.¹, Freni-Sterrantino A.¹, Fuller G.¹, Gulliver J.;³;¹ MRC-PHE Centre for Environment and Health, Imperial College London, London, United Kingdom, ²Centre for Environmental Health and Sustainability, University of Leicester, Leicester, United Kingdom

SU-PO-05  **NO2 Air Pollution Exposure Assessment in Urban Mysore, India**
Nori-Sarma A.¹, Thimulappa R.K.;¹, Venkataraman G., Fauzie A., Venkaredy L.³, Berman J.;¹, Lane K.⁺, Fong K.;¹, Bell M.;¹;¹ Yale University, New Haven, CT, USA, ²University of Illinois at Chicago, Chicago, IL, USA, ³University of Minnesota, Minneapolis, MN, USA, ⁴Boston University School of Public Health, Boston, MA, USA

SU-PO-06  **Using AOD retrievals and enhanced modeling techniques to estimate ground-level PM2.5 in Southern California**
Stowell J.;¹, Alhamadan M.;¹, Meng X.;¹, Bi J.;¹, Lee S.;¹, Garcia C.⁴, Kinney P.;¹, Freedman F.;¹, Liu Y.;¹;¹Rollins School of Public Health, Emory University, Atlanta, GA, USA, ²National Space Science and Technology Center, Huntsville, AL, USA, ³Air Quality Management District, ⁴Diamond Bar, CA, USA, ⁵California Air Resources Board, Sacramento, CA, USA, ⁶Boston University School of Public Health, Boston, MA, USA, ⁷San Jose State University, San Jose, CA, USA

SU-PO-07  **The Feasibility of Identifying and Quantifying Worker Exposures to Volatile Organic Chemicals in Beauty Salons and Auto Shops in the Southwestern USA**
Lothrop N.;¹, Sandoval F., Cortez I., Wagoner R., Lopez-Galvez N., Parra K., Bell M., Griffin S., Beamer P.;¹, Wolf A., Lee A., Carvajal S., Ingram M.;¹ Mel and Enid Zuckerman College of Public Health, University of Arizona, Tucson, AZ, USA

SU-PO-08  **WITHDRAWN**

SU-PO-09  **Seasonal spatial and temporal variability of Black Carbon in an elementary school catchment area of Milan, Italy**
Bonardi L.;¹, Dons E.;¹, Campo L.;¹, Van Poppel M.;¹, Int Panis L.;¹, Fustinoni, S.;¹;¹Università degli Studi di Milano, Milano, Italy, ²Hasselt University; Flemish Institute for Technological Research (VITO), Hasselt, Belgium, ³Fondazione IRCCS Ca’ Granda Ospedale Maggiore Policlinico, U.O.S Tossicologia, Milano, Italy, ⁴Flemish Institute for Technological Research (VITO), Mol, Belgium, ⁵Università degli Studi di Milano; Fondazione IRCCS Ca’ Granda Ospedale Maggiore Policlinico, U.O.S Tossicologia, Milano, Italy

SU-PO-10  **Breath Volatile Organic Compounds Profile After Short Exposure to High Concentrations of Indoor Fragrance Chemicals**
Vicent-Claramunt A. Center for Physical Sciences and Technology, Vilnius, Lithuania

SU-PO-11  **WITHDRAWN**

SU-PO-12  **Effects of Biophilic Interventions in Office on Stress Reaction and Cognitive Function: A Randomized Crossover Study in Virtual Reality**
Yin J.;¹, Arfaei N.;¹, MacNaughton P.;¹, Catalanò P.²;¹, Allen, J.;¹, Spengler J.;¹;¹ Department of Environmental Health, Harvard T.H. Chan School of Public Health, Boston, MA, USA, ²Department of Data Sciences, Dana-Farber Cancer Institute, Boston, MA, USA, ³Department of Biostatistics, Harvard T.H. Chan School of Public Health, Boston, MA, USA
Hypertonic Saline Nasal Lavage Intervention in Dairy Workers
Erlandson G.¹, Magzamen S.¹, Carter E.¹, Sharp J.¹, Reynolds, S.¹, Schaeffer J; ¹Colorado State University, Fort Collins, CO, USA

Serum concentrations of polybrominated biphenyls (PBBs) and the other persistent organic pollutants (POPs) among the Michigan PBB cohort
Chang C.J. ¹, Terrell M. ¹, Marcus M. ¹, Marder M.E. ², Panuwet P. ¹, Ryan, P.B. ¹, Barr, D.B. ¹; ¹Department of Environmental Health, Rollins School of Public Health, Emory University, Atlanta, GA, USA, ²Cal/EPA Office of Environmental Health Hazard Assessment, California, USA

Systematic Identification of Allostatic Load Components Associated with Mortality
Nguyen V. ¹,², Chung J. ¹, Pho N. ³, Patel C. ¹, Colacino J. ³, Jolliet O. ³; ¹Harvard University, Boston, MA, USA, ²University of Michigan, Ann Arbor, MI, USA, ³University of Washington, Seattle, WA, USA

Contributions of exposure-related behaviors and dietary factors to organophosphate pesticide exposure in Japanese toddlers
Oya N. ¹, Ito Y. ¹, Ebara T. ¹, Kato S. ¹, Hioki K. ¹, Aoi A. ², Ueyama J. ³, Oguri T. ³, Sugiura-Ogasawara M. ⁴, Saitoh S. ¹, Kamijima M. ¹; ¹Department of Occupational and Environmental Health, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan, ²Department of Pediatrics and Neonatology, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan, ³Department of Pathophysiological Laboratory Sciences, Field of Radiological and Medical Laboratory Sciences, Nagoya University Graduate School of Medicine, Nagoya, Japan ⁴National Institute of Advanced Industrial Science and Technology (AIST), ⁵Asahi University, School of Health Sciences, Mizono, Gifu Prefecture, Japan, ⁶Department of Obstetrics and Gynecology, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan, ⁷Department of Pediatrics and Neonatology, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan

Imidacloprid Exposure in Grape Workers
Lopez-Galvez N. ¹, Wagoner R. ¹, Canales R. ¹, de Zapien J. ¹, Rosales C. ¹, Beamer P. ¹; ¹University of Arizona, Tuscon, AZ, USA

Improved methods of assessing the impact of air pollution on public health
Morhulova V. ¹, Petroisan A. ², Maremukha T. ²; ¹State Institution – “O.M. Marzeiev Institute for Public Health of the National Academy of Medical Science of Ukraine”, Kyiv, Ukraine

Insecticide use on pets is a strong predictor of pyrethroid exposure in an urban population of young adult men in Poland
Rodzaj W. ¹, Wilkowska M. ¹, Dziwerska E. ², Klimowska A. ¹, Jurewicz J. ³, Radwan M. ⁴, Radwan P. ⁵, Hanke W. ⁶, Wielgomas B. ⁷; ¹Department of Toxicology, Faculty of Pharmacy, Medical University of Gdańsk, Gdańsk, Poland, ²Department of Environmental Epidemiology, Nofer Institute of Occupational Medicine, Łódź, Poland, ³Faculty of Health Sciences, State University of Applied Sciences, Płock, Poland, ⁴Department of Gynecology and Reproduction, “Gameta” Hospital, Rzgów, Poland

Enhancement of thermal comfort in summer conditions by the use of personalized ceiling fans
Rissetto R. ¹, Wagner A. ¹, Schweiker, M. ¹; ¹Karlsruhe Institute of Technology, Karlsruhe, Germany

Agricultural Pesticide Exposure and Congenital Abnormalities (CA) in Mexico: A Systematic Review
Trejo B.; Boston University, Boston, MA, USA

Land Use Regression Models of Traffic-Related SVOC Pollutants in an Urban Area with Elevated Prevalence of Pediatric Asthma
Esenther S. ¹, Lin E.¹, Pollitt K.; ¹Yale University, New Haven, CT, USA

Impact of Parental Migration on Environmental Exposure Related Time-Activity Patterns of Left-behind Children in China: Results from the First National Population-based Survey
Xiangyu X. ¹, Qian G. ¹, Beibei, W. ², Suzhen C. ³, Ning, Q. ³, Xiuge, Z. ³, Ying, L. ³, Xiaoli, D. ³; ¹School of Energy and Environmental Engineering, University of Science and Technology of Beijing, Beijing, China, ²Chinese Research Academy of Environmental Sciences, Beijing, ³University of Memphis, Memphis, TN, USA

Fractured effects of solid fuel use in early child development: analyses of urban and rural territories in Ghana
Nazif-Munoz J.I.¹, Oulhote Y.², Spengler, J.¹; ¹Harvard University, Boston, MA, USA, ²University of Massachusetts, Amherest, MA, USA
**Technical Program**

**Sunday, August 18**

7:00 pm - 9:00 pm - Welcome Reception & Student Poster Competition [cont.]

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**SU-PO-25** The effects of global efforts of promoting cleaning cooking practices on solid fuel use and early child development  
Nazif-Munoz J.I., Oulhote Y., Spengler, J.; ¹Harvard University, Boston, MA, USA, ²University of Massachusetts, Amherest, MA, USA

**SU-PO-26** Estimation of life-time exposure to nitrogen dioxide and volatile organic compounds according to similar time-activity groups  
Heo J., Ryu H., Park J., Kim E., Cho Y., Cho M., Kim Y., Sung K., Yang W.; ¹Daegu Catholic University, Gjongsanas, South Korea

**SU-PO-27** Exposure assessment of VOC emissions from polymer-based consumer products  

**SU-PO-28** Exposure to Volatile Organic Compounds (VOCs) in Feminine Care Products  
Lin N., Ding N., Park, S.K., Batterman, S.; ¹School of Public Health, University of Michigan, Ann Arbor, MI, USA

**SU-PO-29** Development of new analytical and measurement methods for characterizing the emission of semi-volatile organic compounds (SVOCs) from building and consumer materials  
Braish T., Nicolaus M., Maupetit F., Desauziers V.; ¹CSTB and IMT Mines Ales, Saint-Martin-d’Heres, France; ²CSTB, Saint-Martin-d’Heres, France; ³IMT Mines Ales, Pau, France

**SU-PO-30** Effects of Particle Volatility to Particle Size Distribution of Exhaled Aerosol when Using New Nicotine Containing Devices  
Meisutovic-Akhtarieva M., Cizados D., Tichonovas M., Misevicius S., Martuzevicius D., Kauneliene V.; ¹Kaunas University of Technology, Kaunas, Lithuania

**SU-PO-31** Impact of healthier building materials on dust levels of PFASs, flame retardants, and hormone-disrupting potency  

**SU-PO-32** Soil and dust ingestion by children comparing urban and suburban areas in Korea  

**SU-PO-33** Spatiotemporal distribution of particulate air pollution in a pub  
Drahler, D., Fishbain, B.; ¹Dept. of Environmental, Water and Agricultural Engineering, Faculty of Civil & Environmental Engineering, Technion – Israel Institute of Technology, Haifa, Israel

**SU-PO-34** The impact of regional weather on residential energy consumption and indoor air quality changes due to energy retrofits  
Connolly C., Milano C., Dols W., Levy J., Fabian M.; ¹Boston University, Boston, MA, USA, ²NIST, Gaithersburg, MD, USA

**SU-PO-35** Characteristics of co-use patterns to cosmetic products in high-use groups for Korean population  
Lim M., Park J.Y., Lee K.; ¹Seoul National University, Seoul, Korea, South

**SU-PO-36** Estimation of Potential Dermal Exposure to Organophosphorus Flame Retardants via Direct Contact with Products Using Silicone  
Shindo M., Tokumura M., Wang Q., Miyake Y., Amagai T., Makino M.; ¹University of Shizuoka, Shizuoka, Japan

**SU-PO-37** Transdermal uptake of two phthalates and a paraben from simulated lotion using a chemical activity approach  
Eftekhari A., Morrison G.; ¹University of North Carolina, Chapel Hill, NC, USA

**SU-PO-38** Using a passive sampler to measure the dermal migration of di(2-ethylhexyl)phthalate from polyvinylchloride flooring at different skin condition  
Kim D.Y., Kwon, J.H.; ¹Division of Environmental Science and Ecological Engineering, Korea University, Seoul, Korea
Technical Program

Sunday, August 18
7:00 pm - 9:00 pm - Welcome Reception & Student Poster Competition [cont.]

SU-PO-39  In-vehicle airborne fine and ultra-fine particulate matter exposure: the impact of emission reduction technologies  
Campagnolo D.¹, Cattaneo A.¹, Borghi F.¹, Keller M.¹, Rovelli S.¹, Spinazzè A.¹, Cavallo D.¹; ¹Department of Science and High Technology, University of Insubria, Como, Italy.

SU-PO-40  Organophosphate flame retardants: a review of indoor contamination and human exposure in Europe, and human health effects  
Chupeau Z.¹, Bonvallot N.¹, Mercier F.¹, Le Bot B.¹, Chevrier C.¹, Glorennec P.; ¹Univ Rennes, EHESP, Inserm, Iriset, Rennes, France

SU-PO-41  Proof of principle testing for using small black carbon monitors for real-time PAH measurement  
Jaramillo J.¹, Yan B.², Ross J.³, Pitiranggon M.³, Yang Q.³, Blair J.³, Perzanowski M.⁴; ¹Hunter College, Manhattan, NY, USA, ²Lamont-Doherty Earth Observatory at Columbia University, Palisades, NY, USA, ³NYAethLabs, San Francisco, CA, USA, ⁴Columbia University Mailman School of Public Health, New York, NY, USA

SU-PO-42  Study of a Saharan Dust Intrusion into the Colombian Atmosphere  
Pinto Herrera, L.C. ¹, Mendez Espinosa, J.F. ¹, Belalcazar Ceron, L.C. ¹; ¹University of Los Andes, Bogota, Columbia

SU-PO-43  The effect of wind velocity on airborne release of ochratoxin A from cultivated Aspergillus niger  
Lee S.A.¹, Chen J.C.¹; ¹Department of Environmental Engineering and Science, Feng Chia University, Taichung, Taiwan,

SU-PO-44  The Hopi Environmental Health Project (HEHP)- Measuring Concentrations of PM2.5 in Households on Hopi Lands  
Hadeed S.¹, O'Rourke M.K.¹, Alshammari M.¹, Blohm J.¹, Canales R.¹, Paukgana P.¹, Olivas G.², Carl A.³, Lugo-Lerma V.¹, Gonzalez-Figueroa E.¹; ¹The University of Arizona College of Public Health, Tucson, AZ, USA, ²The Hopi Tribe, Kykotsmovi, AZ, USA, ³The University of Arizona, Tucson, AZ, USA

SU-PO-45  A study on the Evaluation and Validation of Plasma Sterilizing Dust Collector Unit  
Jeon H.¹, Sohn, J.², Seo J.¹, Choi J.¹; ¹Naver Corporation, Seongnam, South Korea, ²Korea University, Seoul, Korea

SU-PO-46  Home Environmental Intervention to Reduce Exposure Level to PM2.5 for Children with Asthma using Clustered data of ESCORT Child Asthma Panel Study, South Korea  
Kim S.¹, Seeun O.¹, Lim D.¹; ¹Inha University, Incon, South Korea

SU-PO-47  Inter and intra-variability of personal exposure to air pollution in different microenvironments  
Hossain M.¹, Che W.¹, Lau A.¹; ¹The Hong Kong University of Science and Technology, Hong Kong, China

SU-PO-48  Risk assessment by exposure to nitrogen dioxide and ozone during lifetime  
Park J.¹, Ryu H.¹, Heo J.¹, Kim E.¹, Cho Y.¹, Cho M.¹, Kim Y.¹, Yang W.¹; ¹Department of Occupational Health, Daegu Catholic University, Gyeongsan, Republic of Korea, ²EH-Service Center, Daegu Catholic University, Gyeongsan, Republic of Korea

SU-PO-49  Seasonal difference of indoor-outdoor relationship of PM2.5 in various microenvironments  
Guak S.¹, Lee K.¹; ¹Seoul National University

SU-PO-50  Low-cost Sensor Array Devices as a Method for Reliable Assessment of Exposure to Traffic-related Air Pollution  
Mykhaylovna N.; WeavAir, Toronto, Canada

SU-PO-51  A review on light in the built environment and its relationship to mental health outcomes  
Kohl N.¹, Hoisington A.²; ¹Air Force Institute of Technology, Dayton, OH, USA, ²Military and Veteran Microbiome: Consortium for Research and Education (MVM-CoRE), Dayton, OH, USA

SU-PO-52  Analysis of Thermal Comfort in Residential Structures for the Elderly in Atlantic Climate  
Torres P.¹, Aguiar L.², Pereira C.¹, Forcada N.¹, Tejedor B.¹, Teixeira J.P.¹, Mendes A.¹; ¹Instituto de Saude Publica, Universidade do Porto, Porto, Portugal, ²National Health Institute - Environmental Health Dept., Porto, Portugal, ³Group of Construction Research and Innovation, Department of Project and Construction Engineering, Universitat Politècnica de Catalunya, Terrassa, Barcelona, Spain
Technical Program

Sunday, August 18

7:00 pm - 9:00 pm - Welcome Reception & Student Poster Competition [cont.]

SU-PO-53 WITHDRAWN

SU-PO-54 Effect of ambient air pollution on gestational diabetes mellitus and potential biological linkage: A review
Zhang H.; Department of Health Policy and Management, School of Public Health, Sun Yat-sen University, Guangzhou, China

SU-PO-55 Exposure to household air pollution associated with adverse immune responses in rural women in northwest China
Yao, Y.¹, Wang D.¹, Ma H.¹, Li C.¹, Wang, J.¹, Chang X.¹, Low P.², Liu S.³, ¹School of Public Health, Lanzhou University, Lanzhou, Gansu Province, China, ²School of Public Health, University of California, Berkeley, Berkeley, CA, USA, ³School of Health Sciences, Purdue University, West Lafayette, IN, USA

SU-PO-56 Research on Human Thermal Adaptive Behavior in the Vernacular Housings: A case study in Sandoaguai Traditional Settlements, Chongqing, China
Zhao Y.¹, Liu K.², Lin B.³, ¹Tsinghua University, Beijing, China

SU-PO-57 The connection between indoor air quality and mental health outcomes
Taylor W.¹, Hoisington A.¹; ¹Air Force Institute of Technology, Wright Patterson AFB, Dayton, OH, USA

SU-PO-58 The Impact of Cooking Aerosol on Human Brain Wave Pattern
Gabdrashova R.¹, Naseni M.², Jouvizadeh M.², Tabesh M.³, Malekipirbazan M.², Nurzhan S.¹, Farrokhi H.³, Khanbabaie R., Mehr-Dehnavi, H.⁴, Bekezhankazyzy Z.⁴, Gimkhkan A.⁴, Dareini M.³, Kurmanbaliyeva A.³, Islam N.¹, Crape, B.⁵, Buonanno G.⁶, Cassee F.⁷, Torkmahalleh M.²,³; ¹Nazarbayev University, Nur-Sultan, Kazakhstan, ²Chemical and Aerosol Research Team, School of Engineering, Nazarbayev University, Nur-Sultan, Kazakhstan, ³Department of Physics, Babol Noshirvani University of Technology, Babol, Iran, ⁴Department of Industrial Engineering, Bilkent University, Ankara, Turkey, ⁵School of Medicine, Nazarbayev University, Nur-Sultan, Kazakhstan, ⁶Department of Civil and Mechanical Engineering, University of Cassino and Southern Lazio, Cassino, Italy, ⁷National Institute for Public Health and the Environment, Bilthoven, The Netherlands, ⁸The Environment and Resource Efficiency Cluster, Nur-Sultan, Kazakhstan

SU-PO-59 The plants affected by air pollution have impact on human health
Budreviciute A.¹, Plakys G.², Katleviciute A.², Kodzius R.³; ¹Lithuanian University of Health Sciences, Kaunas, Lithuania, ²Kaunas University of Technology, Kaunas, Lithuania

SU-PO-60 Measurement of ambient ozone (O3) levels, correlation with the NOx levels and the development of the monitoring network for O3
Turos O.¹, Petrosian A.¹, Kobzarenko I.¹, Kharchenko K.¹, Maremukha T.¹, Ananyeva O.¹; ¹State Institution – O.M. Marzeiev Institute for Public Health of the National Academy of Medical Science of Ukraine", Kyiv, Ukraine

SU-PO-61 Risk assessment of chronic exposure to antibiotics in rural population
Ali A.¹, Malik A.³, Uddin I.¹, Rashid A.¹; ¹Department of Environmental Sciences, Arid Agriculture University, Rawalpindi, Pakistan, ²Civil Aviation Authority, Islamabad International Airport, Islamabad, Pakistan

SU-PO-62 Urinary pesticide metabolite concentrations in pregnant women from Suriname
Alcala C.; Tulane University, New Orleans, LA, USA

SU-PO-63 Influence of the renovation on ultrafine particle concentrations in occupied Swedish residences
Omelekchina Y.¹, Pedersen E.¹, Nordquist B.¹, Wallenten P.¹, Nilsson P.T.¹, Wierzbicka A.¹; ¹Lund University, Lund, Sweden

SU-PO-64 Addressing Water Quality Alongside Community Health Workers in a Farm Worker Community
Wagoner R.¹, Verhoudstraete M.²; ¹University of Arizona, Tuscon, AZ, USA

SU-PO-65 Influence of house types on the prevalence of chronic respiratory diseases in Ho Chi Minh City
Tran N.T.¹, Tran B.N.¹, Tran T.M.H.¹, Tang K.H.¹, Ngo M.X.², Godin I.², Michel O.², Bouland C.²; ¹Ho Chi Minh City, Viet Nam, ²Brussels, Belgium

SU-PO-66 Evaluating vertical concentration variation of non-polar organic compounds for PM2.5 in Taipei metropolis
Tsai W.C.¹, Liao, H.T.², Wu, C.F.³; ¹Institute of Environmental Health(IEH), National Taiwan University, Taipei, Taiwan, ²Research Center for Environmental Changes, Academia Sinica, Taipei, Taiwan
Examine the Impacts of Human Activities on Indoor Exposure Profile Using a Low-cost Passive Air Pollutant Monitor
Lin E.¹, Pollitt K.; ¹Yale University, New Haven, CT, USA

PFAS and total fluorine levels in fire station dust
Young A.¹, Sparer-Fine E.¹, Sunderland E.¹, Pickard H.², Allen J.³; ¹Harvard T.H. Chan School of Public Health, Boston, MA, USA, ²University of Notre Dame, Notre Dame, IN, USA, ³Harvard John A. Paulson School of Engineering and Applied Sciences, Cambridge, MA

SO2 and CHCO vertical column densities in major cities of Kazakhstan from 2005 to 2016
Amouei Torkmahalleh M.¹, Darynova Z.¹, Sabyrzhan A.S.¹, Sagynov S.¹, Abdrahmanov T.¹; ¹North Kazakhstan University, Astana, Kazakhstan

Fugitive Emissions from a Breath Actuated Jet Nebuliser and a Vibrating Mesh Nebuliser for a Paediatric Patient
O’Toole C.¹, McGrath J.¹, Joyce M.², MacLoughlin R.², Byrne M.¹; ¹NUIGalway, Galway, Ireland, ²Aerogen, Galway, Ireland

Novel air filtration materials via combined melt-solution electrospinning
Buivydiene D.¹, Krugly E.¹, Todea A.¹, Asbach C.¹, Klucininkas L.¹, Martuzevicius D.; ¹Kaunas University of Technology, Kaunas, Lithuania

Particulate science dynamics in indoor micro-environments of Agra, India
Rohra H.¹, Tanuja A.¹; ¹Dr. B.R. Ambedkar University, Agra, India

Source characterization and apportionment of river pollution in central Taiwan
Lin², Wang¹, Huang³, Wang¹, Hsu², Wu²; ¹National Taiwan University, Taipei, Taiwan, ²Academia Sinica, Taipei, Taiwan, ³Environmental Analysis Laboratory EPA, Taoyuan, Taiwan

CFD simulation of bacteria distribution in an operating room with mixing ventilation at St. Olavs hospital
Zhang Y., Cao G., Pedersen C., Sternstad L., Drangsholt F., Feng G., Skogås G.

Development of predictive models for PM2.5 concentration in office
Wang W.¹, Jung C.², Su H.²; ¹Department of Environmental and Occupational Health, College of Medicine, National Cheng Kung University, Tainan, Taiwan, ²Research Center of Environmental Trace Toxic Substances, National Cheng Kung University, Tainan, Taiwan

Biophilic adaptation at the workplace: Multidimensional impact on human’s behavior
Sun S.¹, Ordieres Meré J.¹, Yin J.², Zheng X.²; ¹Universitat Politècnica de Madrid, Madrid, Spain, ²Harvard T.H. Chan School of Public Health, Boston, MA, USA

Ambient concentration of airborne microbes and endotoxin in rural households of southern India
Muthalagu A.¹, Eerappa R.¹, Qureshi A.¹; ¹Hyderabad, Telangana, India

Experimental study on evaporation mechanism of microbial droplets
Liu X.¹, Liu L.¹, Wang Y.¹, Zhang X.¹; ¹State Key Laboratory of Green Building in Western China, Xi’an, China, ²School of Architecture, Tsinghua University, Beijing, China, ³School of Environmental and Municipal Engineering, Xi’an University of Architecture and Technology, Xi’an, China

Occupational Noise Burden of Disease
Chen Y.¹, Styliano K.¹, Jolliet O.¹, Neitzel R.L.¹; ¹Environmental Health Sciences, School of Public Health, University of Michigan, Ann Arbor, MI, USA

Online (continuous) measurement of indoor/outdoor reactive oxygen species (ROS) in a US home
Eftekhari A.¹, Morrison G.¹; ¹University of North Carolina at Chapel Hill, Chapel Hill, NC, USA
## Technical Program

**Sunday, August 18**

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<td>Wu T.G.¹, Chang J.C.², Wu C.F.², Chan C.C.³; ¹Institute of Environmental Health, College of Public Health, National Taiwan University, Taipei, Taiwan; ²Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, National Taiwan University, Taipei, Taiwan; ³Innovation and Policy Center for Population Health and Sustainable Environment, College of Public Health, National Taiwan University, Taipei, Taiwan</td>
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<td>SU-PO-83</td>
<td>Indoor measurements and chemistry of chlorine bleach-related compounds</td>
<td>Mattila J.¹, Farmer D.¹, Lakey P.², Shirawa M.³, Wang C.³, Abbott J.³, Ampollini L.³, DeCarlo P.³, Zhou S.³, Kahan T.³; ¹Colorado State University, Fort Collins, CO, USA; ²UC Irvine, Irvine, CA, USA; ³University of Toronto, Toronto, Canada; ³Drexel University, Philadelphia, PA, USA; ³Syracuse University, Syracuse, NY, USA</td>
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<td>SU-PO-84</td>
<td>A community-based probabilistic risk assessment for the Diné people impacted by the Gold King Mine Spill</td>
<td>Ornelas Van Horne Y.¹, Chief K.¹, Canales R.¹, Begay M.², Beamer, P.; ¹The University of Arizona, Tuscon, AZ; ²Nation Department of Health, Window Rock, AZ, USA</td>
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<td>Public Health Risk attribution due particulate matter from Biomass Burning Emissions</td>
<td>Pinto Herrera L.C.¹, Hernandez Florez L.J.¹, Morales Betancourt R.¹; ¹University of Los Andes, Bogota, Columbia</td>
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<td>SU-PO-87</td>
<td>Risk Assessment of Polycyclic Aromatic Hydrocarbons and their Chlorinated Derivatives Unintentionally Produced During Cooking via Exhaust Gas</td>
<td>Masuda M.¹, Wang Q.¹, Tokumura M.¹, Miyake Y.¹, Amagai T.; ¹University of Shizuoka, Shizuoka, Japan</td>
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<td>SU-PO-88</td>
<td>Secondhand smoke exposure in rural households in northwest China: a pilot investigation</td>
<td>Wang D.¹, Yao Y.¹, Ma H.¹, Li C.¹, Wang J.¹, Liu S.; ¹School of Public Health, Lanzhou University, Lanzhou, Gansu Province, China; ²School of Health Sciences, Purdue University, West Lafayette, IN</td>
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<td>SU-PO-89</td>
<td>The Safe Urban Harvests Study: Assessing exposure to six toxic metals among urban agriculture participants in Baltimore, MD</td>
<td>Lupolt S.¹, Santo R.¹, Kim B.², Green C.³, Codling E.³, Chen R.¹, Rule A.¹, Nachman K.¹; ¹Department of Environmental Health &amp; Engineering, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA; ²Center for a Livable Future, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA; ³Agricultural Research Service, US Department of Agriculture, Beltsville, MD, USA; ³Department of Environmental Health &amp; Engineering, Center for a Livable Future, Risk Sciences and Public Policy Institute, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA</td>
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<td>Transgenic pollen corn dispersion at Cordoba, Colombia</td>
<td>Mazo Castaño C.¹, Pinto Herrera L.C.¹; ¹University of Los Andes, Bogota, Colombia</td>
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<td>Can we really promote air quality by essential oil diffusion?</td>
<td>Verriele M.¹, Angulo Milhem S.; ¹IMT Lille Douai, Douai, France</td>
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<td>SU-PO-95</td>
<td>Evaluation of an Improved Receptor Model for Analyzing Data with Spatial Variation: A Simulation Study</td>
<td>Lee C-L.¹, Liao C-F.², Chen H-T.¹, Wu, Y-D.; ¹Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, National Taiwan University, Taipei, Taiwan; ²Research Center for Environmental Changes, Academia Sinica, Taipei, Taiwan</td>
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<td>SU-PO-96</td>
<td>Exposure assessment of urban greenness using satellite-derived normalized difference vegetation index (NDVI): the impact of spatial resolution on exposure misclassification</td>
<td>Jimenez R.¹, Lane K.¹, Fabian, P.; ¹Boston University School of Public Health, Boston, MA, USA</td>
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2019 ISES ISIAQ Joint Annual Meeting | August 18-22, 2019, Kaunas, Lithuania
**Technical Program**

**Sunday, August 18**

7:00 pm - 9:00 pm - Welcome Reception & Student Poster Competition [cont.]

**SU-PO-97**  
**Relationship between exposure to humidifier disinfectants and lung disease by analyzing the errors of exposure classification**  
Ryu H.¹, Park J., Heo J., Kim E., Choe Y., Choi Y.¹, Yang W.¹; ¹Catholic University of Daegu, Gyengsan, South Korea

**SU-PO-98**  
**Using continuous exposure in-vitro model to estimate percutaneous absorption of different characteristics chemical exposure**  
Zhu G.¹, Nien Y-T.¹, Wang Y-H.², Hsu J-F.¹, Chou T-C.¹; ¹Department of Public Health, China Medical University, Taichung, Taiwan, ²Department of Nursing, Yuanpei University of Medical Technology, Hsinchu, Taiwan, ³National Institute of Environmental Health Sciences, National Health Research Institute, Miaoli, Taiwan

**SU-PO-99**  
**Contribution of Low-Cost Sensor Measurements to the Prediction of PM2.5 Levels: A Case Study in Imperial County, California, USA**  
Bi J.¹, Stowell J.¹, Seto E.¹, English P.¹, Freedman F.¹, Al-Hamdan M.¹, Liu Y.¹; ¹Emory University, Atlanta, GA, USA, ²University of Washington, Seattle, WA, USA, ³California Department of Public Health, Sacramento, CA, USA, ⁴San Jose State University, San Jose, CA, USA, ⁵NASA Marshall Space Flight Center, Arsenal, AL, USA

**SU-PO-100**  
**Estimation of ventilation rate in Korean residential house using IoT sensor, time-activity patterns and CO2 generation rate from breathing**  
Choe Y.¹, Ryu H.¹, Heo J.¹, Kim E.¹, Park J.¹, Cho M.¹, Kim Y.¹, Yang W.¹; ¹Department of Occupational Health, Daegu Catholic University, Gyeongsan, Republic of Korea

**SU-PO-101**  
**Evaluation of Porous Tube-type Passive Samplers for Volatile Organic Compounds according to the ISO 16107**  
Oishi J.¹, Nishio H., Wang Q., Tokumura M., Miyake Y., Amagai T., Fukushima Y., Suzuki Y., Enomoto T.; ¹University of Shizuoka, Japan

**SU-PO-102**  
**Low-cost Sensor Array Devices as a Method for Reliable Assessment of Exposure to Traffic-related Air Pollution**  
Mykhaylova N.; University of Toronto, Toronto, Canada

**SU-PO-103**  
**Low-cost, high-resolution sensor networks for air quality monitoring in logistically difficult environments: Ghana case study**  
Hodoli C.G.; Cranfield University, Cranfield, England

**SU-PO-104**  
**Evaluation on the Suitability of Different Ventilation Strategies for Operating Rooms**  
Fan M.¹, Cao G.², Pedersen C.³, Stenstad L.³, Lv S.¹, Skogås J.G.³; ¹Tianjin University, Tianjin, China, ²Norwegian University of Science and Technology, Trondheim, Norway

**SU-PO-105**  
**WITHDRAWN**

**SU-PO-106**  
**Field investigation of thermal comfort level of patients and surgical staff in operating rooms at St Olavs hospital**  
Kuivõgi H.¹, Cao G.², Bogdan A.³, Thalfield M. ¹, Pedersen C. ³, Zhang Y. ³, Fan M. ¹, Stenstad L-I. ¹, Skogås, J.G. ³; ¹Department of Civil Engineering and Architecture, Tallinn University of Technology, Tallinn, Estonia, ²Department of Energy and Process Engineering, Norwegian University of Science and Technology, Trondheim, Norway, ³Department of Air Conditioning and Heating, Warsaw University of Technology, Warsaw, Poland, ⁴Urban Construction and Environmental Engineering, Chongqing University, Chongqing, China, ⁵St. Olavs Hospital Operating Room of the Future, Trondheim, Norway, ⁶School of Environmental Science and Engineering, Tianjin University, Tianjin, China

**SU-PO-107**  
**Measurement of Local Clothing Properties for Human Thermal Comfort Evaluation**  
Nomoto A.¹, Takahashi Y., Yoda S.¹, Ogata M.¹, Tanabe S.¹, Ito S.², Aono Y.², Yamamoto Y.², Mizutani K.²; ¹Waseda University, Tokyo, Japan, ²Tokyo Polytechnic University, Kanagawa, Japan

**SU-PO-108**  
**Overheating Risk Assessment: a Real-life Case of a Public Library in Auckland**  
Lesley M.; Victoria University Wellington, Wellington, New Zealand

**SU-PO-109**  
**WITHDRAWN**

**SU-PO-110**  
**Investigating the influence of human activities on exposure to semi-volatile organic compounds through multimedia modeling**  
Kvasnicka J.¹, Diamond M.¹; University of Toronto, Toronto, Ontario, Canada
Technical Program

Monday, August 19
9:30 am - 11:00 am

Basic Hall

**MO-PL-A1-EHR**

Human Exposure to SVOCs

**MO-PL-A1-01**

Levels and sources of SVOCs in homes near a former PCB-producing facility in Slovakia

Demirtepe H.¹, Melymuk L.¹, Diamond M.², Bajard L.¹, Vojta S.¹, Prokes R.¹, Sanka O.¹, Klanova J.¹, Murinova L.³, Richterova D.³,
Rasplova V.³, Trnovec T.³; ¹RECETOX, Masaryk University, Brno, Czech Republic, ²Department of Earth Sciences, and Dalla Lana School of Public Health, University of Toronto, Toronto, Canada, ³Department of Environmental Medicine, Slovak Medical University, Bratislava, Slovakia

**MO-PL-A1-02**

Oral bioaccessibility of SVOCs in indoor settled dust: a simplified in vitro method for polybrominated diphenyl ethers (PBDEs) and pyrethroids

Raffy G.¹, Mercier F.¹, Mandin C.¹, Le Bot B.¹, ¹EHESP/Inserm, Rennes, ²CSTB, Marne-la-Vallée, Paris, France

**MO-PL-A1-03**

Temporal trends of phthalate exposures in California’s pregnant women: Comparison with NHANES data

Dhar U.¹, Bennett D.¹, Calafat A.¹, Shin H.¹; ¹University of Texas-Arlington, Arlington, TX, USA, ²University of California-Davis, Davis, CA, USA, ³Centers for Disease Control and Prevention, Atlanta, GA

**MO-PL-A1-04**

Temporal trends and predictors of exposure to per- and polyfluoroalkyl substances among Northern California mothers with a young child, 2009-2016

Kim K.¹, Bennett D.², Calafat A.¹, Shin H.¹; ¹University of Texas-Arlington, Arlington, TX, USA, ²University of California-Davis, Davis, CA, USA, ³Centers for Disease Control and Prevention, Atlanta, GA, USA

**MO-PL-A1-05**

Indoor and personal exposures to semi-volatile organic compounds in Central Appalachia

Salamova A.¹, Wang S.¹, Romanak K.¹, Hendryx M.², Venier M.³; ¹O’Neill School of Public and Environmental Affairs, Indiana University, Bloomington, IN, USA, ²School of Public Health, Indiana University, Bloomington, IN, USA

**MO-PL-A1-06**

Reactivity of semivolatile organic compounds (SVOCs) with hydroxyl radicals, nitrate radicals, and ozone in indoor air

Wei W.¹, Mandin C.¹, Ramalho O.¹; ¹Scientific and Technical Center for Building (CSTB), Paris, France

Nemunas

**MO-SY-B1**

Improving Indoor Air Quality by Controlling Sources of Pollutants: Progress, Opportunities and Challenges of the EU-RLCI Concept

**MO-SY-B1-07**

EU-RLCI Harmonization Framework for the Health-related Evaluation of Product Emissions

Scutaru A.; German Environment Agency, Berlin, Germany

**MO-SY-B1-08**

Emission Testing for Indoor Products

Wilke O.; Federal Institute for Materials Research and Testing (BAM), Berlin, Germany

**MO-SY-B1-09**

The development of exposure scenarios for testing consumer products within the EPHECT project; the EU-RLCI concept for exposure scenarios

Stranger M.¹, Goelen E.¹, Bartzis J.², Wolkoff P., De Oliveira Fernandes E.; ¹Flemish Institute for Technological Research, Flanders, Belgium, ²University of Western Macedonia, Kozani, Greece
Technical Program

Monday, August 19
9:30 am - 11:00 am

Amphitheatre

**MO-SY-C1**
Holistic View on the Interaction Between Residents and Indoor Air Quality in Dwellings

**MO-SY-C1-10**
Indoor environments as complex systems and the need for metatheories
Ståline K., Pedersen E., Borell J., Li Y.; *Malmo University, Malmo, Sweden, 1Lund University, Lund, Sweden*

**MO-SY-C1-11**
Measuring the occupant behaviour aspect of indoor air in apartments
Borell J., Alce G.; *Lund University, Department of Design Sciences, Lund, Sweden*

**MO-SY-C1-12**
Influence of the renovation on ultrafine particle concentrations in occupied Swedish residences
Omelekhina Y., Pedersen E., Nordquist B., Wallentén P., Nilsson P.T.; *Lund University, Lund, Sweden*

**MO-SY-C1-13**
Measurements of how users affect air flows between rooms in renovated apartments with exhaust ventilation
Wallentén P., Nordquist B., Harderup L.-H.; *Lund University, Lund, Sweden*

**MO-SY-C1-14**
Does a building renovation improve the indoor thermal comfort? - A thermal environment evaluation before and after renovation
Lundgren-Kownacki K., Halder A., Petersson J., Kuklane K., Wierzbicka A., Pedersen E., Gao C.; *Department of Design Sciences, Lund University, Lund, Sweden, 2Department of Architecture and Built Environment, Lund University, Lund, Sweden*

**MO-SY-C1-15**
Measured and perceived thermal comfort in apartments, before and after renovation
Petersson P., Wallentén P., Nordquist B., Harderup L.-E.; *Building Services, Lund University, Lund, Sweden, 2Building Physics, Lund University, Lund, Sweden*

Baras 11

**MO-PL-D1-EAM**
Sensors and Tools

**MO-PL-D1-16**
Accuracy of sensor-based measurement and modeling of PM2.5 and black carbon in assessing exposure to indoor aerosols
Cox J., Cho S., Ryan P., Isiugo K., Ross J., Chillrud S., Zhu Z., Jandarov R., Grinshpun S., Reponen T.; *University of Cincinnati, Cincinnati, OH, USA, 2RTI International, Research Triangle Park, NC, USA, 3Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA, 4Columbia University, Palisades, NY, USA*

**MO-PL-D1-17**
ForHealth platform: a researcher's tool to make smartphone-based data collection simple, safe, and cost effective
Cedeno Laurent J.G., Allen J., MacNaughton P., Jones E.; *Havard T. H. Chan School of Public Health, Boston, MA, USA*

**MO-PL-D1-18**
Ultra-compact personal exposure kit for high performance exposure assessment of PM and gas pollutants (ozone and nitrogen dioxide)
Zhi N., Dane W., Qin Z., Kai Z.; *The Hong Kong University of Science and Technology, Hong Kong, China*

**MO-PL-D1-19**
Novel approaches to analyzing personal exposure to air pollution: Employing wearing compliance to estimate the effect of community-level air pollution and the effect of cooking interventions on exposure.
Technical Program

Monday, August 19
9:30 am - 11:00 am

Baras 11  MO-PL-D1-EAM
Sensors and Tools [cont.]

MO-PL-D1-20
Contribution of Low-Cost Sensor Measurements to the Prediction of PM2.5 Levels: A Case Study in Imperial County, California, USA
Bi J. 1, Stowell J. 1, Seto E. 1, English P. 1, Freedman F. 1, Al-Hamdani M. 1, Liu Y. 1; 1Emory University, Atlanta, GA, USA, 2University of Washington, Seattle, WA, USA, 3California Department of Public Health, Sacramento, CA, USA, 4San Jose State University, San Jose, CA, USA, 5NASA Marshall Space Flight Center, Huntsville, AL, USA

MO-PL-D1-Z1
Low-cost Sensor Array Devices as a Method for Reliable Assessment of Exposure to Traffic-related Air Pollution
Mykhaylova N.; University of Toronto, Toronto, Canada

VIP Hall  MO-PL-E1-SEM
Monitoring of VOCs Indoors

MO-PL-E1-22
Developing passive flux sampler based on a commercially-available cartridge for on-site measurement of formaldehyde emissions
Doyun W.¹, Nong G.¹, So S.¹; ¹National Research Council of Canada, Ottawa, Canada

MO-PL-E1-23
Indoor air pollutants determinants in modern office buildings - the OFFICAIR project
Campagnolo D.¹, Spinazzè A.¹, Cattaneo A.¹, Urso P.²,³, Sakellaris I.², Saraga D.², Mandin C.², Canha N.², Mabilia R.², Perreca E.³, Mihucz V.³, Zsücs G.³, de Oliveira Fernandes E.², de Kluijzenaar Y.², Cornelissen E.², Hänninen O.², Carry P.², Wolke P.², Cavallo, D.², Bartis J.²; ¹Department of Science and High Technology, University of Insubria, Como, Italy, ²Department of Biomedical and Clinical Sciences-Hospital "L. Sacco", University of Milan, Italy, ³Radiotherapy Department, Clinica Lungenase Moncucco, Lugano, Switzerland, ⁴Radboud University, Nijmegen, The Netherlands, ⁵Department of Mechanical Engineering, University of Western Macedonia, Kozani, Greece, ⁶Scientific and Technical Centre for Building, University Paris Est, Marne-la-Vallée, France, ⁷Centre de Ciências e Tecnologias Nucleares, Instituto Superior Técnico, Universidade de Lisboa, Bobadela, Portugal, ⁸Department of Biology, Agriculture and Food Science of National Research Council, Roma, Italy, ⁹Cooperative Research Centre for Environmental Sciences, Eötvös Loránd University, Budapest, Hungary, ¹⁰National Public Health Center, Public Health Directorate, Budapest, Hungary, ¹¹Institute of Science and Innovation in Mechanical Engineering and Industrial Management, Porto, Portugal, ¹²The Netherlands Organization for Applied Scientific Research (TNO), The Hague, The Netherlands, ¹³Department of Health Protection, National Institute for Health and Welfare, Kuopio, Finland, ¹⁴National Research Centre for the Working Environment, Copenhagen, Denmark

MO-PL-E1-24
Concentration of Volatile Organic Compounds in Small Auto Repair Shops in a Latino Community
Beamer P.¹, Wagoner R.¹, Lopez-Galvez N.¹, Lothrop N.¹, Sandoval F.¹, Parra K.¹, Wertheim B.¹, Lee A., Griffin S., Cortez I.², Bell M.¹, Wolf A.M.¹; ¹Mel and Enid Zuckerman College of Public Health, University of Arizona, Tucson, AZ, USA, ²Sonora Environmental Research Institute, Inc., Tucson, AZ

MO-PL-E1-25
Monitoring of VOCs from selected emissions in 3 different field settings
Paralovo S.¹, Stranger M.², Spruyt M.², Lauwers J.², Lazarov B.², Laverge J.²; ¹Department of Architecture and Urban Planning, Ghent University, Environmental Risk and Health Unit, VITO, Ghent, Belgium, ²Environmental Risk and Health Unit, VITO, Mol, Belgium

MO-PL-E1-26
Indoor air VOC concentrations in a new log building – a follow-up study
Väätäinen O.¹, Lapinlampi T.¹; ¹Inspector Sec Ltd, Vantaa, Finland

MO-PL-E1-27
Source apportionment of ambient volatile organic compounds (VOCs) using hourly-resolved measurements
Zhiyuan L., The Chinese University of Hong Kong, Hong Kong
Technical Program

Monday, August 19
11:30 am - 12:30 pm

Basic Hall  MO-PL-A2-EHR
Consumer Products

MO-PL-A2-28
Particle and organic vapor emissions and exposure potential from children’s toys based on 3-D printing technology
Stefaniak A.¹, Yi J.², Duling M.G.¹, Bowers L.N.¹, Knepp A.K.², Lebouf R.F.¹, Nurkiewicz, T.R.², Ranpara A.¹, Luxton, T.³, Martin S.B., Burns D. A.¹, Peloquin, D.M.¹, Baumann E.³, Virji A.M.¹, ¹National Institute for Occupational Safety and Health, Morgantown, WV, USA, ²West Virginia University School of Medicine, Morgantown, WV, USA, ³U.S. Environmental Protection Agency, Cincinnati, OH, USA, ⁴Oak Ridge Institute for Science and Education, Oak Ridge, TN, USA, ⁵Pegasus Technical Services, Cincinnati, OH, USA

MO-PL-A2-29
Does natural and eco-certified household products promote indoor air quality? From liquid compositions to test chamber emissions
Angulo Milhem S. ¹, Verriele M.¹, Nicolas M.², Thevenet F.; ¹IMT - Lille Douai, Douai, France, ²CSTB, Grenoble, France

MO-PL-A2-30
Exposure to Volatile Organic Compounds (VOCs) in Feminine Care Products
Lin N.¹, Ding N.¹, Park, S.K.¹, Batterman, S.¹; ¹School of Public Health, University of Michigan, Ann Arbor, MI, USA

MO-PL-A2-31
WITHDRAWN

Nemunas  MO-SY-B2
Cleaning for healthy environmental surfaces, and implications for transmission of disease

MO-SY-B2-32
Drool, green mucus, and other human-borne gnarly stuff on high-contact surfaces: Any relationship to health?
Ijaz M.K.¹,², Bruning E.¹, Rubino J. ¹; ¹Research & Development, RB, Montvale, NJ, USA, ²Department of Biology, Medgar Evers College of The City University of New York (CUNY), Brooklyn, NY, USA

MO-SY-B2-33
What does 'Clean' mean: how do we affordably measure what's invisible, and how does the metric actually reflect a concerted custodial cleaning effort in schools
Shaughnessy R., Hernandez M., Haverinen-Shaughnessy U., Nieto M.

MO-SY-B2-34
Viruses on high contact surfaces... Are they present for any considerable time, can we capture them, and should we be concerned?
Shaughnessy R., Hernandez M., Haverinen-Shaughnessy U., Peccia, J.
Technical Program

Monday, August 19
11:30 am - 12:30 pm

Amphitheatre

MO-SY-C2
Holistic view on the interaction between residents and indoor air quality in dwellings (Continued)

MO-SY-C2-35
Correlation between technical indoor air and tenants' perception of their indoor air, health and habits - Results from a Danish multiple site interdisciplinary cross-sectional study
Gabel C.E. ¹, Iholm G. ¹, Petersen S. ², Rasmussen M.K. ³, Sigsgaard T. ¹; ¹Aarhus University, Institute of Public Health, Aarhus, Denmark, ²Aarhus University, Institute of Engineering, Aarhus, Denmark, ³Alexandra Institute, Aarhus, Denmark

MO-SY-C2-36
Investigation of Indoor Exposures and Indoor Air Quality in Multi-apartment Buildings using Three Different Data Streams
Mainelis G. ¹, Thomas N. ¹, Calderon L. ¹, Senick J. ¹, Sorensen-Allacci M.A. ¹, Plotnik D. ¹, Guo M. ¹, Yu Y. ¹, Gong J. ¹, Andrews C. J. ¹; ¹Rutgers University, New Brunswick, NJ, USA

MO-SY-C2-37
Calculations of how users affects energy use and indoor environment by interaction with the ventilation system in apartments with exhaust ventilation systems
Magnusson R. ¹, Selli N. ², Nordquist B. ³, Wallentén P. ¹, Harderup L-E. ¹; ¹WSP, Lund, Sweden, ²HOAB, Malmö, Sweden, ³Building Services, Lund University, Lund, Sweden

MO-SY-C2-90
Indoor air quality and occupant satisfaction in BREEAM and WELL certified buildings: A case study
Licina D. ¹, Langer S. ²; ¹Human-Oriented Built Environment Lab, School of Architecture, Civil and Environmental Engineering, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, ²IVL Swedish Environmental Research Institute, Göteborg, Sweden

Baras 11

MO-PL-D2-EAM
Characterizing Transportation Related Exposures

MO-PL-D2-38
Target-driven Substitution of Hazardous Chemicals in Consumer Products
Fantke P.; Technical University of Denmark, Kongens Lyngby, Denmark

MO-PL-D2-39
An Integrated Approach for Improving Traffic-Related Air Pollution Exposure Assessment
Ananyeva O.¹, Turos O.¹, Petrotsian A.¹; ¹State Institution "O.M. Marzieiev Institute for Public Health of the National Academy of Medical Sciences of Ukraine", Kyiv, Ukraine

MO-PL-D2-40
Source-specific Fine Particulate Using Spatiotemporal Concentration Fields Developed using Chemical Transport Modelling and Data Assimilation: Application to North Carolina for Health Associations with Coronary Heart Disease
Russell A.¹, Huang R.¹, Zhao X.¹, Mulholland J.¹, Ivey C.¹, Guo S.¹, Breitner S.¹, Devlin R.¹; ¹Georgia Institute of Technology, Atlanta, GA, USA, ²University of California Riverside, Riverside, CA, USA, ³Nankai University, Tianjin, China, ⁴US Environmental Protection Agency, Chapel Hill, NC, USA

MO-PL-D2-41
Spatially-explicit characterization of the exposure and health burden of fine particulate matter in the U.S.
Stylianou K.¹, Tessim C.¹, Marshall J.¹, Fantke P.¹, Jolliet O.¹; ¹Department Environmental Health Science, School of Public Health, University of Michigan, Ann Arbor, MI, USA, ²Department of Civil and Environmental Engineering, University of Washington, Seattle, WA, USA, ³Quantitative Sustainability Assessment, Department of Management Engineering, Technical
Technical Program

Monday, August 19
11:30 am - 12:30 pm

VIP Hall
University of Denmark, Kgs. Lyngby, Denmark

MO-PL-E2-SEM
Consumer Products and Building Materials

MO-PL-E2-42
Inadvertent Polychlorinated Biphenyls (PCBs) in Consumer Products
Liu X.¹, Mullin M.²; ¹U.S. Environmental Protection Agency, Durham, NC, USA, ²U.S. Environmental Protection Agency, Seattle, WA, USA

MO-PL-E2-43
Development of new analytical and measurement methods for characterizing the emission of semi-volatile organic compounds (SVOCs) from building and consumer materials
Braish T.¹, Nicolas M.², Maupetit F.², Desauziers V.²; ¹CSTB and IMT Mines Ales, Saint-Martin-d’Heres, France; ²CSTB, Saint-Martin-d’Heres, France; ³IMT Mines Ales, Pau, France

MO-PL-E2-44
Quantitative distribution of SVOC substances in a room during and after cleaning measures.
Uhde E.¹, Varol D.¹, Mull B.¹, Salthammer T.¹; ¹Fraunhofer WKI, Braunschweig, Germany

MO-PL-E2-45
Deterioration of PVC flooring due alkaline moisture
Leivo V.¹, Sarlin E.¹, Sonketo J.¹, Pikkuvirta J.¹, Pentti M.¹; ¹Tampere University, Civil Engineering, Tampere, Finland

2:00 pm - 3:30 pm

Basic Hall

MO-PL-A3-EHR
Exposure to Fine and Ultrafine Particles I

MO-PL-A3-46
ROS production in aerosolized nanoparticles: an innate or environmentally-induced toxicity?
Vernez D.¹, Hirzel H.¹, Pralon J.¹, Goekce S.¹, Suarez G.¹; ¹Center for Primary Care and Public Health, University of Lausanne (Unisanté), Lausanne, Switzerland

MO-PL-A3-47
In-vehicle airborne fine and ultra-fine particulate matter exposure: the impact of emission reduction technologies
Campagnolo D.¹, Cattaneo A.¹, Borghi F.¹, Keller M.¹, Rovelli S.¹, Spinazzè A.¹, Cavallo D.¹; ¹Department of Science and High Technology, University of Insubria, Como, Italy

MO-PL-A3-48
Air Pollution Implications of Energy Transformation Pathways in Disadvantaged Communities
Gonzales D.¹, Jerrett M.¹; ¹Fielding School of Public Health, University of California, Los Angeles, California, USA

MO-PL-A3-49
Air pollution exposure at Philadelphia Subway Stations
Shakya K.¹, Saad A.¹, Aharonian A.¹, ¹Villanova University, Villanova, PA, USA

MO-PL-A3-50
The Hopi Environmental Health Project (HEHP)- Measuring Concentrations of PM2.5 in Households on Hopi Lands
Hadeed S.¹, O'Rourke M.K.¹, Alshammari M.¹, Blohm J.¹, Canales R.¹, Paukgana P.², Olivas G.³, Carl A.³, Lugo-Lerma V.¹, Gonzalez-Figueroa E.¹; ¹The University of Arizona College of Public Health, Tuscon, AZ, USA, ²The Hopi Tribe, Kykotsmovi, AZ, USA, ³The University of Arizona, Tuscon, AZ, USA
Technical Program

Monday, August 19
2:00 pm - 3:30 pm

Basic Hall

**MO-PL-A3-EHR**
 Exposure to Fine and Ultrafine Particles I [cont.]

MO-PL-A3-S1
Exposure of pregnant women to particle matter pollution: levels and risks
Paz M.¹, Slezakova K.¹, Costa C.²,³, Inês Silva A.²,³, Lage B.²,³, Aguiar L.², Mendes A.²,³, do Carmo Pereira M.²,³, Teixeira J.P.²,³, Joana Madureira J.²,³; ¹LEPABE, Departamento de Engenharia Química, Faculdade de Engenharia, Universidade do Porto, Porto, Portugal, ²Environmental Health Department, National Institute of Health, Porto, Portugal, ³EPIUnit - Instituto de Saúde Pública, Universidade do Porto, Porto, Portugal

Nemunas

**MO-SY-B3**
National Indoor Air and Health Programme 2018-2028 in Finland

MO-SY-B3-S2
Symptoms, environmental sensitivity, and public beliefs about indoor air in Finland
Pekkanen J.¹, Lampi J.¹, Hyvärinen A.²; ¹Department of Public Health, University of Helsinki, and National Institute for Health and Welfare, Helsinki, Finland, ²Finland National Institute for Health and Welfare, Kuopio, Finland

MO-SY-B3-S3
Indoor air exposure in Finland - building stock, guidelines and public discussion
Hyvärinen A. 1, Haverinen-Shaughnessy U. 1, Leppänen H. 1, Salmela A. 1, Lampi J. 1, Pekkanen J. 1, National Institute for Health and Welfare, Kuopio, Finland

Amphitheatre

**MO-SY-C3**
Characterizing Exposures and Potential Health Effects Related to Use of Conventional and Newly Emerging Tobacco Products such as E-Cigarettes

MO-SY-C3-S5
Analysis of Urinary Biomarkers of Exposure to Volatile Organic Compounds from the Population Assessment of Tobacco and Health (PATH) Study (Wave 1): Characterization of Tobacco Product Exposure
De Jesus V., US Centers for Disease Control and Prevention, Atlanta, GA, USA

MO-SY-C3-S6
Exposure to polycyclic aromatic hydrocarbons (PAHs) in adults differ by tobacco product type and frequency of use: Data from the U.S. Population Assessment of Tobacco and Health (PATH) Study
Botelho, J.C. 1, Wang Y. 1, Wong L.Y. 1, Meng L. 1, Pittman E.N. 1, Trinidad D.A. 1, Hubbard K.L. 1, Calafat A.M. 1; 1Centers for Disease Control and Prevention, Atlanta, GA, USA

MO-SY-C3-S7
Ethylbenzene and Styrene Exposure in the United States based on Urinary Mandelic Acid and Phenylglyoxylic Acid data from NHANES
Blount, B., Centers for Disease Control and Prevention, Tobacco and Volatiles Branch, Atlanta, GA, USA
Technical Program

Monday, August 19
2:00 pm - 3:30 pm

Amphitheatre

**MO-SY-C3**
Characterizing Exposures and Potential Health Effects Related to Use of Conventional and Newly Emerging Tobacco Products such as E-Cigarettes [cont.]

**MO-SY-C3-58**
Tobacco-derived aldehydes: Quantification in aerosols and utility of urinary aldehyde metabolites as biomarkers of exposure
Conklin D.¹, Lorkiewicz P.¹, Bhatnagar A.¹, Srivastava S.¹; ¹American Heart Association, Tobacco Regulation Center, Louisville, KY, USA

**MO-SY-C3-59**
Maternal exposure of mice to electronic cigarette aerosols early in life alters neurodevelopment, adult behavior and weight gain
Zelikoff J.¹, Blum J.¹, Rather J.¹, Schwartzzer J.¹, Church J.¹, Gordon T.¹; ¹NYU Langone Health, New York, NY, USA, ²Mount Holyoke College, South Hadley, MA, USA

Baras 11

**MO-PL-D3-EAM**
Exposure Modeling of Consumer Products

**MO-PL-D3-60**
Extension and experimental validation of the multi-pathway exposure model DustEx
Eichler C.¹, Delmaar C.², Bi C.¹, Little J.¹; ¹Virginia Tech, Blacksburg, VA, USA, ²RIVM, Bilthoven, Netherlands

**MO-PL-D3-61**
A simple human physiologically-based pharmacokinetic model for exposure assessment of four groups of environmental phenols
Choi J., Shin M.¹, Lee S.², Lee J.¹, Kim S.¹; ¹Department of Environmental Health Sciences, Graduate School of Public Health, Seoul National University, Seoul, Republic of Korea, ²Department of Occupational and Environmental Medicine, Ajou University School of Medicine, Suwon, Republic of Korea

**MO-PL-D3-62**
Transdermal uptake of two phthalates and a paraben from simulated lotion using a chemical activity approach
Eftekhari A.¹, Morrison G.²; University of North Carolina, Chapel Hill, NC

**MO-PL-D3-63**
Evaluating current modelling capabilities for assessing exposures to polycyclic aromatic hydrocarbons
De Brouwere K.¹, Bierkens J.¹, Ketelslegers H.¹, Trantallidi M.¹; ¹VITO - Flemish Institute for Technological Research, Moi, Belgium, ²Concawe, Brussels, Belgium

**MO-PL-D3-64**
Characteristics of co-use patterns to cosmetic products in high-use groups for Korean population
Lim M.¹, Park J.Y.¹, Lee K.¹; ¹Seoul National University, Seoul, Korea, South

**MO-PL-D3-65**
Multipollutant Models of Mixed Exposures to Cleaning Chemicals and Asthma Symptoms
Virji M.¹, Su F.¹, Liang X.¹, Kurth L.¹, Stefaniak A.¹, LeBouf R.¹, Stanton M.¹, Henneberger P.¹; ¹National Institute for Occupational Safety and Health, Morgantown, WV, USA
VIP Hall  
**MO-PL-E3-HBM**  
**Biomarkers and Biomonitoring Studies**

**MO-PL-E3-66**  
**Thinking on related issues about biorhythm synchronization and indoor environment**  
Chen B.¹, Wang S.¹, Li X.¹, Deng J.¹, *School of Civil Engineering, Dalian University of Technology, Dalian, Liaoning Sheng*

**MO-PL-E3-67**  
**Bisphenol (A, F, S) exposure levels in the French population aged 6 to 74 years in 2014-2016: The Esteban study**  
Tagne-Fots R., Saoudi A.¹, Zeghnoun A.¹, Oleko J.¹, Gane J.¹, Bidondo M.L.¹, Denys S.¹, Fillol C.¹, Balicco A.², *Environmental Health Division, Saint-Maurice, FranceEnvironmental Health Division, Saint-Maurice, Saint-Maurice, France*

**MO-PL-E3-68**  
**Exposure to Bisphenol A and Bisphenol A alternatives and asthma morbidity among inner-city children**  
Quiros-Alcala L.¹, Hansel N.², McCormack M.³, Matsui E.C.³, *Department of Environmental Health and Engineering, Johns Hopkins University, Baltimore, MD, USA, Department of Pulmonary and Critical Care, Johns Hopkins School of Medicine, Baltimore, MD, Dell Medical School, University of Texas, Austin, TX, USA*

**MO-PL-E3-69**  
**Neonatal Urine and Cord Blood Metals Analysis in a Cohort**  
Benson K.¹, Irvin-Barnwell E.¹, Ward C.¹, Jarrett J.¹, Ragin A.¹, *State University of New York (SUNY), NY, USA*

**MO-PL-E3-70**  
**Biomonitoring Blood Mercury, Lead, and Cadmium Levels in Susceptible Great Lakes Populations**  
Li Z.¹, Wattigney W.¹, Irvin-Barnwell E.¹, Hwang S.², Lewis-Michl E.², Savadatti S.², Liu M.², Hsu W.², Parsons P.², Palmer C.², Ragin-Wilson A.³, *Division of Toxicology and Human Health Sciences, Agency for Toxic Substances and Disease Registry, Atlanta, GA, USA, Bureau of Environmental and Occupational Epidemiology, New York State Department of Health, Albany, NY, USA, Wadsworth Center, New York State Department of Health, Albany, NY, USA*

**MO-PL-E3-71**  
**Combination of multi-residue methods based on hair analysis for pollutants exposure biomonitoring in Grande-Synthe, France - Towards a comprehensive assessment of population exposure**  
Iglesias-González A.¹,², Schaeffer C.¹, Dahm G.³, Vanandruel E.³, FranceHardy E.M.¹, Appenzeller B.M.R.¹, *Luxembourg Institute of Health, Strassen, Luxembourg, University of Luxembourg, Esch-sur-Alzette, Luxembourg, Laboratoire National de Santé, Dudelange, Luxembourg, Espace Santé du Littoral, Grande-Synthe, France*

Basic Hall  
**MO-PL-A4-EHR**  
**Determination and Modeling of SVOCs in Dust**

**MO-PL-A4-72**  
**Phthalates and organophosphates in settled dust and HVAC filter dust of U.S. low-income homes: association with season, building characteristics, and childhood asthma**  
Xu Y.; *The University of Texas at Austin, Austin, TX, USA*

**MO-PL-A4-73**  
**Impact of healthier building materials on dust levels of PFASs, flame retardants, and hormone-disrupting potency**  
Young A¹, Hauser R.¹, James-Todd T.¹, Coull B.¹, Zoeller T.², Sunderland E.³, Pickard H.³, Kannan K.³, Behnisch P.³, Brouwer A.³, *Harvard T.H. Chan School of Public Health, Boston, MA, USA, University of Massachusetts Amherst, Amherst, MA, USA, Harvard John A. Paulson School of Engineering and Applied Sciences, Cambridge, MA, USA, Wadsworth Center, New York State Department of Health, Albany, NY, USA, BioDetection Systems, Amsterdam, The Netherlands*
Technical Program

Monday, August 19

4:00 pm - 5:00 pm

Basic Hall

MO-PL-A4-EHR
Determination and Modeling of SVOCs in Dust [cont.]

MO-PL-A4-74
Developing a long-term dynamic model for the prediction of SVOC concentrations in indoor environments
Wei W.¹, Mandin C.¹, Ramalho O. ¹; ¹Scientific and Technical Center for Building (CSTB), Paris, France

MO-PL-A4-75
Soil and dust ingestion by children comparing urban and suburban areas in Korea
Kim E.¹, S, Ryu H, Park J, Yoon H, Kim T, Seo J, Heo J, Choe Y, Cho M, Yang W.; ¹Department of Occupational Health, Daegu Catholic University, Gyeongsan, Republic of Korea

Nemunas

MO-SY-B4
The Dutch residential exposure to pesticides study

MO-SY-B4-76
Exposure to pesticides of residents living close to agricultural land: research questions and study design
Schepers P.; Radboud University Medical Center, Nijmegen, Netherlands

MO-SY-B4-77
Determination of the toxicokinetics of asulam, carbendazim, chlorpropham, prochloraz, and tebuconazole following oral and dermal administration in human volunteers
Oerlemans A.¹, Mol, H.², van Dael M.¹, Nijssen R.², Vermeulen R.³, Russel F.¹, Schepers P.¹; ¹Radboud University Medical Center, Nijmegen, Netherlands, ²Wageningen Food Safety Research, Wageningen, Netherlands, ³Utrecht University, Utrecht, Netherlands

MO-SY-B4-78
Detection of urinary pesticide biomarkers using liquid chromatography high resolution mass spectrometry (LC-HRMS)
Nijssen R.¹, Oerlemans A.¹, Schepers P.¹, Vermeulen R.³, Mol H.; ¹Radboud Institute for Health Sciences, Radboudumc, Nijmegen, Netherlands, ²Radboud Institute for Risk Assessment Sciences, Utrecht University, Utrecht, Netherlands

MO-SY-B4-79
Results from a field study into the potentially enhanced internal exposure of pesticides in residents living close to agricultural land
Vermeulen R.; Utrecht University, Utrecht, Olandija

Amphitheatre

MO-SY-C4
The healing power of indoor air and material surfaces

MO-SY-C4-80
The healing power of indoor air and material surfaces
Taylor O.

MO-SY-C4-81
Mankind moved from “Ecosystem Nature” into “Sealed Building Biotopes”
Hugentobler W.; Inst. of Primary Care, University Zurich, Gerra-Gambarogno, Switzerland
Baras 11  MO-PL-D4-EAM
Use of Biomarkers to Assess Health Risks

MO-PL-D4-82
Non-targeted approaches to screen new markers of chemical exposure from human matrices: application and challenges regarding sample preparation and data processing
Pourchet M.¹, Cariou R.¹, Bichon E.¹, Hutinet S.¹, Le Bizec B.¹, Antignac J-P.¹; ¹Laboratoire d'Étude des Résidus et Contaminants dans les Aliments (LABERCA), INRA, Nantes, France

MO-PL-D4-83
Saliva Metabolome in Assessing Internal Exposure to Traffic Related Air Pollution
Liang D.¹, Chang C.¹, Li Z.¹, Vu B.¹, Golan R.¹, Sarnat S.E.¹, Yu T.¹, Greenwald R.¹, Jones D.P.¹, Chang H.H.¹, Sarnat J.A.¹; ¹Emory University, Atlanta, GA USA, ²Ben Gurion University of the Negev, Beersheba, Israel, ³Georgia State University, Atlanta, GA, USA

MO-PL-D4-84
Biomarker-Based Assessment of the Influence of Chemical Exposures on Chronic Kidney Disease
Brabec S.¹, Nguyen V.¹, Jolliet O.¹; ¹University of Michigan, Ann Arbor, MI, USA

MO-PL-D4-85
Using Biomonitoring Data to Understand Multipollutant Exposure Burden in Canada
St-Amand A.¹, Willey J.¹, Pollock T.¹, Liang C.¹; ¹University of Montreal, Montreal, Canada

VIP Hall  MO-PL-E4-CPC
Housing and Health

MO-PL-E4-86
Influence of house types on the prevalence of chronic respiratory diseases in Ho Chi Minh City
Tran N.T.¹, Tran B.N.¹, Tran T.M.H.¹, Tang K.H.¹, Ngo M.X.¹, Godin I.², Michel O.², Boulard C.²; ¹Ho Chi Minh City, Viet Nam, ²Brussels, Belgium

MO-PL-E4-87
Explanations of differences between living room temperatures in England and Denmark
Bonderup S.¹, Jensen O.¹, Gunnarsen L.¹; ¹Danish Building Research Institute, Copenhagen, Denmark

MO-PL-E4-88
Prediction of wheezing at ages 3 and 7 and asthma at age 7 using quantified observational exposure data collected at age 1
Cox J.¹, Ryan P. ², Burkle J.², Jandarov R.¹, Zhu Z.¹, Mendell M.¹, Reponen T.¹; ¹University of Cincinnati, Cincinnati, OH, USA, ²Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA, ³Indoor Epidemiology, El Cerrito, CA, USA

MO-PL-E4-89
Influence of the Built Environment Factors on Mental Health of Occupants
Hoisington A.¹, Stearns-Yoder K.², Lowry C.³, Postoloache T. 4, Brenner L.²; ¹Air Force Institute of Technology, Wright-Patterson, OH, USA, ²Department of Veteran Affairs, Denver, CO, USA, ³University of Colorado Boulder, Boulder, CO, ⁴University of Maryland, Baltimore, MD, USA
**Technical Program**

**Monday, August 19**

### POSTERS

**MO-PO-01**  
**Impact of construction stages on Indoor Air Quality**  
Gallon V.¹, Le Cann P.², Sanchez M.³, Dematteo C.⁴, Le Bot B.⁴  
¹Univ Rennes, Inserm, EHESP, Irset (Institut de recherche en santé, environnement et travail), Rennes, France, ²Univ Rennes, Inserm, EHESP, Irset (Institut de recherche en santé, environnement et travail), Rennes, France, ³FranceAQG (Construction Quality Agence), Paris, France, ⁴INDDIGO, Chambéry, France

**MO-PO-02**  
**Volatile organic compounds in school buildings with indoor air quality problems**  
Vornanen-Wingqvist C.¹, Alapieti T.¹, Mikkola R.¹, Kurnitski J.¹, Salonen H.¹, ²Aalto University, Espoo, Finland

**MO-PO-03**  
**Comparison between PMF and isotopic compositions on carbon and Pb sources investigation**  
Jung C-C.¹, Chou, C.-K.², Huang Y-T.², Chen M-J.³, Huang S-H.³, Huang W-J.³, Chang K-Y.³, Hsieh B-J.³, Tsai C-Y.³, Chang S-Y.⁴; ¹Research Center for Environmental Trace Toxic Substances, National Cheng-Kung University, Tainan City, Taiwan, ²Research Center for Environmental Changes, Academia Sinica, Taipei City, Taiwan, ³Department of Public Health, Chang Shan Medical University, Taichung City, Taiwan, ⁴Graduate Institute of Environmental Engineering, National Central University, Taoyuan City, Taiwan

**MO-PO-04**  
**On the aerosol pollution levels and its sources in some primary schools in Vilnius city**  
Prokopciuk N.¹, Franck U.², Dudouis V.¹, Tarasiuk K.¹, Juskiene I.¹, Valiulis A.¹, Cepuraite D.¹, Staras K.¹, Davulienė L.¹, Ulevičius V.¹; ¹SRI Center for Physical Sciences and Technology, Vilnius, Lithuania, ²Helmholtz Centre for Environmental Research–UFZ, Leipzig, Germany, ³Vilnius University Faculty of Medicine, Institute of Clinical Medicine, Vilnius, Lithuania, ⁴Vilnius University Faculty of Medicine, Public Institution Vilnius Centro Outpatient Clinic, Vilnius, Lithuania

**MO-PO-05**  
**Transgenic pollen corn dispersion at Cordoba, Colombia**  
Mazo Castaño C.¹, Pinto Herrera L.C.¹; ¹University of Los Andes, Bogota, Colombia

**MO-PO-06**  
**Volatile organics off-gassed from dry-cleaned fabrics**  
Chien Y-C.¹, Wang Z-C.²; ¹Undergraduate Program in Safety, Health and Environmental Engineering, Department of Safety, Health and Environmental Engineering, National Yunlin University of Science and Technology, Douliu, Taiwan, ²Department of Safety, Health and Environmental Engineering, National Yunlin University of Science and Technology, Douliu, Taiwan

**MO-PO-07**  
**DEHP transfer from PVC sheet to different kinds of particles.**  
Shinohara N.¹, Uchino K.¹; ¹National Institute of Advanced Industrial Science and Technology, Tsukuba, Ibaraki/Japan

**MO-PO-08**  
**The Impact of Cooking Pan Material on UFPs Emission**  
Amouei Torkmahalleh M., Nazarbayev University, Astana, Kazakhstan

**MO-PO-09**  
**Factors affecting the indoor concentration of ozone and ozone reaction products in school buildings and means to reduce exposure**  
Salonen H.¹, Salthammer T.², Morawska L.²; ¹Aalto University, Department of Civil Engineering, Espoo, Finland, ²Fraunhofer WKI, Department of Material Analysis and Indoor Chemistry, Braunschweig, Germany, ³Queensland University of Technology, International Laboratory for Air Quality and Health, Brisbane, Australia

**MO-PO-10**  
**WITHDRAWN**

**MO-PO-11**  
**Impact of household products on indoor air quality: definition of a simple and harmonized test protocol for volatile compounds emission**  
Nicolas M.¹, Karr G. ², Maupett F. ³; ¹Scientific and Technical Centre for Building, Champs-sur-Marne, France, ²French National Institute for Industrial Environment and Risks, Verneuil-en-Halatte, France

**MO-PO-12**  
**Experiment for Reduction on NOx Concentration in Photocatalytic Paint with UV Lamps**  
Song Y.W.¹, Park J.C.¹; ¹Graduate School, Chung-Ang University, Seoul Korea, ²School of Architecture and Building Science, Chung-Ang University, Seoul, Korea

**MO-PO-13**  
**Residential indoor exposure to semivolatile organic compounds and cumulative risks in France**  
Pelletier M.¹, Glorennec P.¹, Mandin C.¹, Le Rot B.¹, Ramalho O.², Mercier F.², Bonvallot B.¹, ¹Univ Rennes, EHESP, Inserm, Irset (Institut de recherche en santé, environnement et travail), Rennes, France, ²University of Paris-Est, Centre Scientifique et Technique du Bâtiment, Marne la Vallée, France
Technical Program

Monday, August 19
POSTERS

MO-PO-14  SO2 and CHCO vertical column densities in major cities of Kazakhstan from 2005 to 2016
Amouei Torkmahalleh M.¹, Darynova Z.¹, Sabyrzhan A.S.¹, Sagynov S.¹, Abdakhanmanov T.¹; ¹Nazarbayev University, Astana, Kazakhstan

MO-PO-15  Examine the Impacts of Human Activities on Indoor Exposure Profile Using a Low-cost Passive Air Pollutant Monitor
Lin E.¹, Pollitt K.; ¹Yale University, New Haven, CT, USA

MO-PO-16  Evaluating vertical concentration variation of non-polar organic compounds for PM2.5 in Taipei metropolis
Tsai W.C.¹, Liao, H.T.², Wu, C.F.¹; ¹Institute of Environmental Health(IEH), National Taiwan University, Taipei, Taiwan, ²Research Center for Environmental Changes, Academia Sinica, Taipei, Taiwan

MO-PO-17  PFAS and total fluoride levels in fire station dust
Young A.¹, Sparer-Fine E.¹, Peaslee G.¹, Sunderland E.¹, Pickard H.², Allen J.³; ¹Harvard T.H. Chan School of Public Health, Boston, MA, USA, ²University of Notre Dame, Notre Dame, IN, USA, ³Harvard John A. Paulson School of Engineering and Applied Sciences, Cambridge, MA, USA

MO-PO-18  Inhalation risk assessment of particulate phase polycyclic aromatic hydrocarbons (PAHs) at a naturally ventilated kerbside office building.
Jyethi D.¹, Khilillare P.¹; ¹Indian Statistical Institute, Kolkata, India

MO-PO-19  Formaldehyde and TVOCs sensors evaluation for reliable Indoor Air Quality monitoring
Goletto V.¹, Mialon G.², Wang Y.¹, Lesieur I.¹; ¹Saint-Gobain Research Paris, Aubervilliers, France, ²Saint-Gobain Research Provence, Cavaillon, France, ³Saint-Gobain Research North America, Northborough, USA, ⁴Saint-Gobain ISOVER FRANCE, Rantigny Research Center, Rantigny, France

MO-PO-20  Disinfection by-products in the atmosphere of indoor swimming pools
Hyttinen M.¹, Ruokolainen J.¹, Pasanen P.¹; ¹University of Eastern Finland, Kuopio, Finland

MO-PO-21  Exposure assessment of VOC emissions from polymer-based consumer products
Even M.¹, Girard M.¹, Rich A.¹, Roloff A.¹, Hutzler C.¹, Luch A.¹; ¹German Federal Institute for Risk Assessment, Berlin, Germany

MO-PO-22  Outdoor and indoor air quality in schools in rural eastern Poland
Polednik B.¹, Dumala S.¹, Piotrowicz A.¹, Guz L.¹, Siuta-Olcha A.¹, Duzdinska M.¹; ¹Lublin University of Technology, Lublin, Poland

MO-PO-23  Headspace Analysis for Screening of Volatile Organic Compound Profiles of Electronic Juice Bulk Material
LeBouf R.¹, Burns D.¹, Ranpara A.¹, Artfield K.¹, Zwack L.¹, Stefaniak A.¹; ¹National Institute for Occupational Safety and Health, Morgantown, WV, USA, ²California Department of Public Health, Richmond, CA

MO-PO-24  Derivation of EU-Lowest Concentration of Interest (LCI) of propylene glycol monomethyl ether for the health-based assessment of emission levels from construction products
Choi J.¹, Höhne D.¹, Mune W.¹, Rücker T.¹; ¹Ramboll Environment & Health GmbH, Munich, Germany

MO-PO-25  Estimation of life-time exposure to nitrogen dioxide and volatile organic compounds according to similar time-activity groups
Heo J.¹, Ryu H.¹, Park J.¹, Kim E.¹, Choi Y.¹, Cho M.¹, Kim Y.¹, Sung K.¹, Yang W.¹; ¹Daegu Catholic University, Gijongsanas, South Korea

MO-PO-26  High levels of benzene inside an office building due to a leakage of natural gas from a street pipeline
Johannesson S.¹, Almerud P.¹; ¹Occupational and Environmental Medicine, University of Gothenburg, Gothenburg, Sweden

MO-PO-27  Concentration of Volatile Organic Compounds in Small Beauty Salons in a Predominantly Latino Community
Beamer P.¹, Wagener R.¹, Lopez-Galvez N.¹, Lothrop N.¹, Sandovall F.¹, Parra, K.¹, Wertheim B.¹, Griffin S.¹, Cortez I.¹, Bell M.¹, Wolf A.M.¹; ¹Mel and Enid Zuckerman College of Public Health, University of Arizona, Tucson, AZ, USA, ²Sonora Environmental Research Institute, Tucson, AZ; Mel and Enid Zuckerman College of Public Health, University of Arizona, Tucson, AZ, USA

MO-PO-28  Indoor sinks of terpenes: experimental screening of various surfaces
Harb P.¹, Angulo Milhem S.¹, Brun R.¹, Verriele M.¹, Thevenet F.¹; ¹IMT Lille Douai, Lille, France
MO-PO-29 **Cleaning practices and chemicals: Effects on indoor microbiome and air quality**  
Alapieti T.¹, Taube M.², Mikkola R.¹, Valkonen M.³, Leppänen H.², Hyvärinen A.², Salonen H.¹; ¹Aalto University, Department of Civil Engineering, Espoo, Finland, ²Environmental Health Unit, National Institute for Health and Welfare, Kuopio, Finland

MO-PO-30 **Occupational exposures to volatile organic compounds among U.S. hairdressers serving ethnically diverse clienteles.**  
Kavi L.¹, Boyle M.¹, Lam A.², Pool W.², Wilson S.³, Thomas S.⁴, Rule A.⁵, Quiros-Alcala L.⁶; ¹Maryland Institute for Applied Environmental Health, University of Maryland School of Public Health, College Park, MD, USA, ²Department of Environmental Health and Engineering, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA, ³Centro de Apoyo Familiar, Riverdale, MD, USA, ⁴Center for Health Equity, University of Maryland School of Public Health, College Park, MD, USA

MO-PO-31 **The effect of wind velocity on airborne release of ochratoxin A from cultivated Aspergillus niger**  
Lee S.A.¹, Chen J.C.¹; ¹Department of Environmental Engineering and Science, Feng Chia University, Taichung, Taiwan

MO-PO-32 **Applying Land Use Regression Models with a Mobile Platform in Cycle Network to Estimate PM2.5 Spatial Variation in Taipei, Taiwan**  
Wu C-F.¹, Wu T-G.¹, Chen B-H.¹, Chang J-C.², Chang C-C.²; ¹Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, National Taiwan University, Taipei, Taiwan, ²Institute of Environmental Health, College of Public Health, National Taiwan University, Taipei, Taiwan

MO-PO-33 **Microenvironmental PM2.5 Exposure in a Mixed Land-Use and Heavily Burdened Air Basin**  
Ivey C.¹, Do K.¹, Yu H. ²; ¹University of California, Riverside, Riverside, CA, USA, ²University of Central Florida, Orlando, FL

MO-PO-34 **Study of a Saharan Dust Intrusion into the Colombian Atmosphere**  
Pinto Herrera, L.C.¹, Mendez Espinosa, J.F.¹, Belalcazar Ceron, L.C.¹; ¹University of Los Andes, Bogota, Columbia

MO-PO-35 **Exposure to Airborne Particulate Matter in High Traffic Urban Locations**  
Parker M.¹, Hopke P.¹, Korfmacher K.¹; ¹University of Rochester, Rochester, NY, USA, ²Rochester Institute of Technology, Rochester, NY, USA

MO-PO-36 **Addressing artifacts on black carbon data from microAeth® monitors (AethLabs AE-51) due to rapid temperature changes**  
Ross J.¹, Chillrud S.¹, Yang Q.¹, Jack D.¹, Smith C.¹, Vera J.¹; Columbia University, New York, USA

MO-PO-37 **Organophosphate flame retardants: a review of indoor contamination and human exposure in Europe, and human health effects.**  
Chupeau Z.¹, Bonvallot N.¹, Mercier F.¹, Le Bot B.¹, Chevrier C.¹, Glorennec P.³; ¹Univ Rennes, EHESP, Inserm, Iriset, Rennes, France

MO-PO-38 **Proof of principle testing for using small black carbon monitors for real-time PAH measurement**  
Jaramillo J.¹, Yan B.¹, Ross J.¹, Pitiranggon M.¹, Yang Q.¹, Blair J.°, Perzanowski M.°; ¹Hunter College, Manhattan, NY, USA, ²Lamont-Doherty Earth Observatory at Columbia University, Palisades, NY, USA, ³NYAethLabs, San Francisco, CA, USA, ⁴Columbia University Mailman School of Public Health, New York, NY, USA

MO-PO-39 **Preliminary Discussions on Effects of Ventilation Rates on Moist-related Issues for Residential and Office Buildings in China**  
Tang S.¹, Ye W.¹, Su X.¹, Zhang X.¹; ¹Tongji University, Shanghai, China

MO-PO-40 **Spatiotemporal distribution of particulate air pollution in a pub**  
Draher, D.¹, Fishbain, B.¹; ¹Dept. of Environmental, Water and Agricultural Engineering, Faculty of Civil & Environmental Engineering, Technion – Israel Institute of Technology, Haifa, Israel

MO-PO-41 **Indoor VOCs concentrations in a case-study of residential buildings**  
Rovelli S., Campagnolo D.¹, Cattaneo A.¹, Fazio A.¹, Spinazzè A.¹, Borghi F.¹, Dossi C.², Cavallo D.M.²; ¹Department of Science and High Technology, University of Insubria, Como, Italy, ²Department of Theoretical and Applied Sciences, University of Insubria, Varese, Italy
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<td>Kakucs R.¹, Szigeti T.²; 'National Public Health Center, Budapest, Hungary</td>
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| MO-PO-47 | Low-cost, high-resolution sensor networks for air quality monitoring in logistically difficult environments: Chana case study | Hodoli C.G.; Cranfield University, Cranfield, England |
| MO-PO-48 | Characteristics of Particular Matters by Locations at Hospital Using Internet of Things (IoTs) for Indoor Air Monitoring | Jeong N.-N.¹, Lee H.¹, Sohn J.-R.², 'Public Health Science, Korea University, Seoul, 'School of Health and Environmental Science, Korea University, Seoul |
| MO-PO-49 | Estimation of ventilation rate in Korean residential house using IoT sensor, time-activity patterns and CO2 generation rate from breathing | Choe Y.¹, Ryu H.¹, Heo J.¹, Kim E.¹, Park J.¹, Cho M.¹, Kim Y.¹, Yang W.¹; 'Department of Occupational Health, Daegu Catholic University, Gyeongsan, Republic of Korea |
| MO-PO-50 | Estimating Personal Exposures from a Multi-Hazard Sensor Network | Koehler K.¹, Zuidema C.², Stobough L.³, Sousan S.¹, Gray A.², Stroh O.², Thomas G.², Peters T.²; 'Johns Hopkins School of Public Health, Baltimore, MD, USA, 'University of Washington, Seattle, WA, USA, 'University of Iowa, Iowa City, IA, USA |
| MO-PO-51 | Land Use Regression Models of Traffic-Related SVOC Pollutants in an Urban Area with Elevated Prevalence of Pediatric Asthma | Esenther S.¹, Lin E.¹, Pollitt K.¹; 'Yale University, New Haven, CT, USA |
| MO-PO-52 | Association between manipulation activities of asbestos containing brake products and respiratory abnormalities among brake mechanics. | Giraldo M.¹, Cely-García M.¹, Ramos-Bonilla J.¹, Durán M.², Torres-Duque C.¹, González-García M.², Pérez C.², Parada P.²; 'Department of Civil and Environmental Engineering, School of Engineering, Universidad de Los Andes, Bogotá, Colombia, 'Medical Department, Fundación Neurológica Colombiana, Bogotá, Colombia, 'Research Department, Fundación Neurológica Colombiana, Bogotá, Colombia, 'Radiology Department, Fundación Cardioinfantil - Instituto de Cardiología, Bogotá, Colombia |
| MO-PO-53 | Multinomial logistic model for prediction of respiratory illness among household women exposed to cooking fumes in poor ventilation settings | Naseem F.¹, Abnán M.², Rashid A.³; 'Government Postgraduate College for Women, Satellite Town, Rawalpindi, Pakistan, 'Department of Geography, Federal Postgraduate College (Men) H-8, Islamabad, Pakistan, 'EcoHealth Research Lab, Department of Environmental Sciences, Arid Agriculture University, Rawalpindi, Pakistan |
| MO-PO-54 | A framework for estimating the US mortality burden of fine particulate matter exposure attributable to indoor and outdoor microenvironments | Azimi P.; Illinois Institute of Technology, Chicago, IL, USA |
| MO-PO-55 | Agricultural Pesticide Exposure and Congenital Abnormalities (CA) in Mexico: A Systematic Review | Trejo B., Boston University, Boston, MA, USA |
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**Cell-on-Particles Nanofiber Based Human Bronchial Epithelial Model for Testing Cytotoxicity of Aerosol Particles**  
Krugly E.¹, Martuzevicius D.¹, Aldonyte R.²; ¹Kaunas University of Technology, Kaunas, Lithuania, ²Centre for Innovative Medicine, Vilnius, Lithuania

**MO-PO-57**  
**Estimation of Potential Dermal Exposure to Organophosphorus Flame Retardants via Direct Contact with Products Using Silicone**  
Shindo M.¹, Tokumura M.¹, Wang Q.¹, Miyake Y.¹, Amagai T.¹, Makino M.¹; ¹University of Shizuoka, Shizuoka, Japan

**MO-PO-58**  
**A Study on the Aggregate Exposure Evaluation of phthalates through Comparison of Exposure Estimation Methods**  
Junghyun P., Lee, J.; ¹EH R&C, Seo-gu, Incheon/South Korea

**MO-PO-59**  
**Aerosolization of silver nanoparticles during simulated use of a commercially available spray disinfectant product advertised to contain colloidal silver**  

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**Using a passive sampler to measure the dermal migration of di(2-ethylhexyl)phthalate from polyvinylchloride flooring at different skin condition**  
Kim D.Y., Kwon, J.H.; ¹Division of Environmental Science and Ecological Engineering, Korea University, Seoul, Korea

**MO-PO-62**  
**Results from the Norwegian human biomonitoring study in the EuroMix project: Exposure to the pesticides boscalid and imazalil from the diet in Norway**  
Hussey T., Sonnet F., Sakhi A.K., Thomsen C., Dirven H., ¹Department of Toxicology and Risk, Norwegian Institute of Public Health, ²Department of Environmental Exposure and Epidemiology, Norwegian Institute of Public Health

**MO-PO-63**  
**Synthetic Musks by DLLME and APGC-MS/MS in human serum**  
Bélanger P., Laflamme O.; ¹Centre de toxicologie du Québec, Québec, Canada

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**Nonlinear model analyses of urinary metabolite levels of organophosphate pesticides corresponding to cholinesterase activity inhibition in rats**  
Sato H., Ito Y., Bundo I., Hanai C., Nishimura M., Ueyama J., Kamijima M.; ¹Nagoya City University Graduate School of Medical Sciences, Nagoya, Aichi/Japan

**MO-PO-66**  
**Exposure to triclosan is a significant predictor of urinary 2,4-dichlorophenol in Polish population: experimental and epidemiological evidence**  
Wielgomas B., Klimowska A., Dabrowska P., Dziomba S., Rodzaj W., Jurkiewicz J., Radwan P., Radwan M., Hanke W.; ¹Medical University of Gdańsk, Gdansk, ²Nofer Institute of Occupational Medicine, Lodz, Poland, ³Gameta Hospital, Lodz, Poland

**MO-PO-67**  
**Endocrine disrupting chemicals in follicular fluid – methodological aspects of sample preparation before GC-MS/MS analysis**  
Klimowska A., Wielgomas B.; ¹Medical University of Gdańsk, Department of Toxicology, Gdańsk, Poland

**MO-PO-68**  
**Effects of Biophilic Interventions in Office on Stress Reaction and Cognitive Function: A Randomized Crossover Study in Virtual Reality**  
Yin J., Arfaei N., MacNaughton P., Catalano P., Allen, J.; ¹Department of Environmental Health, Harvard T.H. Chan School of Public Health, Boston, MA, USA, ²Department of Data Sciences, Dana-Farber Cancer Institute, Boston, MA, USA, ³Department of Biostatistics, Harvard T.H. Chan School of Public Health, Boston, MA, USA

**MO-PO-69**  
**A high resolution mass spectrometry-based metabolomics strategy for comprehensively screening biomarkers of di-(2-propylheptyl) phthalate exposure and their applications**  
Hsu J., Shih C-L., Wong H.L., Liao P-C.; ¹National Health Research Institutes, Miaoli County, Taiwan, ²National Cheng Kung University, Tainan, Taiwan
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MO-PO-71 **Breath Volatile Organic Compounds Profile After Short Exposure to High Concentrations of Indoor Fragrance Chemicals**
Vincent-Claramunt A., Center for Physical Sciences and Technology, Vilnius, Lithuania

MO-PO-72 **Serum concentrations of polybrominated biphenyls (PBBs) and the other persistent organic pollutants (POPs) among the Michigan PBB cohort**
Chang C.J.¹, Terrell M.L.¹, Marcus M.¹, Marder M.E.¹, Panuwet P.¹, Ryan, P.B.¹, Barr, D.B.¹; ¹Department of Environmental Health, Rollins School of Public Health, Emory University, Atlanta, GA, USA² Cal/EP A Office of Environmental Health Hazard Assessment, California, USA

MO-PO-73 **Age, gender and lifestyles in difference urinary levels of cadmium, lead, cobalt, copper in Taiwanese – Taiwan Environmental Surveys for Toxicants 2013–2016.**
Liao K-W. ¹, Chen P-C. ², Lin C-C. ³, Tsai M-S. ⁴, Chung C-J. ⁵, Chen J-K. ⁶, Ling M-P. ⁷, Huang H-B. ⁸, Huang, P-C. ⁹; ¹National Institute of Environmental Health Sciences, National Health Research Institutes, Miaoli, Taiwan, ²Institute of Environmental and Occupational Health Sciences, National Taiwan University College of Public Health, Taipei, Taiwan, ³Department of Health Risk Management, College of Public Health, China Medical University, Taichung, Taiwan, ⁴Institute of Biomedical Engineering & Nanomedicine, National Health Research Institutes, Miaoli, Taiwan, ⁵Department of Food Science, National Taiwan Ocean University, Keelung, Taiwan, ⁶School of Public Health, National Defence Medical Center, Taipei, Taiwan

MO-PO-74 **Differences in human subjective responses depending on chemical concentration levels in indoor air**
Nakaoaka H. ¹, Mori C. ¹, Todaka E. ¹; ¹Chiba University, Chiba, Japan

MO-PO-75 **A study on exposure levels and influencing factors of endocrine disruptors in Korean adults - The 3rd cycle of Korean National Environmental Surveys for Toxicants (KoNEHS)**
Kim S.Y. ¹, Joo Y.K. ¹, Yoo J-Y. ¹, Lee C-W. ¹, Yu, S-D. ¹; ¹National Institute of Environmental Research, Incheon, South Korea

MO-PO-76 **Levels of metals in blood among Swedish schoolchildren and adolescents**
Almerud P. ¹, Lignell S. ², Andersson E. ¹, Lundh T. ³, Sallsten G. ¹, Lindroos A.K. ⁴; ¹Occupational and Environmental Medicine, University of Gothenburg, Gothenburg, Sweden, ²Swedish Food Agency, Uppsala, Sweden, ³Occupational and Environmental Medicine, Lund University, Lund, Sweden

MO-PO-77 **Systematic Identification of Allostatic Load Components Associated with Mortality**
Nguyen V. ¹, Chuong J. ¹, Pho N. ², Patel C. ³, Colacino J. ², Jolliet O. ³; ¹Harvard University, Boston, MA, USA, ²University of Michigan, Ann Arbor, MI, USA, ³University of Washington, Seattle, WA, USA

MO-PO-78 **Exposure Characterization of Drinking Water Haloacetic Acids in Human Urine**
Pervez S.¹, Ashby J.¹, Kimura S. ², Richardson S. ³, Indiana University, Bloomington, IN, USA, ²University of Calgary, Calgary, Canada, ³University of South Carolina, Columbia, SC

MO-PO-79 **Hypertonic Saline Nasal Lavage Intervention in Dairy Workers**
Erlandson G.¹, Magzamen S.¹, Carter E. ¹, Sharp J. ¹, Reynolds, S.¹, Schaeffer J. ¹; ¹Colorado State University, Fort Collins, CO, USA

MO-PO-80 **Association of exposure to metals and polycyclic aromatic hydrocarbons with expression of Receptor of Advanced Glycation End Products in welding workers**
Chen W-L. ¹, Chou C-C. ¹, Chuang H-C. ¹, Lin G-J. ¹, Pan C-H. ¹, Wang C-C. ¹, Lai C-H. ¹; ¹National Defense Medical Center, Taipei, Taiwan

MO-PO-81 **Risk of metabolic syndrome and the level of the AGEs and RAGE in welding workers - a cross-sectional study**
Lan Y.W. ¹, Lai C-H. ¹; ¹School of Public Health, National Defence Medical Center, Taipei, Taiwan

MO-PO-82 **Association between chronotype and AGES: a cross-sectional study**
Hsu, Y-W. ¹, Lai C-H. ¹; ¹School of Public Health, National Defence Medical Center, Taipei, Taiwan

MO-PO-83 **Urinary metabolites of solvent exposure among workers in electronic factories in Batam, Indonesia**
Liu S. ¹, Hasan Z. ¹; ¹School of Health Sciences, Purdue University, West Lafayette, IN, USA

MO-PO-84 **WITHDRAWN**
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<td>Chen Y., Chen B.; ¹School of Civil Engineering, Dalian University of Technology, China, Dalian, LiaoNing Province/China</td>
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<td>Rashid A., Uddin I., Malik A., Ullah A.; ⁴Department of Environmental Sciences, Arid Agriculture University, Rawalpindi, Pakistan, ⁵Civil Aviation Authority, Islamabad International Airport, Islamabad, Pakistan</td>
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**Biomonitoring of SVOCs**

**TU-PL-A1-01**  
**Short-term temporal variability in urinary biomarkers of phosphate flame retardants and plasticizers (PFRs) and alternative plasticizers (APs)**  
Bastiaensen M.¹, Malarvannan G.¹, Gys C.¹, Covaci A.¹; ¹Toxicological Center, University of Antwerp, Antwerp, Belgium

**TU-PL-A1-02**  
**Children's and Adolescents' Exposure to Glyphosate - Results of the German Environmental Survey, GerES 2014-2017**  
Conrad A.¹, Schmied-Tobies M.¹, Hoppe H-W.¹, Rucic E.¹, Kolossa-Gehring, M.¹, ¹German Environment Agency (Umweltbundesamt), Berlin/Dessau-Rosslau, Germany

**TU-PL-A1-03**  
**Long-lasting Legacies: Organochlorine Compounds in Children and Adolescents - Results of the German Environmental Survey, GerES 2014-2017**  
Conrad A.¹, Rucic E.¹, Murawski A.¹, Kolossa-Gehring M.¹, Bandow, N.¹, Sawal, G.¹; ¹German Environment Agency (Umweltbundesamt), Berlin/Dessau-Rosslau, Germany

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**Human toxicokinetic profiles after the dermal exposure to methyl-, ethyl-, and propyl paraben in human**  
Shin M.Y.¹, Choi J.W.¹, Lee S.², Kim S.; ¹Department of Environmental Health Sciences, Graduate School of Public Health, Seoul National University, Seoul, South Korea, ²Public Health, Seoul National University, Seoul, South Korea

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**Monitoring exposure levels to bisphenols in Japanese schoolchildren**  
Gys C.¹, Ait Bamai Y.², Araki A.2, Caballero-Casero N.¹, Kishi, R.¹, Covaci A.¹; ¹University of Antwerp, Antwerp, Belgium, ²Hokkaido University, Sapporo, Japan

**TU-PL-A1-06**  
**Perfluorinated alkylated substances (PFAS) in Children and Adolescents - Results of the German Environmental Survey, GerES 2014-2017**  
Conrad A.¹, Rucic E.¹, Murawski A.¹, Lange R.¹, Kolossa-Gehring M.¹, Duffek A.¹, Wellmitz J.¹; ¹German Environment Agency (Umweltbundesamt), Berlin/Dessau-Rosslau, Germany

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**TU-SY-B1**  
**Meet-in-metabolite Analysis (MIMA) for Bridging the External Exposures and Biological Response**

**TU-SY-B1-07**  
**Meet-in-metabolite analysis bridging the internal dose of exposure and adverse outcome within a molecular epidemiology framework**  
Shen H.; Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China

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De Angelis M.¹, Li Z. M.¹,², Paulusche-Fruhlich J.¹,², Fritsche A.³,¹, Michalke B.¹, Benker B.¹, Bao Q.¹, Henkelmann B.¹, Shen H.¹, Schramm K-W.¹,²,³; ¹Helmholtz Zentrum München-German Research Center for Environmental Health (GmbH), Molecular Exposomics, Neuherberg, Germany, ²School of Life Sciences Weihenstephan (Nutrition), Technische Universität München, Freising, Germany, ³Division of Endocrinology, Diabetology, Nephrology, Angiology and Clinical Chemistry, Eberhard Karls University, Tübingen, Germany, ⁴Institute for Diabetes Research and Metabolic Diseases of the Helmholtz Center Munich at the University of Tübingen (IDM), Tübingen, Germany, ⁵Helmholtz Zentrum München-German Research Center for Environmental Health (GmbH), Research Unit Analytical BioGeoChemistry, Neuherberg, Germany, ⁶Ningbo Entry-Exit Inspection and Quarantine Bureau Ningbo, Zhejiang, China, ⁷Key Lab of Urban Environment and Health, Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China, ⁸Department für Biowissenschaftliche Grundlagen, Technische Universität München, Freising, Germany
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Huang Q.; Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China

TU-SY-B1-11
Multiple elements related to metabolic biomarkers on the context of gestational diabetes mellitus in meconium
Wu Y.*, Shen H.¹; ¹Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China

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Xu Y.; The University of Texas at Austin, Austin, TX, USA

TU-SY-C1-13
A critical comparison of Junge/Pankow and Goss/Schwarzenbach theory
Salthammer T.; Fraunhofer WKI, Braunschweig, Germany

TU-SY-C1-14
From air through skin to blood: dermal uptake of SVOCs commonly found in indoor air
Weschler C.J.*, Beko G.¹, Morrison G.³; ¹Rutgers University, NJ, USA, ²Technical University of Denmark, Kongens Lyngby, Denmark, ³The University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

TU-SY-C1-15
Experimental verification of the dermal uptake of indoor chemicals from air
Beko G.¹, Weschler C.J.², Morrison G.³; ¹Rutgers University, NJ, USA, ²Technical University of Denmark, Kongens Lyngby, Denmark, ³The University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

TU-SY-C1-16
Clothing and exposure to SVOCs indoors
Morrison G.; The University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

TU-SY-C1-17
On the accuracy of SVOC exposure assessment: how good is acceptable for different purposes?
Zhang Y.; School of Environment, Tsinghua University, Beijing, China
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TU-PL-DI-18
Modelling residents’ exposure to pesticides from boom sprayer applications
Figueiredo D.¹, Duyzer J.², Jacobs C.², Holterman H.³, van de Zande J.³, van den Berg F.², Huss A.¹, Vermeulen R.¹·²·³; ¹Institute for Risk Assessment Sciences - UU, Utrecht, The Netherlands, ²TNO Urban Environment and Safety, Utrecht, The Netherlands, ³Wageningen Environmental Research - WUR, Wageningen, The Netherlands, ³Wageningen Plant Research - WUR, Wageningen, The Netherlands, 3Julius Centrum - UMC, Utrecht, The Netherlands

TU-PL-DI-19
Comparison of low-tier modelled occupational exposure estimates with measured data for petroleum substances' REACH dossiers
Urbanus J.¹, Hahn S.², Basinas I.³, Galea K.³, van Tongeren, M.³, Trantalidi M.³; ¹Shell (Shell Health - Risk Science Team), Brussels, Belgium, ²Fraunhofer Institute for Toxicology and Experimental Medicine, Hanover, Germany, ³Institute of Occupational Medicine, Edinburgh, United Kingdom, ³School of Health Sciences, Faculty of Biology, Medicine and Health, The University of Manchester, Manchester, United Kingdom, ³CONCAWE, Brussels, Belgium

TU-PL-DI-20
Where are the landfillfilled sites? Methodological approaches to investigate the presence of asbestos in the soils of Sibaté (Cundinamarca, Colombia)
Lysaniuk B.¹, Cely Garcia M.F.², Ramos Bonilla J.P.²; ¹IRD (MàD par le CNRS), UMR PRODIG, Bogota, Colombia, ²Universidad de Los Andes, Facultad de Ingeniería, Departamento de Ingeniería Civil y Ambiental, Bogota, Colombia

TU-PL-DI-21
Children’s Particulate Matter Exposure Characterization as Part of the New Hampshire Birth Cohort Study
Thornburg J.¹, McCombs M.¹, Cho S-H.¹, Siripanchignon N.¹, Butler E. ², Karagas M.²; ¹RTI International, Research Triangle Park, NC, USA, ²Dartmouth College, Hanover, NH, USA

TU-PL-DI-22
The concerning young age of diagnosis in mesothelioma cases from Sibaté, Colombia
Ramos-Bonilla J.P.¹, Cely-García M.F.², Lysaniuk B.², Comba P.³, Terracini B.³, Passetto R.³, Marsili D.³, Ascoli V.³, Mazzeo A.⁴, Magnani C.⁵, López Pangueta R.⁵, Baldón M.⁶, Cañón D.⁶, Garcia-Herreros L.⁶, Pinzón B.⁷, Giraldo M.¹, Hernández L.J.¹; ¹Department of Civil and Environmental Engineering, School of Engineering, Universidad de los Andes, Bogotá, Colombia, ²IRD, Bogotá, Colombia, ³University of Turin (Now Retired), Turin, Italy, ³Department of Radiological, Oncological and Anatomo-Pathological Sciences, Sapienza University, Rome, Italy, ⁴Department of History and Culture, University of Bologna, Bologna, Italy, ⁵Department of Medicine Translazionale - Università del Piemonte Orientale, Novara, Italy, ⁶Department of Pathology and Laboratories, Fundación Santa Fe de Bogotá, Bogotá, Colombia, ⁷Thoracic Surgery Section, Department of Surgery, Fundación Santa Fe de Bogotá, Bogotá, Colombia, ⁸School of Medicine, Universidad de los Andes, Bogotá, Colombia

TU-PL-DI-23
A comprehensive analysis of racial disparities in chemical exposure biomarkers in US women
Nguyen V.¹, Kahana A.¹, Heidt J.¹, Polemi K.¹, Kvasnicka J.¹, Jolliet O.¹, Colacino J.¹; ¹University of Michigan, Ann Arbor, MI, USA

VIP Hall  TU-PL-E1-SEM
Improving Indoor Air Quality in Buildings

TU-PL-E1-24
Smart homes and the control of indoor air quality
Schieweck A.¹, Uhde E.¹, Saltheimer T.¹, Salthammer L.¹, Morawska, L. ², Mazaheri M. ³, Kumar P. ³; ¹Fraunhofer WKI, Braunschweig, Germany, ²Leuphana University, Lüneburg, Germany, ³Queensland University of Technology, Brisbane, Australia, ³University of Surrey, Guildford, United Kingdom
Technical Program

Tuesday, August 20

9:30 am - 11:00 am

Baras 11  TU-PL-E1-EAM
Improving Indoor Air Quality in Buildings [cont.]

TU-PL-E1-25
Stinky Butts: Airborne emission rates from non-smoldering cigarette butts
Poppendieck D.¹, Gong M.¹; ¹National Institute of Standards and Technology, Gaithersburg, MD, USA

TU-PL-E1-26
Stinky Butts: Environmental influences on airborne chemical emissions from cigarette butts
Poppendieck D.¹, Gong M.¹; ¹National Institute of Standards and Technology, Gaithersburg, MD, USA

TU-PL-E1-27
Measuring Dynamic Behaviour of Volatile Organic Compound Levels in a Zero-Energy Building
De Jonge K.¹, Laverge, J.; ¹Ghent University, Research Group of Building Physics, Ghent, Belgium

TU-PL-E1-28
Improving the indoor air quality by using a surface emissions trap for exposure reduction
Larsson L.¹, Mattsson J.²; ¹Lund University, Lund, Sweden, ²cTrap Ltd, Lund, Sweden,

TU-PL-E1-29
Residential balanced ventilation and tested impact on indoor pressure and air quality
Ouazia B.¹, Aubin D.G.¹, Won D.¹, Yang W.¹, So S.¹, Arsenault C.; ¹National Research Council Canada, Ottawa, Canada

11:30 am - 1:00 pm

Basic Hall  TU-PL-A2-EHR
Exposure to Fine and Ultrafine Particles II

TU-PL-A2-30
Particle concentrations in shoeless schools
Pasanen P.¹, Leppänen M.¹; ¹University of Eastern Finland, Kuopio, Finland

TU-PL-A2-31
Assessing lower airway exposure to monodispersed micron-sized fluorescent particles by an in-vitro respiratory system
Duan M.¹, Liu L.¹, Wang Y.¹, Da G.¹, Géhin E.²; ¹School of Architecture, Tsinghua University, Beijing, China, ²State Key laboratory of Green Building in Western China, Xi’an University of Architecture and Technology, Xi’an, China, ³Université Paris-Est, CERTES, Créteil, France

TU-PL-A2-32
Characterization of Personal Fine and Ultrafine Particle Exposures in Children with Asthma
Koehler K.¹, Majd E.¹, Zamora M.¹, Hansel N.¹, McCormack M.¹, Green T.¹, Meade L.; ¹Johns Hopkins School of Public Health, Baltimore, MD, USA

TU-PL-A2-33
Home Environmental Intervention to Reduce Exposure Level to PM2.5 for Children with Asthma using Clustered data of ESCORT Child Asthma Panel Study, South Korea
Kim S.¹, Seeun O.¹, Lim D.¹; ¹Inha University, Incon, South Korea

TU-PL-A2-34
Seasonal difference of indoor-outdoor relationship of PM2.5 in various microenvironments
Guak S.¹, Lee K.¹; ¹Seoul National University

TU-PL-A2-35
NanoOffice - nanoparticles in new and renovated office buildings
Oru H.¹, Hagenbärk A.¹; ¹Umeå University, Umeå, Sweden, ²University of Tartu, Tartu, Estonia
Nemunas

TU-SY-B2
The European Human Biomonitoring Initiative HBM4EU: Current Status and Latest Results

TU-SY-B2-36
Science and policy for a healthy future - HBM4EU, the European Human Biomonitoring Initiative - latest results
Kolossa-Gehring M.¹, Kobosil N.¹, Lange R.¹, Pack K.¹, Reiber L.¹; ¹German Environment Agency, Berlin, Germany

TU-SY-B2-37
Collection and use of EU wide human biomonitoring data in HBM4EU
Govarts E., Remy S., Gilles L., Rambaud L., Vogel N., Kolossa M., Montazeri P., Vrijheid M., Schoeters G.

TU-SY-B2-38
Building up a complete QA/QC scenario for the analytical phase in HBM4EU
Esteban López M.¹, Göen T.², Mol H.³, Koch H.M.⁴, Thomsen C.⁵, Vorkamp K.⁶, Hajslova J.⁶, Nuebler S.⁷, Zarrabi K.⁷, Lancova D.⁷, Antignac J.P.⁸, Vaccher V.⁹, Bury D.⁹, Kasper-Sonnenberg M.⁹, Smástüen Haug L.⁹, Ramos J.J.¹, Pedraza S.¹, Bartomé M.¹, Castaño A.¹; ¹CNSA, Instituto de Salud Carlos III, Majadahonda, Madrid, Spain, ²Institute and Outpatient Clinic of Occupational, Social and Environmental Medicine of the University of Erlangen, Erlangen-Nuremberg, Germany, ³Wageningen University & Research, RIKILT, Wageningen, Netherlands, ⁴Institute for Prevention and Occupational Medicine of the German Social Accident Insurance, Institute of the Ruhr, Bochum, Germany, ⁵Norwegian Institute of Public Health, Oslo, Norway, ⁶Aarhus University, Aarhus, Denmark, ⁷University of Chemistry and Technology, Prague, Czechia, ⁸Oniris, INRA, Nantes, France

TU-SY-B2-39
How to close the gap between human biomonitoring (HBM) data and policy related questions?
Buekers J.¹, Lobo Vicente J.², Kubelt J.³, Bessems J.¹, Schoeters G. ¹; ¹VITO (Flemish Institute for Technological Research), Moi, Belgium, ²EEA (European Environment Agency), Copenhagen, Denmark, ³UBA (German Environment Agency), Berlin, Germany

TU-SY-B2-40
Correlation patterns between multiple chemicals measured through human biomonitoring to describe changes over time
Ottenbros I. ¹, ², Govarts E. ³, Vogel N. ⁴, Reiber L. ⁴, Conrad A. ⁴, Vlaanderen J. ³, Lebret E. ¹, Schoeters G. ¹; ²Vermeulen R. ²; ¹National Institute for Public Health and the Environment (RIVM), Bilthoven, the Netherlands, ²Institute for Risk Assessment Sciences (IRAS), Utrecht University, Utrecht, the Netherlands, ³Flemish Institute for Technological Research (VITO), Health, Mol, Belgium, ⁴German Environment Agency (UBA), Berlin, Germany

TU-SY-B2-41
A novel combined text mining and systems biology approach linking priority chemicals to Adverse Outcome Pathways: Bisphenol S as a case study
Barouki R.¹, Carvaillo J-C.¹, Coumoul X.¹, Audouze K.¹; ¹Inserm, Université Paris Descartes, Paris, France

Amphitheatre

TU-SY-C2
Exposure to SVOCs in the Indoor Environment - State-of-the-Art Review and the Need for Consensus on a Suite of Exposure Models (Continued)

TU-SY-C2-42
Characterizing SVOCs in real indoor environments and implications for exposure assessment
Mandin C.; Scientific and Technical Center for Building (CSTB), Paris, France

TU-SY-C2-43
Key drivers for science to address exposures to SVOCs
Cohen Hubal E.; United States Environmental Protection Agency, Research Triangle Park, NC, USA
Technical Program

Tuesday, August 20
11:30 am - 1:00 pm

Amphitheatre

TU-SY-C2
Exposure to SVOCs in the Indoor Environment – State-of-the-Art Review and the Need for Consensus on a Suite of Exposure Models (Continued)

TU-SY-C2-44
A modeling framework for SVOC emission, transport, and exposure
Eichler C.¹, Cao J.², Little C.¹; ¹Virginia Tech, Blacksburg, VA, USA, ²Sun Yat-sen University, Guangzhou, China

TU-SY-C2-45
A suite of SVOC exposure models – estimating parameters and illustrative results
Cao J.¹, Eichler C.², Little J.²; ¹Sun Yat-sen University, Guangzhou, China, ²Virginia Tech, Blacksburg, VA, USA

TU-SY-C2-46
Exposure to SVOCs in the indoor environment – the need for consensus on a suite of exposure models
Little J.¹, Cao J.², Eichler C.¹; ¹Virginia Tech, Blacksburg, VA, USA, ²Sun Yat-sen University, Guangzhou, China

Baras 11

TU-PL-D2-EAM
Indoor Air Exposures

TU-PL-D2-47
MALDI-TOF mass spectrometry – a quicker tool to identify dampness related actinomycetes?
Pessi A-M.¹, Harju I.², Kankaanpää S.¹, Saarto S.¹, Hakanen A.²; ¹Biodiversity Unit of the University of Turku, Turku, Finland, ²Clinical Microbiology Laboratory, Turku University Hospital, Turku, Finland

TU-PL-D2-48
Differences Between Indoor and Outdoor Air Composition at Nighttime Using an Indoor Chemistry Model
Ward C.¹, Cheng P.¹, Jarrett J.¹, Jones R.¹; ¹Centers for Disease Control and Prevention, Atlanta, GA, USA

TU-PL-D2-49
Development of a simple tool for guiding mold inspection and remediation in U.S. homes
Hegarty B.¹, Shaughnessy R.², Haverinen-Shaughnessy U.³, Peccia J.¹; ¹Yale University, New Haven, CN, USA, ²The University of Tulsa, Tulsa, OK, USA

TU-PL-D2-50
Influence of housing typology on energy retrofit efficiency and indoor air quality
Milando C.W.¹, Dols W.S.², Levy J.¹, Fabian M.P.¹; ¹Department of Environmental Health, Boston University, Boston, MA, USA, ²National Institute of Standards and Technologies (NIST), Gaithersburg, MD, USA

TU-PL-D2-51
An agent-based model to quantify human exposure variability in residential indoors
Micolier A.¹, Taillandier F.², Sonnemann G.¹, Jolliet O.³; ¹University of Bordeaux, Bordeaux, France, ²IRSTEA, Aix-en-Provence, France, ³University of Michigan, Ann Arbor, MI, USA

TU-PL-D2-52
Mitigating radon in existing housing in Canada: a cost effectiveness analysis
Gaskin J.¹, Whyte J.², Coyle D.³; ¹Radiation Protection Bureau, Health Canada, Ottawa, Canada, ²Construction Research Centre, National Research Council Canada, Ottawa, Canada, ³School of Epidemiology and Public Health, University of Ottawa, Ottawa, Canada
VIP Hall

TU-PL-E2-SSS
Smart Sensing Strategies of Pollutants

TU-PL-E2-53
Smart building performance monitoring with IEQ sensor networks
Boerstra A.¹, Raue A.¹, Cheng L.²; ¹Binnenmilieu, Haga, South Holland, ²Pure Living China, China

TU-PL-E2-54
Sensor Technologies for Indoor Air Quality Management and Monitoring
Puglisi D.; Linköping University, Linköping, Sweden

TU-PL-E2-55
Assessment of real-time contextual information at the workplace to support new generation miniature sensor data of airborne substances
Goede H.; Timmermans R.¹, Le Feber M.¹; Kuijpers E.¹, Pronk A.¹; ¹Erasmus University Rotterdam, Rotterdam, Netherlands

TU-PL-E2-56
Opportunities and baries for microsensor systems for air quality: practical experiences from Oslo
Bartonova A.¹, Castell N., Schneider P., Dauge F.R., Grossberndt S., Lepioufle J-M., Liu H-Y., Fredriksen, M.F., Kaastad B-A.; ¹NILU Norwegian Institute for Air Research, Kjeller, Norway

TU-PL-E2-57
Short-Term Measurements vs. Long-Term Continuous Monitoring of Indoor Environmental Quality
Clinchard S., della Vecchia S., Aller R.¹, Novotny T.¹, Haverinen-Shaughnessy U.¹; 1720°, Helsinki, Finland

TU-PL-E2-58
How many patrons in the university library? CO2 sensors as tools to determine the occupancy of a whole building
Hanoune B.; Univ. Lille, CNRS, Physicochimie des Processus de Combustion et de l'Atmosphère, Lillie, France
TU-PO-01  How Human Presence and Activities of Daily Living Influence Indoor Air Quality  
Bielik N.¹, Rotach M., Mitova M., Cluse C., Goujon C., Rouget E., ¹Philip Morris International, Neuchâtel, Switzerland

TU-PO-02  Particulate science dynamics in indoor micro-environments of Agra, India  
Rohra H.¹, Taneeja A.², Dr. B.R. Ambedkar University, Agra, India

TU-PO-03  Source characterization and apportionment of river pollution in central Taiwan  
Lin¹, Wang², Huang³, Wang⁴, Hsu⁵, Wu¹; ¹National Taiwan University, Taipei, Taiwan, ²Academia Sinica, Taipei, Taiwan, ³Environmental Analysis Laboratory EPA, Taoyuan, Taiwan

TU-PO-04  Fugitive Emissions from a Breath Actuated Jet Nebuliser and a Vibrating Mesh Nebuliser for a Paediatric Patient  
O’Toole C.¹, McGrath J.², Bennett G.³, Joyce M.⁴, MacLoughlin R.⁵, Byrne M.⁶; ¹NIU Galway, Galway, Ireland, ²Aerogen, Galway, Ireland

TU-PO-05  Local Determination of the Building Envelope Air Leakage  
Bjoerling M.¹, Kumlin A.², Carlsson P.²; ¹University of Gävle, Gävle, Sweden, ²Anders Kumlin AB, Stockholm, Sweden

TU-PO-06  Control of airborne microbial contamination in hospital wards using a highly antimicrobial nano-silver/TiO2-chitosan composite  
Yu K-P.¹, Chen Y-C.¹, Liao C-H.¹, Shen W-T.¹, Wu Y-C.¹, Su C.¹; ¹National Yang-Ming University, Taipei, Taiwan (ROC)

TU-PO-07  The road to a non-toxic environment in day care centers  
Langer S.¹, de Wit C.⁴, Fälld J.⁴; ¹IVL Swedish Environmental Research Institute, Göteborg, Sweden, ²Stockholm University, Dept. of Environmental Science and Analytical Chemistry, Stockholm, Sweden, ³Environment and Health Administration, City of Stockholm, Sweden

TU-PO-08  Hepatic lipidosis after inhalation exposure to 2-ethyl-1-hexanol in mice  
Wakayama T.¹, Ito Y.¹, Miyake M.¹, Sakai K.¹, Oya N.¹, Sato H., Ohno H.², Kamijima M.¹; ¹Department of Occupational and Environmental Health, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan, ²Department of Environmental Health, Nagoya City Public Health Research Institute, Nagoya, Japan

TU-PO-09  Water intake patterns and sociodemographic determinants of Chinese children: Results from the First National Population-based Survey  
Guo Q.¹, Wang B.², Cao S.³, Jia C.⁴, Zhao L.⁵, Zhang Q.⁶, Yu D.⁷, Zhao X.⁸, Citrine A.E-M.¹, Ma G.⁹, Duan X.¹; ¹School of Energy and Environmental Engineering, University of Science and Technology, Beijing, China, ²State Key Laboratory of Environmental Criteria and Risk Assessment, Chinese Research Academy of Environmental Sciences, Beijing, China, ³School of Public Health, University of Pittsburgh, Pennsylvania, USA, ⁴Aristotle University of Thessaloniki, Greece, ⁵National Centre for Scientific Research ‘Demokritos’, Athens, Greece, ⁶London School of Hygiene & Tropical Medicine, UK

TU-PO-10  Novel air filtration materials via combined melt-solution electrospinning  
Buivydiene D.¹, Krugly E.¹, Todea A.¹, Asbach C.¹, Kluucininkas L.¹, Martuzevicius D.¹; ¹Kaunas University of Technology, Kaunas, Lithuania

TU-PO-11  Eco-Efficiency of Air Cleaning Technologies  
Stasialatiene I.¹, Cizulas D.¹, Tichonovas M.¹, Krugly E.¹, Martuzevicius D.¹; ¹Kaunas University of Technology, Department of Environmental Technology, Kaunas, Lithuania

TU-PO-12  Engineered wood residues as a boiler fuel: potential impacts on air quality  
Kauneliene V.¹, Buinevičius K.², Jančiauskas A.², Arūnienė K.³, Martuzevičius D.¹; ¹Kaunas University of Technology, Department of Environmental Technology, Kaunas, Lithuania, ²Department of Thermal and Nuclear Energy, Kaunas University of Technology, Kaunas, Lithuania, ³Institute of Environmental Engineering, Kaunas University of Technology, Kaunas, Lithuania

TU-PO-13  The Finnish way to minimize emissions and odours from the ventilation  
Kukkonen E., Helsinki, Finland

TU-PO-14  Exposure to greenspace, indoor PM2.5 and noise: A case study of four European cities  
Mueller W.¹, Steinele S.¹, Pärkkä J.², Parmes E.², Liedes H.², Kuijpers E.³, Santorinni D.³, Chapizanis D.⁴, Maggos T.⁵, Stamatelopoulou M.⁶, Wilkmon P.⁵, Milner J.¹, Vardoulakis S.¹, Loh M.¹; ¹Institute of Occupational Medicine, Edinburgh, UK, ²TT Technical Research Centre of Finland, Espoo, Finland, ³TNO, The Hague, Netherlands, ⁴Aristotle University of Thessaloniki, Greece, ⁵National Centre for Scientific Research ‘Demokritos’, Athens, Greece, ⁶London School of Hygiene & Tropical Medicine, UK
TU-PO-15  Contributions of exposure-related behaviors and dietary factors to organophosphate pesticide exposure in Japanese toddlers
Oya N., Hto Y., Ebara T., Kato S.1,2, Hoki K., Aoi A., Ueyama J.1,4, Shoji N.1,4, Sugiuira-Ogasawara M.1,5, Saitoh S.7, Kamiyama M.1, 1Department of Occupational and Environmental Health, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan, 2Department of Pediatrics and Neonatology, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan, 3Department of Pathophysiological Laboratory Sciences, Field of Radiological and Medical Laboratory Sciences, Nagoya University Graduate School of Medicine, Nagoya, Japan, 4National Institute of Advanced Industrial Science and Technology (AIST), Tohoku University, School of Health Sciences, Mito, Ibaraki Prefecture, Japan, 5Department of Obstetrics and Gynecology, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan

TU-PO-16  Estimated Daily Dose and Cumulative Risk of Phthalates Exposure in the General Children and Adolescents: Results from Taiwan Environmental Survey for Toxictants (TEST) 2013-16
Huang P.C.1, Liao K.W.1, Lin C.C.2, Tsai M.S.2, Chen P.C.1; 1National Institute of Environmental Health Sciences, National Health Research Institutes, Taoyuan, Taiwan, 2Institute of Environmental and Occupational Health Sciences, National Taiwan University College of Public Health, Taipei, Taiwan

TU-PO-17  Comparison between methods for analysis of urinary metabolites of insecticides using gas chromatography-mass spectrometry and high performance liquid chromatography-mass spectrometry
Simamarem S.R., Hung C-C.1, Hsieh C-J., Yiin L-M.; 1Department of Medical Science, Tzu Chi University, Hualien, Taiwan (ROC)

TU-PO-18  Comparison between methods for analysis of insecticides in human blood using gas chromatography-mass spectrometry and high performance liquid chromatography-mass spectrometry
Hung C.C.1, Simamarem S.R., Hsieh C-J., Yiin L-M.; 1Department of Medical Science, Tzu Chi University, Hualien, Taiwan (ROC)

TU-PO-19  Imidacloprid Exposure in Grape Workers
Lopez-Galvez N.1, Wagener R.1, Canales R.1, de Zapien J.1, Rosales C.1, Beamer P.1; 1University of Arizona, Tuscon, AZ, USA

TU-PO-20  Occupational exposures to phthalates among U.S. hairdressers primarily serving an ethnically diverse clientele.
Quiros-Alcala L.1, Boyle M.2, Zhu L.2, Sapkota A.3, Rule A.2, Kavi L.2, Pool W.2, Thomas S.B.4; 1Department of Environmental Health and Engineering, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA, 2Maryland Institute for Applied Environmental Health, University of Maryland School of Public Health, College Park, MD, USA, 3Centro de Apoyo Familiar, Riverdale, MD, USA, 4Maryland Center for Health Equity, University of Maryland School of Public Health, College Park, MD, USA

TU-PO-21  Insecticide use on pets is a strong predictor of pyrethroid exposure in an urban population of young adult men in Poland
Rodzaj W.1, Wilcinska M.2, Dzwierska E.2, Klimowska A.1, Jurewicz J.1, Radwan M.3, Radwan P.4, Hanke W.2, Wielgomas B.1; 1Department of Toxicology, Faculty of Pharmacy, Medical University of Gdałsk, Gdałsk, Poland, 2Department of Environmental Epidemiology, Nofer Institute of Occupational Medicine, Lodz, Poland, 3Faculty of Health Sciences, State University of Applied Sciences, Plock, Poland, 4Department of Gynecology and Reproduction, “Gameta” Hospital, Rzgod, Poland

TU-PO-22  GIS analysis on relationship between traffic density parameters and near-road air pollutants
Xue J.1, Liu S.1, Chen F.1; 1United States Environmental Protection Agency, Research Triangle Park, NC, USA

TU-PO-23  Factors affecting the indoor concentration of nitrogen dioxide in school and office environments
Salthammer T.1, Salonen H.2, Morawska L.3; 1Fraunhofer WKI, Braunschweig, Germany, 2Aalto University, Aalto, Finland, 3Queenland University of Technology (QUT), Brisbane, Australia

TU-PO-24  A Pilot Study Evaluating Indoor Environment Quality in Energy Efficient Irish Dwellings: The VALIDate Project
McGrath J.1, Connolly A.1, Byrne M.1; 1National University of Ireland, Galway, Ireland

TU-PO-25  Improved methods of assessing the impact of air pollution on public health.
**Technical Program**

**Tuesday, August 20**

**POSTERS**

**TU-PO-26** Indoor air quality at nail salons in Taipei  
Tsai S.W.¹, Lin Y.R.¹, Lee, Y.C.¹, Liu Y.C.¹; ¹National Taiwan University, Taipei, Taiwan

**TU-PO-27** Characteristics of indoor air quality and source identifications of Pollutants in schools of Taiwan  
Lee C.W.¹, Huang Y.C.¹, Lin, G.Y.², Hsu P.C.¹, Su H.J.³, Chien Y.C.³; ¹National Kaohsiung University of Science and Technology, Kaohsiung, Taiwan, ²National Cheng Kung University, Tainan, Taiwan, ³National Yunlin University of Science and Technology, Yunlin, Taiwan

**TU-PO-28** A Study on the Concentration Characteristics of Indoor and Outdoor VOCs in Some Houses, Ulsan  
Lim H.B.¹, Park S.H.¹, Yoon D.K.¹, Lee H.W.¹, Hong H.J.¹, Yoon D.K.¹, Lee C.M.¹; ¹Institute of Risk Assessment, Seokyeong University Seoul, South Korea, ²Department of Chemical & Biological Engineering, Seokyeong University, Seoul, South Korea

**TU-PO-29** MOVED TO TH-PL-C3-67

**TU-PO-30** MOVED TO TH-PL-B3-59

**TU-PO-31** MOVED TO TH-PL-A3-53

**TU-PO-32** Inhalation exposure to fine particles and particle size distributions among rural Chinese  
Shen G.; Peking University, Peking, China

**TU-PO-33** Experimental investigation on the relative importance of mucosal exposure and inhalation exposure to airborne particles  
Duan M.¹, Li L.¹, Da G.², Wang Y.², Géhin E.²; ¹School of Architecture, Tsinghua University, Beijing, China, ²Université Paris-Est, CERTES, Créteil, France, ³State Key Laboratory of Green Building in Western China, Xi’an University of Architecture and Technology, Xi’an, China

**TU-PO-34** Exposure Assessment of Particulate Matters with Smart Spatial Interpolation Based on a Low-Cost Location-Aware Sensing System  
Chen P.-C.; National Cheng Kung University, Taiwan, China

**TU-PO-35** Inter and Intra-variability of personal exposure to air pollution in different microenvironments  
Hossain M.¹, Che W.², Lau A.³; ¹The Hong Kong University of Science and Technology, Hong Kong, China

**TU-PO-36** Study of Air Pollution by Particulate Matter (Pm10 And Pm2.5) in Kyiv, Ukraine  
Turos O.¹, Maremukha A.¹, Petrosian A.¹, Brezitska N.¹, Mykhina L.¹, Ananyeva O.¹; ¹State Institution "O.M. Marzeyev Institute for Public Health of the National Academy of Medical Science of Ukraine", Kyiv, Ukraine

**TU-PO-37** Risk assessment by exposure to nitrogen dioxide and ozone during lifetime  
Park J.¹, Ryu H.¹, Heo J.¹, Kim E.¹, Choe Y.², Cho M.³, Kim Y.³, Yang W.¹; ¹Department of Occupational Health, Daegu Catholic University, Gyeongsan, Republic of Korea, ²EHS Service Center, Daegu Catholic University, Gyeongsan, Republic of Korea

**TU-PO-38** Exposure to traffic-related pollution on a road in Lublin, Poland  
Polednik B.¹, Dudzinska M.¹, Siuta-Olcha A.¹, Piotrowicz A.¹, Guz L.¹, Staszowska A.¹; ¹Lublin University of Technology Faculty of Environmental Engineering, Lublin, Poland

**TU-PO-39** A study on the Evaluation and Validation of Plasma Sterilizing Dust Collector Unit  
Jeon H.¹, Sohn, J.², Seo J.³, Choi J.¹; ¹Naver Corporation, Seongnam, South Korea, ²Korea University, Seoul, Korea

**TU-PO-40** Simplified method for oral bioaccessibility of metal(loid)s in soils and alternative to the Unified Barge Method.  
Le Bot B.¹, Glogierenc P.², Waterlot C.², Douay F.², Pelfrène A.², ¹Univ Rennes, Inserm, EHESS, Irist (Institut de recherche en santé, environnement et travail) - UMR, Rennes, France, ²LGCgE-ISA, Yncrèa Hauts-de-France, Lille, France

**TU-PO-41** WITHDRAWN

**TU-PO-42** Exposure assessment of VOC emissions from Halloween masks  
Even M.¹, Roloff A.¹, Hutzler C.¹, Haffke H.¹, Luch A.¹; ¹German Federal Institute for Risk Assessment (BfR), Department of Chemical and Product Safety, Berlin, Germany, ²Chemical and Veterinary Investigation Office Ostwestfalen Lippe (CVUA OWL), Detmold, Germany
Technical Program

Tuesday, August 20

POSTERS

TU-PO-43 Monitoring the efficiency of a portable air cleaner for formaldehyde removal with a Cavity Ring-Down Spectrometer
Hofmann M.¹, Bonormally J. ², Knip H. ³, Russell H. ³, Johnson M. ³; ¹Picarro Inc., Willemsplein 23, Hertogenbosch, The Netherlands, ²Airlabs, Lersø Parkallé 107, Copenhagen, Denmark, ³University of Copenhagen, Universitetsparken 5, Copenhagen, Denmark

TU-PO-44 High Density Air Quality Monitoring Sensor Network for Urban Hotspot Identification and Diagnostics
Sun L.¹, Wei P.¹, He J.¹, Zhang K.¹, Westerdahl D.¹, Ning Z.¹; ¹Division of Environment and Sustainability, The Hong Kong University of Science and Technology, Hong Kong SAR, China

TU-PO-45 Seasonal spatial and temporal variability of Black Carbon in an elementary school catchment area of Milan, Italy
Bonardi L.¹, Dons E.¹, Campo L.³, Van Poppel M.³; ¹Università degli Studi di Milano, Milano, Italy, ²Hasselt University; Flemish Institute for Technological Research (VITO), Hasselt, Belgium, ³Fondazione IRCCS Ca’ Granda Ospedale Maggiore Policlinico, U.O.S Tossicologia, Milano, Italy

TU-PO-46 Characterizing peak exposure of secondhand smoke with a real-time PM2.5 monitor
Zhang T., Yan B., Ross J., Yang Q., Perera F., Ji J., Spira A., Breyse P., Miller R., Chillrud S.; ¹Key Laboratory of Surficial Geochemistry, Ministry of Education, Nanjing University, Nanjing, China, ²Lamont Doherty Earth Observatory of Columbia University, Palisades, NY, USA, ³Department of Health Sciences, Mailman School of Public Health, Columbia University, New York, NY, USA, ⁴Boston Medical Center Cancer Center, Boston University School of Medicine, Boston, MA, USA, ⁵Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD, USA, ⁶Division of Pulmonary, Allergy and Critical Care of Medicine, Department of Medicine, College of Physicians and Surgeons, Columbia University, New York, NY, USA

TU-PO-47 Potential contribution of dermal pathways to nicotine exposure in children residing in smoking households
Cooper E.¹, Blanco M.¹, Duncan B.¹, Shaffer R., Kissel J.; ¹University College London, London, United Kingdom

TU-PO-48 Quantitative Risk Assessment: Uranium exposure from inhalation
Carl A.¹, Harris R.¹, Alshammari M.¹, O’Rourke, M.K.¹; ¹University of Arizona, Arizona, USA

TU-PO-49 Comparing wood and LPG cook-stove bioaerosol and particulate matter exposures in Tamil Nadu, India
Stapleton E.M.¹, Kizhakke Puliyakote A.S.²; ¹University of Iowa, Department of Internal Medicine, Division of Pulmonary, Critical Care and Occupational Medicine, Iowa City, IA, USA, ²University of Iowa, Department of Radiology, Iowa City, IA, USA, ³University of Iowa, Department of Occupational and Environmental Health, Iowa City, IA, USA, ⁴University of California San Diego, Department of Radiology, San Diego, CA, USA, ⁵Periyar Maniammai Institute of Science and Technology, Thanjavur, India, ⁶Kings of College of Engineering, Thanjavur, India, ⁷The University of British Columbia, School of Population and Public Health, Vancouver, CA, USA

TU-PO-50 CFD simulation of bacteria distribution in an operating room with mixing ventilation at St. Olavs hospital
Zhang Y., Cao G., Pedersen C., Sternstad L., Drangsholt F., Feng G., Skogås G.

TU-PO-51 Development of a prediction model for indoor PM2.5 concentrations – the case in Tainan households
Su, H-J.¹, Jung, C.², Lin, W-Y.¹, Hsu, N-Y.¹, Chang C-T.¹, Wu C-D.³; ¹Department of Environmental and Occupational Health, National Cheng Kung University, Tainan City, Taiwan, ²Research Center for Environmental Trace Toxic Substances, National Cheng Kung University, Tainan City, Taiwan, ³Department of Geomatics, National Cheng-Kung University, Tainan City, Taiwan

TU-PO-52 Development of predictive models for PM2.5 concentration in office
Wang W.¹, Jung C.², Su H.¹; ¹Department of Environmental and Occupational Health, College of Medicine, National Cheng Kung University, Tainan, Taiwan, ²Research Center of Environmental Trace Toxic Substances, National Cheng Kung University, Tainan, Taiwan
Technical Program

Tuesday, August 20

POSTERS

TU-PO-54  Investigation of the influence of human activities on exposure to semi-volatile organic compounds through multimedia modeling
Kvasnicka J., Diamond M.; ¹University of Toronto, Toronto, Ontario, Canada

TU-PO-55  Moved to MO-PO-94

TU-PO-56  An Evaluation of Radon Exhalation Rate from Building Materials
Lee H.W., Nam Goung S.J.; ¹Institute of Risk Assessment, Seokyeong University, Seoul, South Korea, ²Department of Chemical & Biological Engineering, Seokyeong University, Seoul, South Korea

TU-PO-57  The Indoor Chemical Human Emissions and Reactivity Project (ICHEAR): Methods
Wargocki P.; ¹Technical University of Denmark, Lyngby, Denmark, ²MPIC, Mainz, Germany, ³IVL, Gothenburg, Sweden, ⁴Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, ⁵University of North Carolina, Chapel Hill, NC, USA, ⁶Rutgers University, NJ, USA

TU-PO-58  The Indoor Chemical Human Emissions and Reactivity Project (ICHEAR): First Results
Bekö G.; ¹Technical University of Denmark, Lyngby, Denmark, ²MPIC, Mainz, Germany, ³IVL, Gothenburg, Sweden, ⁴Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, ⁵University of North Carolina, Chapel Hill, NC, USA, ⁶DTU, Lyngby, Denmark, ⁷Rutgers University, NJ, USA

TU-PO-59  Overheating Risk Assessment: a Real-life Case of a Public Library in Auckland
Lesley, M.; Victoria University Wellington, Wellington, New Zealand

TU-PO-60  Field investigation of thermal comfort level of patients and surgical staff in operating rooms at St Olavs hospital
Kuivõgi H.; ¹Department of Civil Engineering and Architecture, Tallinn University of Technology, Tallinn, Estonia, ²Department of Energy and Process Engineering, Norwegian University of Science and Technology, Trondheim, Norway, ³Department of Air-Conditioning and Heating, Warsaw University of Technology, Warsaw, Poland, ⁴Urban Construction and Environmental Engineering, Chongqing University, Chongqing, China, ⁵St. Olavs Hospital Operating Room of the Future, Trondheim, Norway, ⁶School of Environmental Science and Engineering, Tianjin University, Tianjin, China

TU-PO-61  Quantifying the Contribution of Temperature Anomaly to Stroke Risk in China
Guan T.; Peking University, Peking, China

TU-PO-62  Testing Options for Mold: Each Producing a Different Result
Grimes C.; Hayward Healthy Home Institute, Monterey, California, USA

TU-PO-63  Transformation of occupational hygiene in to exposure science; Adjusting training and learning programs to meet 21st century needs
Brouwer D.; University of the Witwatersrand, Johannesburg, South Africa

TU-PO-64  A single-arm trial examining the feasibility, acceptability and distribution of LPG cookstoves and gas cylinders to pregnant women living in rural Bangladesh, in preparation for The Poriborton: Change Trial
Raynes-Greenow, C.; ¹University of Sydney, Sydney, Australia, ²International Centre for Diarrhoeal Disease Research, Daka, Bangladesh, ³RTI International, NC, USA

TU-PO-65  Evaluation on the Suitability of Different Ventilation Strategies for Operating Rooms
Fan M.; ¹Cao G.; ²Pedersen C.; ³Stenstad L.; ⁴Lv S.; ⁵Skogås J.G.; ⁶Tianjin University, Tianjin, China, ⁷Norwegian University of Science and Technology, Trondheim, Norway

TU-PO-66  Systematic Analysis of Dermal Exposure to Hazardous Chemical Agents at the Workplace (SysDEA): Study Design
Schlueter U.; ¹Rother D.; ²Roitzsch M.; ³Spaan R.; ⁴Gerritsen-Ebben R.; ⁵Kasiotis K.; ⁶Tsakirakis A.; ⁷BauA, Dortmund, Germany, ⁸TNO, Zeist, The Netherlands, ⁹BPI, Anthens, Greece
Technical Program

Tuesday, August 20

POSTERS

TU-PO-67  **Systematic Analysis of Dermal Exposure to Hazardous Chemical Agents at the Workplace (SysDEA): Detailed Results**
Meyer J.¹, Roitzsch M.¹, Poppek U.¹, Rother D.¹, Spaan S.², Franken R.², Kasiotis K.³, Tsakirakis A.³, Chartzala I.³, Gerritsen-Ebben R.³; ¹Federal Institute for Occupational Safety and Health (BAuA), Dortmund, Germany, ²Netherlands Organisation for Applied Scientific Research (TNO), Zeist, The Netherlands, ³Benaki Phytopathological Institute (BPI), Athens, Greece

TU-PO-68  **Developing a Specification for Representing Exposure Health Semantics**
Gouripeddi R.¹, Habre R.², Prisms D.M.W.G.³; ¹University of Utah, Salt Lake City, UT, USA, ²University of Southern California, Los Angeles, CA, USA, ³NIH/NIBIB PRISMS Consortium

TU-PO-69  **Exposure to Environmental Chemicals in Canada: Recent data from the Canadian Health Measures Survey**
Yome J.¹, St-Amand A.¹; ¹Health Canada, Ottawa, Canada

TU-PO-70  **Influence of living in the same home on biomonitoring levels of consumer product chemicals in the Detox Me Action Kit crowdsourced study**
Dodson R.¹, Boronow K.¹, Cedeño Laurent J.², Spengler J.³, Brody J.², Rudel R.; ¹Silent Spring Institute, Newton, MA USA, ²Harvard T.H. Chan School of Public Health, Boston, MA USA

TU-PO-71  **MOVED TO MO-SY-C2-90**
**Basic Hall**

**WE-PL-A1-EHR**

**Health Impacts from Heat and Chemicals**

**WE-PL-A1-01**

**Occupational Heat Stress induced health impacts – A cross-sectional study from Southern India**

Venugopal V.¹, Latha P.K.¹, Rekha S.¹, Krishnamoorthy M.¹, Nandhini K.¹, Johnson P.²; ¹Public Health, Sri Ramachandra Institute of Higher Education and Research, Chennai, India, ²Department of Physiology, Sri Ramachandra Institute of Higher Education and Research

**WE-PL-A1-02**

**Association of short-term exposure to air pollution particulate matter with atrial fibrillation in high risk patients**

Gallo E.¹, Folino F.², Bottiglengo D.¹, Lanera C.¹, Gregori D.¹, Iliceto S.²; ¹Unit of Biostatistics, Epidemiology and Public Health, Department of Cardiac, Thoracic, Vascular Sciences and Public Health, University of Padova, Padove, Italy, ²Department of Cardiac, Thoracic, Vascular Sciences and Public Health, University of Padova, Padova, Italy

**WE-PL-A1-03**

**Air pollution is associated with Pediatric Emergency Room admissions for bronchiolitis**

Gallo E.¹, Bottiglengo D.¹, Bressan S.², Geremia S.², Lanera C.¹, Zare Jeddi M.¹, Gregori D.¹; ¹Unit of Biostatistics, Epidemiology and Public Health, Department of Cardiac, Thoracic, Vascular Sciences and Public Health, University of Padova, Padove, Italy, ²Paediatric Emergency Unit, Department of Women’s and Children’s Health, University Hospital of Padova, Padova, Italy, ³University of Bologna, Bologna, Italy

**WE-PL-A1-04**

**Potential reductions in premature mortality attributable to PM2.5 by reducing indoor pollution: a model analysis for Beijing-Tianjin-Hebei of China**

Ji W.; Civil and Resource Engineering School, China

**WE-PL-A1-05**

**Health risk of indoor air pollutants in primary school buildings in Central Europe**

Szabados M.¹, Kollik B.¹, Kazmarová H.², Kozajda A.³, Jutraz A.⁴, Kukec A.⁴, Otorepec P.⁴, Dongiovanni A.⁵, Di Maggio A.⁵, Szigeti T.¹; ¹National Public Health Center, Budapest, Hungary, ²National Institute of Public Health, Prague, Czech Republic, ³Nofer Institute of Occupational Medicine, Lodz, Poland, ⁴Slovenian National Institute of Public Health, Ljubljana, Slovenia, ⁵LINKS Foundation, Turin, Italy

**WE-PL-A1-06**

**Impact of seasonal trends and external windows structures on both indoor and outdoor PM2.5 mass concentrations at several residential buildings in Beijing, China**

Chen Z.¹, Cao G.², Chen F.², Hui Zhao¹, Gao P.¹; ¹Beijing University of Technology, Beijing, China, ²Institute of Building Environment and Energy, China Academy of Building Research, Beijing, China

**Nemunas**

**WE-SY-B1**

**Exposure Science Studies from Asian Perspectives – Environmental and Study Diversities among Asian Countries**

**WE-SY-B1-07**

**Exposure to organophosphate esters in Japan: associations among their concentrations in house dust, urinary metabolite levels, and allergies**

Araki A.¹, Ait Bamai Y.¹, Kishi R.¹; ¹Hokkaido University Center for Environmental and Health Sciences, Sapporo, Hokkaido/ Japan

**WE-SY-B1-08**

**Can we estimate personal PM exposure using GPS?**

Lee K.¹, Hwang Y.¹, Park J.-Y.¹; ¹Seoul National University, Seoul, Korea
Nemunas

WE-SY-B1
Exposure Science Studies from Asian Perspectives - Environmental and Study Diversities among Asian Countries [cont.]

WE-SY-B1-09
Air Pollution and Health Impact in Thailand
Tantrakarnapa K.1, Mueller W.2, Steinle S.2, Loh M.2, Sotiris V.2, Precha N.1, Sahanavin N.3, Sillaparassamee R.4, Nakhapakorn K.5, Cherrie J.6; 1Department of Social and Environmental Medicine, Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand, Bangkok, Thailand, 2Research Division, Institute of Occupational Medicine, Edinburgh, Scotland, UK, 3Srinakharinrattawiroj University, Bangkok, Thailand, 4Valaya Alongkorn Rajabhat University, Pathumthani, Thailand, 5Environment and Natural Resources, Mahidol University, Bangkok, Thailand, 6Research Division, Institute of Occupational Medicine, Institute of Biological Chemistry, Biophysics and Bioengineering, Heriot Watt University, Edinburgh, Scotland, UK

WE-SY-B1-10
Levels and temporal variations of urinary lead, cadmium, cobalt, and copper exposure in the general population of Taiwan
Huang P.C.1, Liao K-W.1, Pan W-H.1, Wang S-L.1; 1National Institute of Environmental Health Sciences/National Health Research Institutes, Miaoli, Taiwan

Amphitheatre

WE-SY-C1
Integration of Biology and Chemistry for Indoor Environmental Quality

WE-SY-C1-12
Microbial and non-microbial volatile organic compounds from indoor materials subjected to dust and moisture
Marciniak K., Haines S., Adams R., Dannemiller K., Goldstein A., Heal M., Misztal P.

WE-SY-C1-13
Indoor measurements and chemistry of chlorine bleach-related compounds
Mattila J.¹, Farmer D.¹, Lakey P.¹, Shiraiwa M.², Wang C.³, Abbott J.¹, Ampollini L.⁴, DeCarlo P.³, Zhou S.³, Kahan T.³; ¹Colorado State University, Fort Collins, CO, USA, ²UC Irvine, Irvine, CA, USA, ³University of Toronto, Toronto, Canada, ⁴Drexel University, Philadelphia, PA, USA, ⁵Syracuse University, Syracuse, NY, USA

WE-SY-C1-14
Are Indoor Surfaces Dropping Acid or Dropping the Base? Insights into Water Films and pH for Model and Authentic Indoor Samples
Ault A.¹, Cooke M.¹; ¹University of Michigan, Department of Chemistry, Ann Arbor, MI, USA

WE-SY-C2-15
Antibacterial Toothbrushes – What Effects do Nano-Enabled Products Have on Microbial Communities?
Johnson, C., Hartmann, E.

WE-SY-C1-16
Confined built environments reveal surprising dynamics of their microbiome and resistome
Mahnert A.¹, Verseux C.², Koskiena K.³, Wink L.³, Brunner D.³, Goessler T.³, Schwarz A.¹, Kumpitsch C.¹, Blohs M.¹, Moissl-Eichinger C.¹; ¹Interactive Microbiome Research, Department of Internal Medicine, Medical University of Graz, Center for Medical Research (ZMF), Graz, Austria, ²Center of Applied Space Technology and Microgravity (ZARM), University of Bremen, Bremen, Germany

WE-SY-C1-17
Chemical properties and transformations of complex organic mixtures deposited on indoor surfaces
O’Brien R.¹, Przelomski H.¹; ¹College of William and Mary, Williamsburg, VA, USA
Technical Program

Wednesday, August 21
9:30 am - 11:00 am

Baras 11  WE-PL-D1-EAM
Quantifying and Reducing Exposure Error

WE-PL-D1-18
The hexadecane/air distribution coefficient - a key parameter for predicting the gas/particle distribution of SVOCs
Salthammer T.¹, Goss K.-U.²; ¹Fraunhofer WKI, Braunschweig, Germany, ²Helmholtz Centre for Environmental Research - UFZ, Leipzig, Germany

WE-PL-D1-19
The Use of Probability of Addition to Improve Dietary Intake Estimates of Flavour Substances
Vilone G.¹, Slickers N.², Smith B.³, Hickey C.³; ¹Creme Global, Dublin, Ireland, ²Firmenich Inc., Plainsboro, NJ, USA, ³Innovations in Food and Chemical Safety Programme Agency for Science, Technology and Research, Republic of Singapore

WE-PL-D1-20
Quantifying how Mobility Impact Air Pollution Exposure Estimation Using a Large Cell Phone Location Dataset
Ivey C.¹, Yu X.², Henneman L.³, Yu H.⁴; ¹University of California, Riverside, CA, USA, ²University of Central Florida, Orlando, FL, USA, ³Harvard University, Boston, MA, USA

WE-PL-D1-21
Exposure assessment of urban greenness using satellite-derived normalized difference vegetation index (NDVI): the impact of spatial resolution on exposure misclassification
Jimenez R.¹, Lane K.¹, Fabian P.¹; ¹Boston University School of Public Health, Boston, MA, USA

WE-PL-D1-22
Impact of air quality model resolution on health risk estimates associated with particulate matter exposure
Parvez A.¹, Wagstrom, K.¹; ¹University of Connecticut, CN, USA

WE-PL-D1-23
Relationship between exposure to humidifier disinfectants and lung disease by analyzing the errors of exposure classification
Yu H.¹, Park J., Heo J., Kim E., Choe Y., Choi Y.¹, Yang W.¹; ¹Catholic University of Daegu, Gyengsan, South Korea

VIP Hall  WE-PL-E1-SEM
Fine Particles from Burning and Exhaust

WE-PL-E1-24
Chemical characteristics of primary and aged fine particulate matter from biomass burning smoke
Ho K.K-F., Li J.², Wang Q.², Cao J.²; ¹Shenzhen Research Institute of The Chinese University of Hong Kong, Shenzhen, China, ²Key Lab of Aerosol Chemistry & Physics, Institute of Earth Environment, Chinese Academy of Sciences, Xi’an, China

WE-PL-E1-25
The effect of efficiency of local exhaust ventilation on reducing the concentration of airborne nanoparticles emitted during welding
Jankowski T.; Central Institute for Labour Protection - National Research Institute, Czerniakowska, Warsaw, Poland

WE-PL-E1-26
IAQ and Emissions - Impacts of Wood Stove Replacements in Alaska
Francisco P.¹, Merrin Z.¹; ¹University of Illinois at Urbana-Champaign, Champaign, IL, USA

WE-PL-E1-27
Methane Emissions from Residential Natural Gas Appliances
Francisco P.¹, Merrin Z.¹; ¹University of Illinois at Urbana-Champaign, Champaign, IL, USA
Technical Program

Wednesday, August 21
9:30 am - 11:00 am

VIP Hall  WE-PL-E1-SEM
Fine Particles from Burning and Exhaust [cont.]

WE-PL-E1-28
Pregnant Women's Exposure to Household Air Pollution During a LPG Cookstove Intervention in Rural Bangladesh: The Value of Real-Time Data
Thornburg J.1, Raynes-Greenow C.2, Abbott M.1, Cho S-H.1, Islam S..3, Tasnim F.3, Biliah M.3, Neeloy A.2; 1RTI International, Research Triangle Park, NC, USA, 2University of Sydney, Sydney, Australia, 3iccdrb, Dacca, Bangladesh

WE-PL-E1-29
Low-cost Sensor Array Devices as a Method for Reliable Assessment of Exposure to Traffic-related Air Pollution
Mykhaylova N.; WeaAir, Toronto, Canada

11:30 am - 12:30 pm

VIP Hall  WE-PL-A2-EHR
Metals: Exposure and Risk

WE-PL-A2-30
The Safe Urban Harvests Study: Assessing exposure to six toxic metals among urban agriculture participants in Baltimore, MD
Lupolt S.¹, Santo R.², Kim B.³, Green C.¹, Codling E.³, Chen R.¹, Rule A.¹, Nachman K.⁴; ¹Department of Environmental Health & Engineering, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA, ²Center for a Livable Future, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA, ³Agricultural Research Service, US Department of Agriculture, Beltsville, MD, USA, ⁴Department of Environmental Health & Engineering, Center for a Livable Future, Risk Sciences and Public Policy Institute, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

WE-PL-A2-31
Systematic Review for Exposure Assessments under the United States’ Amended Toxic Substances Control Act
Orentas N.¹, Wong., Fehrenbacher.; ¹University of Tennessee, Knoxville, TN, USA

WE-PL-A2-32
Metal concentrations of e-cigarette liquid and aerosol samples across the different generation devices
Aherrera A.¹, Aravindakshan A.1, Olmedo P.2, Chen R.1, Jarmul S.1, Navas-Acien A.3, Rule A.¹; ¹John Hopkins University, Baltimore, MD, USA, 2The University of Granada, Granada, Spain, 3Columbia University Irving Medical Center, New York, NY, USA

WE-PL-A2-33
Quantitative assessment of lung deposition exposure to heavy metals from e-cigarettes - a simulation study
Shao Y.¹, Chen R.¹, Koehler K.¹, Rule A.¹; ¹Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

Nemunas  WE-PL-B2-HBM
Health Effects of Traffic Related and Environmental Exposures

WE-PL-B2-34
Perturbations of the Arginine Metabolome Following Exposures to Traffic-Related Air Pollution in a Panel of Commuters with and without Asthma
Liang D., Ladva C.N.¹, Golan R.², Yu T.², Walker D.I.³, Sarnat S.E.², Greenwald R.², Uppal K.², Tran VT, Jones D.P.², Russell A.G.², Sarnat J.A.³; ¹Centers for Disease Control and Prevention, Atlanta, GA, USA, ²Ben Gurion University of the Negev, Beershaba, Israel, ³Emory University, Atlanta, GA, USA, ⁴Cahn School of Medicine at Mount Sinai, New York, NY, USA, ⁵Georgia Institute of Technology, Atlanta, GA, USA
Technical Program

Wednesday, August 21
11:30 am - 12:30 pm

Nemunas  WE-PL-B2-HBM
Health Effects of Traffic Related and Environmental Exposures [cont.]

WE-PL-B2-35
Childhood Exposure to Traffic-Related Air Pollution and the Lower Respiratory Tract Microbiome
Uebel-Niemeier C., Ryan P.2, Meller J., Ollberding N.2, Adhikari A., Reponen T.; ¹Department of Environmental Health, University of Cincinnati, Cincinnati, OH, USA, ²Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA, ³Jiann-Ping Hsu College of Public Health, Georgia Southern University, Statesboro, GA, USA

WE-PL-B2-36
Effects of short-term exposure to traffic related air pollution on blood pressure
Hudda N.¹, Eliasziw M.¹, Reisner E.², Zamore W.², Durant J.¹, Brugge D.²; ¹Tufts University, Medford, MA, USA, ²STEP, Somerville, MA, USA, ³Univ. of Connecticut, Farmington, CT, USA

WE-PL-B2-37
Assessment of exposure of fuel station attendants to benzene, toluene and xylenes by analysis of end-exhaled air
Scheepers P.; Radboud University Medical Center, Nijmegen, Netherlands

Amphitheatre  WE-SY-C2
Integration of Biology and Chemistry for Indoor Environmental Quality (Continued)

WE-SY-C2-38
House Observations of Microbial and Environmental Chemistry (HOMEChem): Insights into Particulate Matter Concentrations and Exposure
Vance M.E.¹, Patel S.¹, Sankhyan S.¹, Tian Y.¹, Farmer D.K.¹, Goldstein A. H.², Vanhanen J.³; ¹University of Colorado Boulder, CO, USA, ²University of California, Berkeley, CA, USA, ³Colorado State University, Fort Collins, CO, USA, ³Airmodus Oy, Helsinki, Finland

WE-SY-C2-39
Real-time air monitoring of occupational exposures to indoor pollutants among U.S. hairdressers
Kavi L.¹, Shao Y.¹, Boyle M.¹, Pool W.¹, Thomas S.B.¹, Wilson S.M.¹, Rule A.M.², Quiros-Alcala, L.²; ¹Maryland Institute of Applied Environmental Health, University of Maryland School of Public Health, College Park, MD, USA, ²Department of Environmental Health and Engineering, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA, ³Centro de Apoyo Familiar, Riverdale, MD, USA, ⁴Maryland Center for Health Equity, University of Maryland School of Public Health, College Park, MD, USA

WE-SY-C2-40
Evaluation of air sampling methods to assess pathogen contamination in agricultural animal environments
Rule A.¹, Rhodes S.², Sexton K.², Wiesner C.², Davis M.², Heaney C.², Stewart J.; ¹John Hopkins University, Baltimore, MD, USA, ²The University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

WE-SY-C2-41
Source and composition of indoor particles: transport from outside, emissions from inside, and residual smoke in the indoor environment
DeCarlo P.; Drexel University, Philadelphia, PA, USA
Technical Program

Wednesday, August 21
11:30 am - 12:30 pm

Baras 11

WE-PL-D2-EAM
Assessing Exposures to Susceptible and Vulnerable Populations II

VE-PL-D2-42
Development and evaluation of a pregnancy Physiologically Based Toxicokinetic (pPBTK) model for high-throughput application
Codaccioni M.¹, Brochot C.¹; ¹French national institute for industrial environment and risks (Ineris), Verneuil-en-Halatte, France,

VE-PL-D2-43
An Integrated and Spatialized Approach to Identify Potentially Overexposed Population: A Case Study of Chlorpyrifos Contamination
Regrain C.¹, Zeman F.¹, Chardon K.¹, Haraux E.¹, Guedda M.¹, Caudeville J.¹; ¹Institut National de l'Environnement Industriel et des Risques (INERIS), Verneuil-en-Halatte, France, ²Périto - UMR 101, CURS, Université de Picardie Jules Verne, Chemin du Thil, Amiens, France, ³Laboratoire Amiênois de Mathématiques Fondamentales et Appliquées (LAMFA) - CNRS, UMR 7352, Université de Picardie Jules Verne

VE-PL-D2-44
Per- and Polyfluoroalkyl Substances (PFAS) Exposure Assessments in Communities with Drinking Water Exposures
Breysse P.¹, Johnson J.M.², Rogers R.D.³, Goodwin B.P.³, Karwowski M.P.³, Kowalski P.³, Roobol H.E.¹, Choudhary E.², Mortensen M.³, Chang A.³, Olson D.R.³, Gaines C.R.¹, Reh C.M.³; ¹National Center for Environmental Health/ Agency for Toxic Substances and Disease Registry, Atlanta, GA, USA, ²Agency for Toxic Substances and Disease Registry, Atlanta, GA, USA, ³National Center for Environmental Health, Atlanta, GA, USA

VE-PL-D2-45
Evaluation of Effectiveness of an Intervention for Communities Exposed to PFNA-contaminated Drinking Water in New Jersey
Yu C.H.¹, Weisel C.², Alimohktari S.³, Riker D.¹, Georgopoulos P.³, Fan Z (T).¹; ¹New Jersey Department of Health, Ewing, NJ, USA, ²Environmental & Occupational Health Sciences Institute, Piscataway, NJ, USA

VIP Hall

WE-PL-E2-SEM
Effects of Climate Change on Human Health and Exposure

WE-PL-E2-46
Impact of urban heat island on indoor heat exposure in London coupling crowdsourcing data and building simulation
Luo Z.¹, Xie X.¹, Benjamin K.¹, Grimmond S.; ¹University of Reading, Reading, United Kingdom

WE-PL-E2-47
Application of Distributed Low-cost Air Quality Sensors to Investigate Heatwave Effect on Indoor Air Quality
Mainelis G.¹, He R.¹, Tsoufou I.¹, Thirumurugesan S.¹, Morgan B.¹, Gonzalezmena S.¹, Plotnik D.¹, Senick J.¹, Andrews C.¹; ¹Rutgers University, New Brunswick, NJ, USA

WE-PL-E2-48
Assessing the Potential Impact of Climate Change on Mortality for the Greater Boston Area
Lee W.C.¹, Mukherjee R.¹, Zanobetti A.², Koutrakis P.²; ¹National Taiwan University, Taipei, Taiwan, ²Harvard T.H. Chan School of Public Health, Boston, MA, USA

WE-PL-E2-49
The impact of regional weather on residential energy consumption and indoor air quality changes due to energy retrofits
Connolly C.¹, Milano C.¹, Dois W.³, Levy J.¹, Fabian M.³; ¹Boston University, Boston, MA, USA, ²NIST, Gaithersburg, MD, USA
## Technical Program

### Wednesday, August 21

<table>
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<th>Time</th>
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| 2:00 pm - 3:30 pm | Basic Hall WE-PL-A3-EHR  
Inhalation Exposure  

**WE-PL-A3-50**  
PM2.5 exposures in different routes for Bike and Scooter Commuters in Taipei, Taiwan  
Wu T.G.¹, Chang J.C.², Wu C.F.³, Chan C.C.⁴; ¹Institute of Environmental Health, College of Public Health, National Taiwan University, Taipei, Taiwan, ²Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, National Taiwan University, Taipei, Taiwan, ³Innovation and Policy Center for Population Health and Sustainable Environment, College of Public Health, National Taiwan University, Taipei, Taiwan  

**WE-PL-A3-51**  
Development of hazard and emission/exposure assessment methods for cellulose nanofibers  
Kajihara H.¹, Fujita K.¹, Ogura T.¹, Oguri T.¹; ¹National Institute of Advanced Industrial Science and Technology  

**WE-PL-A3-52**  
Online (continuous) measurement of indoor/outdoor reactive oxygen species (ROS) in a US home  
Eftekhari A.¹, Morrison G.¹; ¹University of North Carolina at Chapel Hill, Chapel Hill, NC, USA  

**WE-PL-A3-53**  
Human CO2 generation rate: Effect of room temperature and elevated background CO2  
Bivolarova M.¹, Melikov A.¹, Izydorczyk P.², Markov D.²; ¹International Centre for Indoor Environment and Energy, Department of Civil Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark, ²Department of Hydroaerodynamics and hydraulic machines, Technical University of Sofia, Sofia, Bulgaria  

**WE-PL-A3-54**  
Indoor Air Quality in First Nations Homes in the Sioux Lookout Zone, Canada  
Mallach G.¹, Kovesi T.², Miller J.D.³, Mamakwa S.⁴, McKay M.⁵, Kirlew M.⁶; ¹Health Canada, Ottawa, Canada, ²University of Ottawa, Ottawa, Ontario, Canada, ³Department of Chemistry, Carleton University, Ottawa, Ontario, Canada, ⁴Sioux Lookout, Ontario, Canada, ⁵Nishnawbe Aski Nation Council, Thunder Bay, Ontario, Canada, ⁶Sioux Lookout First Nations Health Authority, Sioux Lookout, Ontario, Canada, ⁷Sioux Lookout Meno Ya Win Health Centre, Sioux Lookout, Ontario, Canada  

**WE-PL-A3-55**  
Temporal change of formaldehyde concentration in outdoor environments  
Mizukoshi A.¹, Nagano A.², Azuma K.¹; ¹Department of Environmental Medicine and Behavioral Science, Kindai University Faculty of Medicine, Osaka, Japan, ²Research Group of Environmental Measurement, Osaka, Japan  

### Nemunas

**WE-SY-B3**  
Modelling Exposure by Spraying Activities – Status and Future Needs  

**WE-SY-B3-56**  
Basic relevant parameters in modelling spraying activities  
Koch W.¹, Hahn S.¹, Schwarz K.¹; ¹Fraunhofer ITEM, Hannover, Germany  

**WE-SY-B3-57**  
Modelling approaches and desired improvements for workplace exposure assessment of spray processes  
Meyer J.¹, Roitzsch M.¹; ¹Federal Institute for Occupational Safety and Health (BAuA), Dortmund, Germany  

**WE-SY-B3-58**  
Experiences and Challenges of modelling consumer exposure by sprays  
Jung, C.; German Federal Institutte for Risk Assessment, Berlin, Germany
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**2:00 pm - 3:30 pm**

### Amphitheatre

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<tr>
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<tr>
<td>WE-SY-C3-59</td>
<td>Burden of disease due to indoor exposures in Europe</td>
<td>Hänninen O.; National Institute for Health and Welfare, Kuopio, Finland</td>
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<tr>
<td>WE-SY-C3-60</td>
<td>Indoor air pollution burden of disease in France</td>
<td>Mandin C.; Scientific and Technical Center for Building (CSTB), Paris, France</td>
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<tr>
<td>WE-SY-C3-61</td>
<td>The Burden of Disease for Indoor Air Pollutants in Urban China</td>
<td>Liu W.; Zhang Y.; School of Environment, Tsinghua University, Beijing, China</td>
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<tr>
<td>WE-SY-C3-62</td>
<td>Revision of China’s national indoor air quality standards</td>
<td>Xu D.; Xu C.; Zhou J.; National Institute of Environmental Health, Chinese Center for Disease Control and Prevention, Beijing, China</td>
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<tr>
<td>WE-SY-C3-63</td>
<td>Modern Life Makes Children Sick</td>
<td>Sun Y.; Hou J.; Weschler L.; Sundell J.; Tianjin University, Tianjin, China, Independent Researcher, Colts Neck, NJ, USA, Tsinghua University, Beijing, China</td>
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<tr>
<th>Session Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>WE-PL-D3-64</td>
<td>Incorporation of air pollution dispersion principals into regression models - how far can we take it?</td>
<td>Chen S.; Yuval; Broday D.; Technion - Israel Institute of Technology, Haifa, Israel</td>
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<tr>
<td>WE-PL-D3-65</td>
<td>Predicting indoor PM2.5 levels in Finnish buildings</td>
<td>della Vecchia S.; Clinchard S.; Aller R.;HAVENNER-SHAUGHNESSY U.; ESPINOSA LEAL, L.; 720°, Helsinki, Finland</td>
</tr>
<tr>
<td>WE-PL-D3-66</td>
<td>Land Use Regression models for Ultrafine Particles: development and transferability within a mega-city</td>
<td>Yang Z.; Frei-Stewartino A.; Fuller G.; Gulliver J.; MRC-PHE Centre for Environment and Health, Imperial College London, London, United Kingdom; Centre for Environmental Health and Sustainability, University of Leicester, Leicester, United Kingdom</td>
</tr>
<tr>
<td>WE-PL-D3-67</td>
<td>NO2 Air Pollution Exposure Assessment in Urban Mysore, India</td>
<td>Nori-Sarma A.; Thimulapp R.K.; Venkataraman G.; Fauzie A.; Venkareddy L.; Berman J.; Lane K.; Fong K.; Bell M.; Yale University, New Haven, CT, USA; University of Illinois at Chicago, Chicago, IL, USA; University of Minnesota, Minneapolis, MN, USA; Boston University School of Public Health, Boston, MA, USA</td>
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<tr>
<td>WE-PL-D3-68</td>
<td>Comparison of two air pollution models applied to assess population exposure in Leipzig, Germany</td>
<td>Altug H.; Zeynalova S.; Löffler M.; Wiedensohler A.; de Hoogk K.; Schikowski T.; 1Uf - Leibniz Research Institute for Environmental Medicine, Düsseldorf, Germany; 2Leipzig University, Institute for Medical Informatics, Statistics and Epidemiology (IMISE), Leipzig, Germany; 3TROPOS - Leibniz Institute for Tropospheric Research, Leipzig, Germany; Swiss TPH - Swiss Tropical and Public Health Institute, University of Basel, Basel, Switzerland</td>
</tr>
<tr>
<td>WE-PL-D3-69</td>
<td>Impact of the deployment of electric vehicles on population exposure to air pollution</td>
<td>Minet L.; Gai Y.; Wang A.; Posen D.; Hatzopoulos M.; University of Toronto, Toronto, Canada</td>
</tr>
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VIP Hall  WE-PL-E3-CPC  
Building Characteristics, Energy Efficiency, Health and Satisfaction with IEQ

WE-PL-E3-70  
The effects of the total floor area of a building on building-related symptoms in air-conditioned office buildings: a cross-sectional study  
Azuma K., Kagi N.2, Yanagi U.3, Kim H.4, Hasegawa K.5, Simazaki D.4, Kahiara N.4, Kunugita N.6, Hayashi M.4, Kobayashi K.*, Osawa H.*, ¹Kindai University Faculty of Medicine, Osaka, Japan, ²Tokyo Institute of Technology, Meguro, Japan, ³Kogakuin University, Shinjuku, Japan, ⁴National Institute of Public Health, Wako, Japan, ⁵Akita Prefectural University, Akita, Japan, ⁶University of Occupational and Environmental Health, Kitakyushu

WE-PL-E3-71  
WITHDRAWN

WE-PL-E3-72  
Enhancement of thermal comfort in summer conditions by the use of personalized ceiling fans  
Rissetto R.*, Wagner A.*, Schweiker, M.*, ¹Karlsruhe Institute of Technology, Karlsruhe, Germany

WE-PL-E3-73  
Multifactor Transportation Noise Index for Health-Risk Exposure Metrics and Applications  
Leaffer D.*, Suh H.*, Tracey J.*, Roof C.*, Hastings A.*, Gute D.*, ¹Tufts University, MA, USA, ²Northeastern University, Boston, MA, USA

WE-PL-E3-74  
Energy retrofits, housing satisfaction and health, a 3-year follow-up  
Haverinen-Shaughnessy U.*, Leivo V.*, Martuzevicius D.*, ¹Tampere University, Tampere, Finland, ²Kaunas University of Technology, Kaunas, Lithuania

WE-PL-E3-75  
A comparison of the performance of commonly-used sensors for measuring indoor carbon dioxide (CO2) concentration levels  
Huang R.*, Andamam M.M.*, Rajagopalan P.*, ¹RMIT University, Melbourne, Australia
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POSTERS

WE-PO-01  A Model To Predict Radon Transport From Building Material To Indoor Air In Building
Lee B.H.¹, Kim S.D.¹, Chun C.Y.¹; ¹Land & Housing Institute, Sejong City, Korea

WE-PO-02  Determinants of Household Energy Emissions and Transitions
Bond, T.

WE-PO-03  Sensor Stories: Outreach materials to support appropriate community use of low-cost particle monitors
Korfmark K.¹, Hopke P.¹; ¹University of Rochester Medical Center, Rochester, NY, USA

WE-PO-04  Wildfire Smoke and Health: Collaborative Development of a Practice-Based Research Agenda
Busch Isaksen T.¹, Roop H.¹, Kramer B.¹, Pendergrast C.¹, Doubleday A.¹, Errett N.¹; ¹University of Washington, WA, USA

WE-PO-05  Title Recent strategy and regional problems of energy saving buildings in Japan
Tsutsumi J.G.¹, Nakamatsu R. ¹, Ananda R.U. ¹, Matsuda M.¹, Kobayashi F. ¹; ¹University of the Ryukyus, Okinawa, Japan

WE-PO-06  MOVED TO WE-PL-A2-31

WE-PO-07  Environmental Fate and Transport Analysis of Low Global Warming Potential (GWP) Refrigerant, R-514A
Le H.¹, Lander D.¹, Claessens M.¹, Glatt C.¹, Russell M.²; ¹The Chemours Company, Wilmington, DE, USA, ²Environmental Insights, LLC, Wilmington, DE, USA

WE-PO-08  Research to Practice: Communicating Extreme-Heat Risks Using Comics
Busch Isaksen T., Pendergrast C., Jackson M., Pfomran R., Li-Vollmer M., Tran K.

WE-PO-09  Synoptic features of atmospheric particle in urban environment of India
Pipal A.S.¹, Satsang P.G.², Taneja A.¹; ¹Department of Chemistry, Dr. Bhimrao Ambedkar University, India, ²Department of Chemistry, Savitribai Phule Pune University, India

WE-PO-10  Changing Characteristics of Particulate Matter in the Eastern United States
McDow S.¹, Chan E.¹, Long R.², Richmond-Bryant J.¹, Hemming B.¹; ¹US Environmental Protection Agency, Research Triangle Park NC, USA ²University of North Carolina, Chapel Hill NC, USA

WE-PO-11  Concepts in inhalation dosimetry for trichloroethylene from vapour intrusion
Turczynowicz L.¹, Pisaniello D.¹; ¹University of Adelaide, Adelaide, South Australia/ Australia

WE-PO-12  Risk assessment of chronic exposure to antibiotics in rural population
Ali A.¹, Malik A.², Uddin I.¹, Rashid A.¹; ¹Department of Environmental Sciences, Arid Agriculture University, Rawalpindi, Pakistan, ²Civil Aviation Authority, Islamabad International Airport, Islamabad, Pakistan

WE-PO-13  Urinary pesticide metabolite concentrations in pregnant women from Suriname
Alcala C.; Tulane University, New Orleans, LA, USA

WE-PO-14  Measurement of ambient ozone (O3) levels, correlation with the NOx levels and the development of the monitoring network for O3
Turos O.¹, Petrosian A.¹, Kobzarenko I.¹, Kharchenko K.¹, Maremukha T.¹, Ananyeva O.¹; ¹State Institution – “O.M. Marzeiev Institute for Public Health of the National Academy of Medical Science of Ukraine”, Kyiv, Ukraine

WE-PO-15  Elevated lead concentration in air of closed shooting ranges – a public health concern to be addressed in future
Matsiisane L.¹, Martinsone I.¹, Komarovksa L.¹, Klavina A.¹; ¹Riga, Latvia

WE-PO-16  Challenges applying activity-based sampling (ABS) in Sibaté, a Colombian asbestos contaminated town
Cely-Garcia M.¹, Lysanuk B.², Pasetto R.², Mazzeo A.², Magnani C.², Ramos-Bonilla J.², ¹Department of Civil and Environmental Engineering, School of Engineering, Universidad de los Andes, Bogotá, Colombia, ²IRD (MàD par le CNRS), UMR Prodig, Bogotá, Colombia, ³Environment and Primary Prevention, and WHO Collaborating Centre for Environmental Health in Contaminated Sites, Istituto Superiore di Sanità, Rome, Italy, ⁴Department of History and Cultures, University of Bologna, Bologna, Italy, ⁵Unit of Medical Statistics and Cancer Epidemiology, Department of Translational Medicine, University of Eastern Piedmont, and CPO-Piedmont, Novara, Italy
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### POSTERS

#### WE-PO-17
**MOVED TO MONDAY POSTER SESSION (MO-PO-89)**

**Global Temporal Trends in Preschool Children Blood Lead Levels by UN Human Development Index**
Hwang Y.H., Hsiao C.H.K., Lin P.W.; *National Taiwan University College of Public Health, Taipei, Taiwan, ROC*

#### WE-PO-18
**Role of surface charge in nanoparticle toxicity: implications for indoor air quality**
Scheepers P.; Radboud University Medical Center, Nijmegen, Netherlands

#### WE-PO-19
**Levels of Mercury in Fish from the Northeast US**
Melnik L.¹, Lin J.¹, Lazorchak J.¹, Kusnierz D.², Pugh K.³, Stover M.³; *1. US. Environmental Protection Agency, Cincinnati, OH, USA, ²Penobscot Indian Nation - DNR, Indian Island, ME, USA, ³Agency for Toxic Substances and Disease Registry, Atlanta, GA, USA*

#### WE-PO-20
**Simultaneous Determination of Alternative Flame Retardants in Car Seats and Implications for Dermal Exposure**
Tokumura M.¹, Terao K.¹, Miwa H.¹, Wang Q.¹, Miyake Y.¹, Amagai T.¹, Makino M.¹; *University of Shizuoka, Shizuoka, Japan*

#### WE-PO-21
**Public Health Risk attribution due particulate matter from Biomass Burning Emissions**
Pinto Herrera LC.¹, Hernandez Florez L.J.¹, Morales Betancourt R.; *1. University of Los Andes, Bogota, Columbia*

#### WE-PO-22
**Simultaneous determination and exposure assessment of novel alternative flame retardants in indoor dust**
Miyake Y.¹, Furukawa M.¹, Tokumura M.¹, Wang Q.¹, Takahashi Y.¹, Amagai T.; *Japan*

#### WE-PO-23
**Risk Assessment of Polycyclic Aromatic Hydrocarbons and their Chlorinated Derivatives Unintentionally Produced During Cooking via Exhaust Gas**
Masuda M.¹, Wang Q.¹, Tokumura M.¹, Miyake Y.¹, Amagai T.; *University of Shizuoka, Shizuoka, Japan*

#### WE-PO-24
**Health impact assessment using taxies to monitor air pollution based on sensors**
Yang W.¹, Cho M.¹, Kim Y.S.², Sung K.H.³; *1. Department of Occupational Health, Daegu Catholic University, Kyongsansi, Korea, ²Environmental Health Service Center, Daegu Catholic University, Kyongsansi, Korea*

#### WE-PO-25
**Internal Dose from radioactive caesium in Indoor Dust collected in Ibaraki and Chiba Prefectures, 150–200 km South from the Fukushima Daiichi Nuclear Power Plant**
Takagi M.¹, Tanaka A.¹, Nakayama F.S.; *1. National Institute for Environmental Studies, Tsukuba, Japan*

#### WE-PO-26
**A community-based probabilistic risk assessment for the Diné people impacted by the Gold King Mine Spill**
Ornelas Van Home Y.¹, Chief K.; *The University of Arizona, Tuscon, AZ; 2. Nation Department of Health, Window Rock, AZ, USA*

#### WE-PO-27
**WITHDRAWN**

#### WE-PO-28
**Evaluation of Air Quality in Hospitals using Low-cost Sensors**
Ferro A.¹, Palmisani J.², Di Gilio A.³, Viana M.³, Hänninen O.⁴, Taimisto P.⁴, de Gennaro G.⁴; *1. Clarkson University, Potsdam, NY, USA, ²Università degli Studi di Bari ‘Aldo Moro’, Bari, Italy, ³Institute of Environmental Assessment and Water Research Spanish Research Council (IDAEA-CSIC), Barcelona, Spain, ⁴THL Public Health Solutions, Kuopio, Finland*

#### WE-PO-29
**Exposure to traffic related pollution in buildings – a risk factor approach**
von Dijken F.¹, van Doorn W.², Jansen H.³; *1. BBA Binnenmilieu MVO, Netherland, 2. Wageningen University, Wageningen, Netherlands*

#### WE-PO-30
**Seasonal changes in bacterial and fungal concentrations in floor dust from Lublin region homes**
Staszowska A., Dudańska M., Siuta-Olcha A., Dumała S., Polednik B.; *Lublin University of Technology, Lublin, Poland*

#### WE-PO-31
**Can exposure to cobalt from leather furniture enhance the risk for allergic contact dermatitis?**
Kolank B.¹, Larsen P.B.², Jensen A.¹, Kampmann K.¹; *1. Danish Environmental Analysis, Vedbaek, Denmark, 2. DHI, Horsholm, Denmark*

#### WE-PO-32
**Assessment of particulate matter concentrations in indoor air of some educational spaces from urban area of Bucharest, Romania**
Vasile V.¹, Petcu C.¹; *1. National Institute for Research and Development in Constructions, Urbanism and Sustainable Spatial Development “URBAN-INCERC”, Bucharest, Romania*
POSTERS

**WE-PO-34** Secondhand smoke exposure in rural households in northwest China: a pilot investigation  
Wang D.¹, Yao Y.¹, Ma H.², Li C.², Wang J.², Liu S.²; ¹School of Public Health, Lanzhou University, Lanzhou, Gansu Province, China, ²School of Health Sciences, Purdue University, West Lafayette, IN

**WE-PO-35** Use of the natural compounds to inhibit growth of the indoor isolated toxigenic Aspergillus westerdijkiae  
Mikkola R.¹, Castagnoli E.¹, Alapieti T.¹, Andersson M.A.¹, Salonen H.¹; ¹Aalto University, Department of Civil Engineering, Espoo, Finland

**WE-PO-36** Ambient concentration of airborne microbes and endotoxin in rural households of southern India  
Muthalagu A.¹, Eerappa R.¹, Qureshi A.¹; ¹Hyderabad, Telangana, India

**WE-PO-37** Fungal assemblages on indoor moldy surfaces in homes in Korea and Thailand  
Yamamoto N.¹, Precha N.², Kliengchuay W.³, Woo C.¹, Tantrakarnapa K.¹; ¹Seoul National University, Seoul, Korea, ²Walailak University, Nakorn Srihammaras, Thailand, ³Mahidol University, Bangkok, Thailand

**WE-PO-38** Using the fluorescence data to speed up discrimination between different mycotoxin producing toxins  
Castagnoli E.¹, Andersson M.¹, Mikkola R.¹, Kurnitski J.², Salonen H.¹; ¹Aalto University, Department of Civil Engineering, Espoo, Finland, ²Tallinn University of Technology, Tallinn, Estonia

**WE-PO-39** The Indoor Air Quality of the Respiratory Care Wards of a Regional Hospital in Northern Taiwan  
Lin Y-W.¹, Tang C-S.³, Chen W-Y.²; ¹Fu Jen Catholic University, New Taipei City, Taiwan, ²New Taipei City, Taiwan

**WE-PO-40** Estimation and validation of exposure fraction to workplace noise among Korean workers  
Kim S.W.¹, Yang, S-H., Ryu, H-W., Kim, E-A.; ¹Keimyung University, Daegu, South Korea

**WE-PO-41** Burden of disease from road and rail traffic noise in Oslo, Norway  
Aasvang G., Krog N.¹, Sulo G.²; ¹Department of Air Pollution and Noise, Norwegian Institute of Public Health, Oslo, Norway, ²Center for Disease Burden, Department of Mental and Physical Health, Norwegian Institute of Public Health, Bergen, Norway

**WE-PO-42** Occupational Noise Burden of Disease  
Chen Y.¹, Styliana K.¹, Jolliet O.¹, Neritzel R.L.¹; ¹Environmental Health Sciences, School of Public Health, University of Michigan, Ann Arbor, MI, USA

**WE-PO-43** Exposure to traffic-related air pollutants during physical exercise outdoors  
Monteiro T.¹, Slezakova K.¹, Madureira J.², Costa C.³, Pereira M.³, Texeira JP.³; ¹LEPABE, Departamento de Engenharia Quimica, Faculdade de Engenharia, Universidade do Porto, Porto, Portugal, ²Environmental Health Department, National Institute of Health, Portugal, ³EPUUnit - Instituto de Saúde Publica, Universidade do Porto, Porto, Portugal

**WE-PO-44** Evaluating the RAIDAR-ICE model with monitoring data of emerging SVOC compounds in the indoor environment  
De Brouwere K.¹, Amot J.², Li L.³, Geerts L.³, Lamaree M.³; ¹VITO - Flemish Institute for Technological Research, Mol, Belgium, ²ARC Amot Research and Consulting Inc, Toronto, Canada, ³University of Toronto Scarborough, Toronto, Canada, ³Vrije Universiteit, Amsterdam, The Netherlands

**WE-PO-45** Evaluation of an Improved Receptor Model for Analyzing Data with Spatial Variation: A Simulation Study  
Lee C-L.¹, Liao C-F.², Chen H-T.¹, Wu, Y-D.; ¹Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, National Taiwan University, Taipei, Taiwan, ²Research Center for Environmental Changes, Academia Sinica, Taipei, Taiwan
POSTERS

WE-PO-48 WITHDRAWN

WE-PO-49 TREXMO Plus: an advanced self-learning model for occupational exposure assessment
Savic N.¹, Lee E.G.², Gasior B.¹, Vernez D.¹; ¹Center for Primary Care and Public Health, University of Lausanne (Unisanté), Lausanne, Switzerland, ²National Institute for Occupational Safety and Health (NIOSH), Health Effects Laboratory Division (HELD), Morgantown, WV, USA, ³Chemicals and Occupational Health Unit, Swiss State Secretariat for Economic Affairs (SECO), Bern, Switzerland

WE-PO-50 Using continuous exposure in-vitro model to estimate percutaneous absorption of different characteristics chemical exposure
Zhu G.¹, Nien Y-T.¹, Wang Y-H.², Hsu J-F.², Chou T-C.³, ¹Department of Public Health, China Medical University, Taichung, Taiwan, ²Department of Nursing, Yuanpei University of Medical Technology, Hsinchu, Taiwan, ³National Institute of Environmental Health Sciences, National Health Research Institute, Miaoli, Taiwan

WE-PO-51 Can inexpensive sensors be used to improve indoor air quality?
Justo Alonso M.¹, Gram O.K.¹, Mathise H.M.¹; ¹NTNU, Trondheim, Norway

WE-PO-52 Study on Optimum Dimension of Negative Pressure Type Public Exhaust System with Equal Section
Zhu A.¹, Zhang Z.¹, Zhou M.¹, Zhang L.¹, Yang P.¹, Gao B.¹; ¹The China National Engineering Research Center for Human Settlements (CNERCHS), Beijing, China

WE-PO-53 Addressing Radon in Energy Retrofits
Francisco P. ; University of Illinois at Urbana-Champaign, IL, USA

WE-PO-54 Rapid identification and antibiotic susceptibility determination for anthrax (Bacillus anthracis) using lethal factor endopeptidase activity coupled with MALDI-MS
Barr J.¹, Rees J.¹, Williamson Y.¹, Boyer A.¹, Gallegos-Candela M.¹, Lins R.², Woofitt A.¹, Pirkle J.¹; ¹Centers for Disease Control and Prevention, Atlanta, GA, ²Battelle Atlanta Analytical Services

WE-PO-55 The Feasibility of Identifying and Quantifying Worker Exposures to Volatile Organic Chemicals in Beauty Salons and Auto Shops in the Southwestern USA
Lothrop N.¹, Sandoval F., Cortez I., Wagener R., Lopez-Galvez N., Parra K., Bell M., Griffin S., Beamer P.¹, Wolf A., Lee A., Carvajal S., Ingram M.; ¹Mel and Enid Zuckerman College of Public Health, University of Arizona, Tucson, AZ, USA

WE-PO-56 WITHDRAWN

WE-PO-57 Environmental measurements in the Sub-Cohort Study of the Japan Environment and Children's Study (JECS)
Nishihama Y.¹, Isobe T.¹, Tamura K.¹, Iwai-Shimada M.¹, Michikawa T.¹, Yamazaki S.¹, Nitta H.¹, Takeuchi A.¹, Kobayashi Y.¹, Suda E.¹, Sekiyama M.¹, Ono M.¹, Yonemoto J.¹, Kawamoto T.¹, Nakayama S.¹; ¹National Institute for Environmental Studies, Ibaraki, Japan, ²Department of Environmental and Occupational Health, School of Medicine, Toho University, Tokyo, Japan, ³Department of Preventive Medicine and Public Health, Keio University, Tokyo, Japan, ⁴Japan Industrial Safety and Health Association, Tokyo, Japan

WE-PO-58 Assessment of Personal Noise Exposure in Different Micro-Environments
Miškinytė A.¹, Dėdelė A.¹; ¹Vytautas Magnus University, Kaunas, Lithuania

WE-PO-59 Polycyclic aromatic hydrocarbons (PAHs) skin permeation rates change with simultaneous exposures to solar ultraviolet radiation (UV-S)
Hofp N.B.¹, Spring P.², Hirt-Burri N.³, Jimenez S.², Sutter B.², Vernez D.¹, Berthet A.¹; ¹Center for Primary Care and Public Health (Unisanté), Epalinges-Lausanne, Switzerland, ²Centre Hospitalier Universitaire Vaudois (CHUV), Department of Dermatology, Lausanne, Switzerland, ³Centre Hospitalier Universitaire Vaudois (CHUV), Department of Musculoskeletal Medicine (DLM), Lausanne, Switzerland, ⁴Institute for Work and Health (IST), Universities of Lausanne and Geneva, Lausanne, Switzerland, ⁵Institut National de Recherche et de Securite (INRS), Vandoeuvre Cedex, France

WE-PO-60 HCHO, NO2 and SO2 vertical column density across the Caspian Sea: The contribution of five neighbor countries
Yerkenov T.¹, Kuspanaliyeva B.¹, Altazhanova K.¹, Amouei Torkmahalleh M.¹, Darynova, Z.¹; ¹Nazarbayev University, Kazakhstan
Technical Program

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POSTERS

WE-PO-61  Contribution of Aerosol Optical Depth (AOD) Fine Particulate Matter (PM2.5) Fused Surfaces in Assessing Risk of Respiratory-Cardiovascular Hospitalizations and Emergency Room Visits in Baltimore
Hall E; US Environmental Protection Agency, Durham, NC, USA

WE-PO-62  Using AOD retrievals and enhanced modeling techniques to estimate ground-level PM2.5 in Southern California
Stowell J.¹, Alhamadan M.¹, Meng X.¹, Bi J.¹, Lee S.², Garcia C.³, Kinney P.⁴, Freedman F.⁵, Liu Y.⁶, ¹Rollins School of Public Health, Emory University, Atlanta, GA, USA, ²National Space Science and Technology Center, Huntsville, AL, USA, ³Air Quality Management District, ⁴Diamond Bar, CA, USA, ⁵California Air Resources Board, Sacramento, CA, USA, ⁶Boston University School of Public Health, Boston, MA, USA, ⁷San Jose State University, San Jose, CA, USA

WE-PO-63  Comparison of AOD from CALIPSO, MODIS, and AERONET
Falah S., Haifa. Israel

WE-PO-64  Building up PM2.5 personal exposure model based on time-weighted universal kriging
Lyu Y.¹, Xu D.¹; ¹National Institute of Environmental Health, Chinese Center for Disease Control and Prevention, Beijing, China

WE-PO-65  Evaluation of a plant uptake model for BTEX by three plant species under accidental release scenarios
Choi, S.-H.¹, Kown, J.-H.¹; ¹Division of Environmental Science and Ecological Engineering, Korea University, Seoul, Korea

WE-PO-66  Association between overweight and human gut microbiota composition in shift-work security guards
Chen Y-J.¹, Wu C-J.², Lai C-H.¹; ¹School of Public Health, National Defense Medical Center, Taipei, Taiwan, China, ²Department of Family and Community Medicine, Division of Family Medicine, Tri-Service General Hospital and School of Medicine, National Defense Medical Center, Taipei, Taiwan, China

WE-PO-67  Relationship between AGEs and Framingham Cardiovascular Risk Score in Predicting Cardiovascular Disease
Tsai YH., Lai C-H.

WE-PO-68  Analysis of Thermal Comfort in Residential Structures for the Elderly in Atlantic Climate
Torres P.¹, Aguiar L.², Pereira C.³, Forcada N.⁴, Tejedor B.⁴, Texeira J.P.⁵, Mendes A.¹, ¹Instituto de Saúde Pública, Universidade do Porto, Porto, Portugal, ²National Health Institute - Environmental Health Dept., Porto, Portugal, ³Group of Construction Research and Innovation, Department of Project and Construction Engineering, Universitat Politècnica de Catalunya, Terrassa, Barcelona, Spain

WE-PO-69  The Association Between Particulate Matter Exposure and Problem Behaviors in a Highly Lead-Exposed Group of Korean Children
Lee J.E.¹, Lee C.W.², Yu S.D.³, Ha M.N.⁴, Kim S.J.⁵; ¹Environmental Health Research Department, National Institute of Environmental Research, Incheon, South Korea, ²Environmental Health Bureau, Ministry of Environment, Sejong City, South Korea

WE-PO-70  The Impact of Cooking Aerosol on Human Brain Wave Pattern
Gabdrashova R.¹, Naseri M.², Jouziadeh M.³, Tabesh M.³, Malekipirbazari M.⁴, Nurzhan S.⁵, Farrokhi H.⁶, Khanbabaie R., Mehrdehavi, H.⁷, Bekezhankyz Z.⁸, Giminkhan A.⁹, Dareini M.¹⁰, Krumangaliyeva A.¹¹, Islam N.¹², Crape, B.¹³, Buonanno G.¹⁴, Cassee F.¹⁵, Torkmahalleh M.¹⁶, ¹Center of Advanced Studies, Nazarbayev University, Nur-Sultan, Kazakhstan, ²Chemical and Aerosol Research Team, Nazarbayev University, ³Institute of Nanotechnology and Nanofabrication, Nazarbayev University, Nur-Sultan, Kazakhstan, ⁴Department of Physics, Nazarbayev University, ⁵Chemical and Aerosol Research Team, Nazarbayev University, Nur-Sultan, Kazakhstan, ⁶School of Environmental Engineering, Nazarbayev University, ⁷Department of Physics, Nazarbayev University, ⁸Department of Energy and Environment, Nazarbayev University, Nur-Sultan, Kazakhstan, ⁹Department of Science and Engineering, Nazarbayev University, Nur-Sultan, Kazakhstan, ¹⁰Department of Mathematics, Nazarbayev University, Nur-Sultan, Kazakhstan, ¹¹Department of Civil and Mechanical Engineering, University of Cassino and Southern Lazio, Cassino, Italy, ¹²National Institute for Public Health and the Environment, Biltoven, The Netherlands, ¹³The Environment and Resource Efficiency Cluster, Nur-Sultan, Kazakhstan

WE-PO-71  Effect of ambient air pollution on gestational diabetes mellitus and potential biological linkage: A review
Zhang H.; Department of Health Policy and Management, School of Public Health, Sun Yat-sen University, Guangzhou, China

WE-PO-72  Mortality Associated with Wildfire Smoke Exposure in Washington State, 2006-2017
Doubleday A.¹, Schulte J.¹, Dhammapala R.¹, Stepphard L.¹, Kadlec M.¹, Fox J.¹, Busch Isaksen T.¹; ¹University of Washington, WA, USA

WE-PO-73  Maternal exposure to air pollutants and childhood autism spectrum disorder in Taiwan
Technical Program

Wednesday, August 21

POSTERS

WE-PO-74 Research on Human Thermal Adaptive Behavior in the Vernacular Housings: A case study in Sandaoqiuai Traditional Settlements, Chongqing, China
Zhao Y.¹, Liu K.¹, Lin B.¹; ¹Tsinghua University, Beijing, China

WE-PO-75 A review on light in the built environment and its relationship to mental health outcomes
Kohl N., Hoisington A.; ¹Air Force Institute of Technology, Dayton, OH, USA, ²Military and Veteran Microbiome: Consortium for Research and Education (MVM-CoRE), Dayton, OH, USA

WE-PO-76 Characterization of environmental multi-exposure to pesticides in pregnant women
Regnaut L.¹, Mercier F., Le Bot N.¹; ¹Univ Rennes 1, EHESS, INSERM, Rennes, France

WE-PO-77 Association between Risk of Metabolic Syndrome and the Level of the AGE in Security guards- a cross-sectional study
Chen B-R., Lai C-H.

WE-PO-78 Review of environmental and occupational cohort studies related to the up- and mid-stream oil and gas industry
Gales K., Steinele S., Basinas I.¹, Sleuwenhoek A.¹, Loh M.¹, Pronk A.², Stierum R.², Fransman W.³, Kuijpers E.¹; ¹IOM, Edinburgh, United Kingdom, ²NIO, Zeist, The Netherlands, ³Cyprus University of Technology, Limassol, Cyprus

WE-PO-79 The plants affected by air pollution have impact on human health
Budreviciute A.¹, Plakys G.², Katileviciute A.³, Kodzis R.⁴; ¹Lithuanian University of Health Sciences, Kaunas, Lithuania, ²Kaunas University of Technology, Kaunas, Lithuania

WE-PO-80 Exposure to household air pollution associated with adverse immune responses in rural women in northwest China
Yao, Y.¹, Wang D.¹, Li C.¹, Wang, J.¹, Chang X.¹, Low P.², Liu S.³; ¹School of Public Health, Lanzhou University, Lanzhou, Gansu Province, China, ²School of Public Health, University of California, Berkeley, CA, USA, ³School of Health Sciences, Purdue University, West Lafayette, IN, USA

WE-PO-81 The connection between indoor air quality and mental health outcomes
Taylor W.¹, Hoisington A.¹; ¹Air Force Institute of Technology, Wright Patterson AFB, Dayton, OH, USA

WE-PO-82 Perfluoroalkyl Substances and Metabolic Syndrome in Elderly
Lin C-C.¹, Tsai M.S.¹, Chen M.H.¹, Chen P.C.¹, ¹Institute Of Occupational Medicine And Industrial Hygiene, National Taiwan University College Of Public Health, Taipei, 2Department of Occupational Safety and Health Office, National Taiwan University Hospital 3Taiwan Public Health Association

WE-PO-83 Polycyclic aromatic hydrocarbons (PAHs) exposure and birth outcomes
Agarwal P.¹, Taneya A.¹; ¹Department of Chemistry, Dr. B. R. Ambedkar University, Khandari Campus, India

WE-PO-84 Database of Residential Building Characteristics, Occupant Behaviors, and Reported Symptomology
Grimes C.; Hayward Healthy Home Institute, Monterey, CA, USA

WE-PO-85 WITHDRAWN

WE-PO-86 Assessing the impact of (non-)built environment on mental health in Brussels
Pelgrims I.¹, Keune H.², Thoms I.³, Bastiaenes H.¹, Remmern R.³, Nawrot T.¹, De Clercq E.²; ¹Sciensano, Brussels, Belgium, ²Nature and society, Own-Capital Research Institute for Nature and Forest, Brussels, Belgium, ³Center for Operations Research and Econometrics université catholique de Louvain (UCL), Belgium, ⁴Primary and Interdisciplinary Care, University of Antwerp (UA), Antwerp, Belgium, ⁵Center for Environmental Sciences University of Hasselt (UH), Hasselt, Belgium

WE-PO-87 Duty of care of Employers - Air quality control inside a work space
Green J.; JN Bank Limited, Kingston, Jamaica

WE-PO-88 BSIM simulation studies on indoor air quality of the sports hall – a case study
Siuta-Dicha A.¹, Dudzinska M.¹, Polendik B.¹, Staszwiska A.¹, Cholewa T.¹; ¹Lublin University of Technology Faculty of Environmental Engineering, Lublin, Poland
Technical Program

Thursday, August 22

9:30 am - 11:00 am

Basic Hall

TH-PL-A1-EHR
Prioritization and Assessment Frameworks/Models for Chemicals

TH-PL-A1-01
Framework on exposure-informed adaptation of REACH hazard information requirements
Hahn S.¹, Dudzina T.², Escher S.¹, Bitsch A.¹; ¹Fraunhofer ITEM, Hannover, Germany, ²Exxon Mobil, Machelen, Belgium

TH-PL-A1-02
US EPA's Science-Based Approach to Understanding and Managing Environmental Risk from PFAS
Gillespie A.; ¹U.S. Environmental Protection Agency, Research Triangle Park, NC, USA

TH-PL-A1-03
Hazard assessment of chemical substances in indoor environments: what are the high-priority compounds for French monitoring campaigns?
Achille J.¹, Ramalho O.¹, Boulanger G.¹, Perouel G.¹, Garnier R.¹, Mandin C.¹; ¹Scientific and Technical Center for Building (CSTB), Paris, France

TH-PL-A1-04
A personalised real-time air quality informatics system for exposure and health risk communication
Che W.¹, Lau A.¹; ¹The Hong Kong University of Science and Technology, Hong Kong, ¹The Hong Kong University of Science and Technology

TH-PL-A1-05
High Throughput Comparative Exposure and Risks of Chemicals in Multiple Consumer Products
Jollivet O.¹, Meyer C.¹, Huang L.¹, Fantke P.¹; ¹Environmental Health Science, School of Public Health, University of Michigan, Ann Arbor, MI, USA

TH-PL-A1-06
The challenge of assessing exposure to fast-elimination endocrine disruptors – statistical approaches to optimize biomonitoring strategies
Fays F.¹, Palazzi P.¹, Zeimet E.¹, Hardy E.¹, Vaillant M.¹, Appenzeller B.¹; ¹Luxembourg Institute of Health (LIH), Strassen, Luxembourg

Nemunas

TH-PL-B1-SSS
Strategies for Minimizing Exposure to Indoor Pollutants

TH-PL-B1-07
New indoor air quality standards; ISO16000-34: Strategies for the measurement of airborne particles and ISO16000-37: Measurement of PM2.5 mass concentration
Moisio M.¹, Lambaerts P.¹; ¹Tempere University of Technology, Tempere, Finland

TH-PL-B1-08
Publication of the U.S. EPA’s Guidelines for Human Exposure Assessment
Tulve N.¹, Olsen M.¹, Broder M.¹; ¹U.S. Environmental Protection Agency, Office of Research and Development, National Exposure Research Laboratory, Research Triangle Park, NC, USA

TH-PL-B1-09
Air pollution: Can subjective perception be related to objective measures?
Bartonova A.¹, Grossberndt S.¹, Castell N.¹; ¹NILU Norwegian Institute for Air Research, Kjeller, Norway

TH-PL-B1-10
Systematic analysis of dermal exposure to hazardous chemical agents at the workplace (SysDEA): Results and Implications
Roitzsch M.¹, Schlüter U.¹, Meyer J.¹, Poppek U.¹, Rother D.¹, Spaan S.¹, Franken R.¹, Gerritsen-Ebben R.¹, Kasiotis K.¹, Tsakirakis A.¹, Chartzala I.¹, Machera K.¹; ¹Federal Institute for Occupational Safety and Health (BAuA), Dortmund, Germany
Nemunas

**TH-PL-B1-SSS**

Strategies for Minimizing Exposure to Indoor Pollutants [cont.]

TH-PL-B1-11

A unique ecosystem for healthy indoor environment
Du L.¹, Salmela H.¹, Luuppala A.¹, Taipale A.¹, Erkkila J.¹; ¹Tamlink Innovation-Research-Development, Tampere, Finland; Lappeenranta-Lahti University of Technology (LUT), Lappeenranta, Finland

TH-PL-B1-12

Low Exposures: European collaborative research efforts and future focus areas
Dudzina T., Meijster T., Tozer S., Henschel O., Rodriguez C., Bachler G., Zaleski R., Money C., ter Burg W., Fantke P.

Nemunas

**TH-SY-C1**

Towards a European Exposure Science Strategy – Developing a Roadmap 2020-2025-2030

TH-SY-C1-13

Goals and key thematic areas of ISES Europe
von Goetz N.¹, Bruinen de Bruin Y.², Bessems J.³, Connolly A.³, Fantke P.³, Schlüter U.³; ¹Swiss Federal Office of Public Health, Bern, Switzerland, ²European Commission, Joint Research Centre, Ispra, Italy, ³VITO, Moi, Belgium, ⁴National University of Ireland Galway, Galway, Ireland, ⁵Technical University of Denmark (DTU), Kgs. Lyngby, Denmark, ⁶BAUA, Dortmund, Germany

TH-SY-C1-14

Toward a European Exposure Science Strategy
Fantke P.¹, von Goetz N.¹, Bessems J.³, Connolly A.³, Schlüter U.³, Dudzina T.³, Bruinen de Bruin Y.³; ¹Technical University of Denmark, Kgs. Lyngby, Denmark, ²Federal Office of Public Health, Switzerland, Liebefeld, ³Flemish Institute for Technological Research, Moi, Belgium, ⁴National University of Ireland, Galway, Galway, Ireland, ⁵Federal Institute for Occupational Safety and Health, Dortmund, Germany, ⁶ExxonMobil, Brussels, Belgium, ⁷European Commission, Joint Research Centre, Ispra, Italy

TH-SY-C1-15

Establishing exposure science in education
Connolly A.¹, Fantke P.¹, Von Goetz N.¹, Bessems J.³, Schlüter U.³, Dudzina T.³, Bruinen de Bruin Y.³; ¹National University of Ireland Galway, Galway, Ireland, ²Technical University of Denmark, Kgs. Lyngby, Denmark, ³Federal Office of Public Health, Switzerland, Liebefeld, ⁴VITO, Belgium, ⁵BAUA, Dortmund, Germany, ⁶ExxonMobil, Brussels, Belgium, ⁷European Commission, Joint Research Centre, Ispra, Italy

TH-SY-C1-16

Exposure models for Europe: Towards harmonization and standardization of exposure modelling across regulatory sectors in Europe
Schlüter U.³, von Goetz N.¹, ¹BAuA, Dortmund, Germany, ²Federal Office of Public Health, FOPH - BAG, Bern, Switzerland

TH-SY-C1-17

Have your say in the strategy for exposure science in Europe
Bessems J.;  VITO Health, Mol, Belgium

Baras 11

**TH-PL-D1-ECS**

Air Cleaning for Exposure Control

TH-PL-D1-18

Acceptable Indoor Air Quality in Childcare Centres is Achievable even During Haze Period
Sankaran G.¹, Shen J.¹, Nazeem M.¹, Lim M.¹, Tan R.¹, Yap J.¹, Gutiérrez R.¹, Wang B.², Jia, S.², Chang W.C.², Fang M.L.², Ng L.C.²; ¹Environmental Health Institute, National Environment Agency, Singapore, ²Division of Environmental and Water Resources Engineering, School of Civil & Environmental Engineering, Nanyang Technological University, Singapore
Technical Program

Thursday, August 22
9:30 am - 11:00 am

Baras 11  TH-PL-D1-ECS
Air Cleaning for Exposure Control [cont.]

TH-PL-D1-19
A Crossover Study of In-Vehicle Air Filtration and Acute Changes in Heart Rate Variability and Cognition Among Healthy Adults
Mallach G.¹, Shutt R.¹, Thomson E.M.¹, van Rijswijk D.¹, Valcim F.², Kuika R.¹, Weichenthal S.²; ¹Health Canada, Ottawa, Ontario, Canada, ²Health Canada, Montreal, Quebec, Canada

TH-PL-D1-20
Effectiveness of portable indoor air cleaners to reduce indoor pollutants: Impact of open windows
Kipen H.¹, Black K.¹, Laumbach R.¹, Alimokhtari S.¹, Black T.¹, Cohen J.³, Gallegos E.³, Weschler¹, Ryan P.³; ¹Rutgers University, Piscataway, NJ, USA, ³Emory University, Atlanta, GA, USA

TH-PL-D1-21
Gravimetric and spectrometric methods of assessing VOC interactions for improved air quality
Hunter Sellars E.¹, Parkin I.P.³, Williams D.R.⁵; ¹Department of Chemical Engineering, Imperial College London, United Kingdom, ³Department of Chemical Engineering, Imperial College London, United Kingdom

TH-PL-D1-22
Applications for ultraviolet Cermidical Irradiation (UVGI) in Hospital Isolation Anterooms
Grosskopf K.¹, Mousavi-Rizi E.¹, Lau J.¹; ¹University of Nebraska-Lincoln, Lincoln, NE, USA, ²Clemson University, Clemson, SC, USA

TH-PL-D1-23
Time-dependent efficiency of air cleaners for gas-pollutants: an attempt at validating a predictive model
Berne P.¹, Erouard C.¹, Golanski L.¹, Roussey A.¹, Wayser B.³, Guiot A.¹, Clavaguera S.¹, Delléa O.²; ¹Univ. Grenoble Alpes, Grenoble, France, ²Univ. Grenoble Alpes, Montreuil, France

VIP Hall  TH-PL-E1-CPC
Thermal Comfort, Moisture & Mold

TH-PL-E1-24
Measurement of Local Clothing Properties for Human Thermal Comfort Evaluation
Nomoto A.¹, Takahashi Y.¹, Yoda S.¹, Ogata M.¹, Tanabe S.¹, Ito S.², Aono Y.⁵, Yamamoto Y.⁵, Mizutani K.²; ¹Waseda University, Tokyo, Japan, ²Tokyo Polytechnic University, Kanagawa, Japan

TH-PL-E1-25
Physiological and psychological responses to ambient humidity from young and elder subject experiment
Kawakami R.¹, Yamaguchi M.³, Otsuka T.¹; ¹Institute of Technology, Shimizu Corporation, Koto, Tokyo, Japan, ³Department of Architecture, Faculty of Engineering, Daido University, Nagoya, Aichi/Japan

TH-PL-E1-26
Impact of a Uniform on a Human Being’s Level of Comfort
Borodinecs A.¹, Geikins A.¹, Zemitis J.¹, Daks a G.¹; ¹Riga Technical University, Riga, Latvia

TH-PL-E1-27
Research to Practice: Translating the Science of the Microbiology of the Built Environment Program
Shaughnessy R.¹, Haverinen-Shaughnessy U.¹, Peccia J.²; ¹University of Tulsa, Tulsa, OK, USA, ²Yale University, New Haven, CT, USA

TH-PL-E1-28
The Satakunta intervention trial - results of the first twenty towns and municipalities
Putus T.

TH-PL-E1-29
The Effect of Plants on the Indoor Air Quality of Two Small Offices
Berger J.;  University of Reading, Reading, United Kingdom
Technical Program

Thursday, August 22
11:30 am - 12:30 pm

Basic Hall  TH-PL-A2-EHR
Conceptual Approaches to Exposure and Risk Assessment

TH-PL-A2-30
The Role of Environmental and Public Health Factors in Children’s Social Mobility
Baxter L.¹, Rappazzo K.¹, Weaver C.¹; ¹United States Environmental Protection Agency, Research Triangle Park, NC, USA

TH-PL-A2-31
Alternatives to Bisphenol A – toward safer substitutes?
Reale E.¹, Hopf N.¹, Vernez D.¹; ¹Center for Primary Care and Public Health (Unisanté), Lausanne, Switzerland

TH-PL-A2-32
Why are exposure biomarkers correlated or not? Investigation of young children of the TESIE cohort
Webster T.¹, Hoffmann K.², Phillips A.³, Hammel S.³, Stapleton H.³; ¹Dept. Environmental Health, Boston University School of Public Health, Boston, MA, USA, ²Nicholas School of the Environment, Duke University, Durham, NC, USA, ³Arcadis U.S., Inc., Raleigh, NC, USA

TH-PL-A2-33
Review on technologies and their applicability in an exposome-based assessment of hazards and risk in the petrochemical industry
Kuijpers E.¹, Loh M.², Galea K.³, Makris K.³, Stierum R.¹, Fransman W.¹, Pronk A.¹; ¹TNO, Zeist, The Netherlands, ²IOM, Edinburgh, United Kingdom, ³Cyprus University of Technology, Limassol, Cyprus

Nemunas  TH-PL-B2-SSS
Children’s Exposure: Chemical and Non-Chemical Stressors

TH-PL-B2-34
Children’s exposures to chemical and non-chemical stressors: what have we learned?
Tulve N.; United States Environmental Protection Agency, Office of Research and Development, National Exposure Research Laboratory, Research Triangle Park, NC, USA

TH-PL-B2-35
Towards a better management of early-life exposures through the enhancement of the knowledge on air pollution in households
Gabriel M.¹, Felgueiras F.¹, Ramos E.², Mourão Z.¹, Oliveira Fernandes E.³; ¹INEGI, Institute of Science and Innovation in Mechanical and Industrial Engineering, Porto, Portugal, ²EPIUnit, Institute of Public Health and Department of Clinical Epidemiology, Predictive Medicine and Public Health of the University of Porto, Porto, Portugal, ³University of Porto, Porto, Portugal

TH-PL-B2-36
Impact of Parental Migration on Environmental Exposure Related Time-Activity Patterns of Left-behind Children in China: Results from the First National Population-based Survey
Xiangyu X.¹, Qian G.¹, Beibei W.¹, Suzhen C.¹, Ning Q.¹, Xiuge Z.², Ying L.³, Chunrong J.³, Xiaoli D.¹; ¹School of Energy and Environmental Engineering, University of Science and Technology of Beijing, Beijing, China, ²Chinese Research Academy of Environmental Sciences, Beijing, China, ³School of Public Health, University of Memphis, Memphis, TN, USA

TH-PL-B2-37
Results of a Meta-Analysis Exploring Chemical and Non-Chemical Stressors Affecting Childhood Obesity
Lichtveld K.¹, Viguria U.¹, Clinger J.¹, Thomas K.², Tulve N.²; ¹The University of Findlay, Findlay, OH, USA, ²United States Environmental Protection Agency, Office of Research and Development, National Exposure Research Laboratory, Research Triangle Park, NC, USA
Amphitheatre  TH-SY-C2
National and International IEQ Guidelines

TH-SY-C2-38
National and international IEQ guidelines
Haverinen-Shaughnessy U.¹, Hägerhed L.², Lee K.³, Caulfield S.⁴, Cull I.⁵; ¹Tampere University, Tampere, Finland, ²University of Borås, Borås, Sweden, ³Seoul National University, Seoul, South Korea, ⁴Turner Building Science & Design, Harrison, ME, USA, ⁵Indoor Sciences, Inc., Chicago, IL, USA

TH-SY-C2-39
Guidelines for IAQ in the United States
Caulfield S., Cull I.; ¹Turner Building Science & Design, LCC, Harrison, ME, USA, ²Indoor Sciences, Inc., Chicago, IL, USA

TH-SY-C2-40
SCANDINAVIAN IEQ GUIDELINES
Hägerhed L.¹, Kolarik B.², Holos S.³; ¹University of Borås, Borås, Sweden, ²Danish Environmental Analysis, Vedbæk, Denmark, ³SINTEF Building and Infrastructure, Oslo, Norway

TH-SY-C2-41
Indoor Environmental Quality Regulation in Korea
Lee K.; Seoul National University, Seoul, Korea

Baras 11  TH-PL-D2-ECES
VOCs, SVOCs and Particles: Toxicity and Effects on IAQ

TH-PL-D2-42
Airborne particles inside occupied residences more toxic than outdoor particles. Results from 16 residences in Sweden
Wierzbicka A.¹, Omelekhina Y.¹, Thoustrup Saber A.¹, Bloom E.¹, Strandberg B.¹, Page I.¹, Jacobsen N.R.²; ¹Ergonomics and Aerosol Technology, Lund University, Lund, Sweden, ²The National Research Centre for the Working Environment, Copenhagen, Denmark, ³RISE Research Institutes of Sweden, Stockholm, Sweden, ⁴Occupational and Environmental Medicine, Lund University, Lund, Sweden

TH-PL-D2-43
Identifying new substances in indoor air from a retrospective analysis of chromatograms
Achille J., Nicolas M., Ramalho O., Thiry P., Boulanger G., Keirsbulck M., Pernelet-Joly V., Mandin C.; ¹Scientific and Technical Center for Building (CSTB), Paris, France, ²French Agency for Food, Environmental and Occupational Health and Safety (ANSES), Maisons-Alfort, France

TH-PL-D2-44
On-line coupling of thermal extraction with gas chromatography / tandem mass spectrometry for the analysis of semi-volatile organic compounds (SVOCs) in a very small amount of indoor settled dust
Mercier F., Rafly G., Gilles E., Souard P., Mandin C., Dassonville C., Le Bot B.; ¹EHESP/Irset-Inserm UMR, Rennes, France, ²CSTB, Marne-la-Vallée, Paris, France

TH-PL-D2-45
Kadin S., Dakwak L.S.; ¹University of Nigeria, Nsukka, Nigeria
Technical Program

Thursday, August 22
11:30 am - 12:30 pm

VIP Hall  TH-PL-E2-CPC
Ventilation and Indoor Air Quality Studies

TH-PL-E2-46
Humanity moved from "Ecosystem Nature" into "Sealed Building Biotopes"
Hugentobler W., Former lecturer at Inst. of Primary Care, University Zurich

TH-PL-E2-47
The impact of cooling and ventilation strategies on exposure in lecture rooms using CO2 as surrogate
Yang J.¹, Tham K.W.¹, Santamouris M.², Sekhar C.³, Mohan Kumar D.I.¹, Horák O.³; ¹National University of Singapore, Singapore, ²University of New South Wales, Sydney, Australia, ³Czech Technical University in Prague, Prague, Czech

TH-PL-E2-48
Thermal comfort in a deep plan naturally ventilation atrium: a two year case study.
Hathway A.¹, Ramsay T.¹, Hacker J.², Salgado A.³, Rana D.¹; ¹University of Sheffield, Sheffield, United Kingdom, ²Arup, London, United Kingdom

TH-PL-E2-49
The Microbiome Of Occupants And The Built Environment At The United States Air Force Cadets
Hoisington A.¹, Maestre J.², Kinney K.³, Brenner L.³, Lowry C.³; ¹Air Force Institute of Technology, Wright-Patterson AFB, OH, USA, ²University of Texas Austin, Austin, TX, USA, ³Department of Veteran Affairs, Denver, CO, USA, ⁴University of Colorado Boulder, Boulder, CO, USA

TH-PL-A3-EHR
Multi-Chemicals’ Assessment Indoors

TH-PL-A3-50
Can we really promote air quality by essential oil diffusion?
Verriele M.¹, Angulo Milhem S.¹, Nicolas M.², Thevenet F.¹; ¹IMT Lille Douai, Douai, France, ²CSTB, Grenoble, France

TH-PL-A3-51
Indoor VOCs, aldehydes and particle number concentration measurements in the German Environmental Survey for Children and Adolescents (GerES 2014-2017)
Birmili W.¹, Daniels A.¹, Bethke R.¹, Neumann K.¹, Schectner N.¹, Miethig S.¹, Brenske K.-R.¹, Kura J.¹, Pietsch A.¹, Niemeyer T.¹, Rucic E.¹, Kolossa-Gehring M.¹, Conrad A.¹; ¹German Environment Agency, Berlin, Germany

TH-PL-A3-52
Bioaerosols in indoor households post-2018 Kerala (India) floods
Muthalagu A.¹, Qureshi A.¹, Bhargava A.¹; ¹Hyderabad, Telangana, India

TH-PL-A3-53
The IMAGE project: A human biomonitoring assessment to evaluate glyphosate exposures among families in the Irish population
Connolly A.¹, Koch H.M.², Kolossa-Gehring M.², Conrad A.², Coggs M.²; ¹Centre for Climate and Air Pollution Studies, School of Physics and the Ryan Institute, National University of Ireland, University Road, Galway, Ireland, ²Institute for Prevention and Occupational Medicine of the German Social Accident Insurance, Institute of the Ruhr-Universität Bochum (IPA), Bochum, Germany, ³German Environment Agency (Umweltbundesamt), Berlin/Dessau-Roßlau, Germany

TH-PL-A3-54
The benefit of multi-residue analysis in biomonitoring – an example of polycyclic aromatic hydrocarbons exposure assessment with hair analysis
Appenzeller B.¹, Palazzi P.¹, Mezzache S.², Bourouba N.², Hardy E.¹, Schritz A.¹, Bastien P.², Emond C.¹, Li J.², Soeur J.²; ¹Luxembourg Institute of Health, Strassen, Luxembourg, ²L’Oréal Research and Innovation, Aulnay sous Bois, France
Technical Program

Thursday, August 22
2:00 pm - 3:30 pm

Basic Hall  TH-PL-A3-EHR
Multi-Chemicals’ Assessment Indoors [cont.]

TH-PL-A3-55
Exposure to recovery workers and residents from chemicals released during floods – risk mitigation and applications for waterfront communities
Chaisson C.F.¹, Chari R.¹, Madrigano J.², Osorio J.C.³, Diskin K.¹; ¹The LifeLine Group, Annandale, VA, USA, ²RAND Corp, Arlington, VA, USA, ³NYC-EJA, NEW York NY, USA

Nemunas  TH-PL-B3-HBM
Assessment of Exposures in Home and School Environments and Associated Health Effects

TH-PL-B3-56
Neonicotinoid exposure in the U.S. general population
Calafat A.¹, Wang L.-Y., Baker S., Bishop Serafin A., Morales-Agudelo P., Ospina M.; ¹Centers for Disease Control and Prevention, Atlanta, GA, USA

TH-PL-B3-57
Cigarette Smoking, Smokeless Tobacco Use Prevalence, and Secondhand Smoke Exposure Evaluated Using Serum Cotinine Levels in the Time-frame of the Cheyenne River Sioux Tribal Clean Air Ordinance
Erdei E.¹, O’Donald E.¹, Miller C.¹, O’Leary R.¹, Foos K.¹, Nez-Henderson P.², O’Leary M.³, Lewis J.¹, Henderson J.¹; ¹University of New Mexico Health Sciences Center, Albuquerque, New Mexico, ²Missouri Breaks Industries Research Inc., Eagle Butte, NM, USA, ³Black Hills Center for American Indian Health, Rapid City, SD, USA

TH-PL-B3-58
Moisture damage related microbiota of classrooms and associations with respiratory health.
Adams R.¹, Karvonen A. M.², Leppänen H. K.³, Jacobs J.², Vepsäläinen A.², Vorkoven M.³, Krop E.³, Zock J.-P.³, Heederik D.³, Valkonen M.²; ¹California Department of Public Health, Richmond, CA, USA, ²Institute for Risk Assessment Sciences, Utrecht University (IRAS), Utrecht, The Netherlands, ³Institute for Risk Assessment Sciences, Utrecht University (IRAS), Utrecht, The Netherlands

TH-PL-B3-59
Quantifying the Short-Range Airborne Transmission of Expiratory droplet Nuclei by Two Breathing Thermal Manikins
Liu L.¹, Fu L.², Wang Y.², Zhang Y.², Meng X.³, Wang L.³, Duan M.¹, Nielsen P.V.4, Jensen R.L.4, Li Y.⁵; ¹Department of Building Science, Tsinghua University, Beijing, China, ²State Key Laboratory of Green Building in Western China, Xi’an, China, ³School of Building Services Science and Engineering, Xi’an University of Architecture and Technology, Xi’an, China, ⁴Department of Civil Engineering, Aalborg University, Aalborg, Denmark, ⁵Department of Mechanical Engineering, the University of Hong Kong, Hong Kong, China

TH-PL-B3-60
Home environment and health: Domestic risk factors for rhinitis, throat symptoms and non-respiratory symptoms among adults across China
Zhang X., Norbäck D., Zhang Y., Li B., Zhao Z., Huang C., Deng Q., Qian H., Yang X., Sun Y., Sundell J.

TH-PL-B3-61
An Improved Approach for Highly-Efficient, Concentrated Sampling of Aerosol Particles from 10 nm to 10 µm: Bioaerosol Applications
Savage N.¹, Keady P.¹, Hering S.²; ¹Aerosol Devices Inc., Fort Collins, CO, USA, ²Aerosol Dynamics Inc., Berkeley, CA, USA
TH-PL-C3-PCP
Community Involvement in Air Quality Studies

TH-PL-C3-62
Community-engaged exposure assessment: a case study using toenails as biomarkers of metal exposures
Wilson J.¹, Levy J.¹, Korrick S.², Vieira V.¹, Hebert K.¹, Fabian M.P.³; ¹Department of Environmental Health, Boston University School of Public Health, Boston, MA, USA, ²Channing Division of Network Medicine, Department of Medicine, Brigham and Women’s Hospital and Harvard Medical School, Boston, MA, USA, ³Department of Environmental Health, Harvard T.H. Chan School of Public Health, Boston, MA, USA, ⁴Program in Public Health, Susan and Henry Samueli College of Health Sciences, University of California, Irvine, CA, USA, ⁵NorthStar Learning Centers, New Bedford, MA, USA

TH-PL-C3-63
The effects of global efforts of promoting cleaning cooking practices on solid fuel use and early child development
Nazif-Munoz J.I.¹, Oulhote Y.², Spengler J.¹; ¹Harvard University, Boston, MA, USA, ²University of Massachusetts, Amherest, MA, USA

TH-PL-C3-64
Indoor Air Quality and Thermal Comfort in Elderly Care Center in Lithuania
Dobravalskis M.¹, Didziariekytė U.¹, Leonavičiūtė G.¹, Gražulevičiūtė-Vileniške I.¹, Prasauskas T.¹, Martuzevičius D.¹, Seduikyte L.; ¹Civil Engineering and Architecture, Kaunas University of Technology, Kaunas, Lithuania

TH-PL-C3-65
Report back of low-cost air particulate sensor data to community participants
Korfmacher K.¹, Hopke P.¹; ¹University of Rochester Medical Center, Rochester, NY, USA

TH-PL-C3-66
Fractured effects of solid fuel use in early child development: analyses of urban and rural territories in Ghana
Nazif-Munoz J.I.¹, Oulhote Y.², Spengler J.¹; ¹Harvard University, Boston, MA, USA, ²University of Massachusetts, Amherest, MA, USA

TH-PL-C3-67
What can you learn about Indoor Environmental Quality in Homes using Low Cost Sensors?
Miller S.¹, Auguste D.¹, Wang L.¹; ¹University of Colorado Boulder, CO, USA

TH-PL-D3-ECS
Minimizing Stressor Exposures: From Source Control to Workplaces

TH-PL-D3-68
Test method for measuring pollutant removal of induction cooktop with integrated downdraft
Jacobs P.¹, Borsboom W.¹; ¹TNO, Delft, The Netherlands

TH-PL-D3-69
An intervention field study to improve ventilation, indoor air quality, and the respiratory health in northern and remote homes
Aubin D.¹, Ouazia B.¹, Poulin P.¹, Levesque B.², Tremblay F.², Louis L.-P.², Duchaine C.², Degois J.², Maltais F.², Brisson M.², Savignac M.², Boucher P.²; ¹National Research Council Ottawa, Canada, ²Institut national de sante publique du Quebec, Quebec City, Canada, ³Universite Laval, Quebec City, Canada, ⁴Nunavik Regional Board of Health and Social Services, Quebec City, Canada, ⁵Kativik Municipal Housing Bureau, Kuujjuuaq, Canada

TH-PL-D3-70
Building air quality guide for air polluted environment vis-à-vis the need for real time data
Ogbonda U.; University of Salford, Manchester, United Kingdom
Baras 11  TH-PL-D3-ECS
Minimizing Stressor Exposures: From Source Control to Workplaces [cont.]

TH-PL-D3-71
A database to document and retrieve effectiveness test results of risk management measures for workers’ exposures to chemicals
Fransman W.¹, Goede H.¹, Urbanus J.², Meijster T.³, Wind T.⁴; ¹TNO, Zeist, The Netherlands, ²Shell, Den Haag, The Netherlands, ³Henkel, Düsseldorf, Germany

TH-PL-D3-72
Streetscape noise attenuation by tree canopy and ground vegetation cover in Toronto, Canada
Oiamo T.H.¹, Stefanova D.¹, Connor C.¹; ¹Ryerson University, Toronto, Ontario, Canada

TH-PL-D3-73
An exposome-based approach to compare the health impacts of multi-stressor exposures
Jolliet O.¹, Stylianou K.¹; ¹Environmental Health Science, School of Public Health, University of Michigan, Ann Arbor, MI, USA

VIP Hall  TH-PL-E3-CPC
Indoor Environment, Occupant Health and Behavior

TH-PL-E3-74
Investigating the in vitro metabolism of the dental resin monomers BisGMA, BisPMA, TCD-DI-HEA and UDMA using human liver microsomes and quadrupole time of flight mass spectrometry
Vervliet P.¹, Van Den Plas J.¹, De Nys S.¹, Duca R.², Boonen I.³, Elskens M.³, Van Landuyt K.³, Covaci A.¹; ¹Toxicological Centre, University of Antwerp, Wilrijk, Belgium, ²KU Leuven (University of Leuven), Department of Oral Health Sciences, BIOMAT & University Hospitals, Leuven (UZ Leuven), Belgium, ³Department of Analytical, Environmental and Geo-Chemistry, Vrije Universiteit Brussel, Brussels, Belgium

TH-PL-E3-75
Human lung constructs as a model to study exposure to indoor air particulate matter
Huttunen K.¹, Nordberg M.-E.¹, Täubel M.², Hyvärinen A.²; ¹University of Eastern Finland (UEF), Kuopio, Finland, ²National Institute for Health and Welfare, Kuopio, Finland

TH-PL-E3-76
Perfluoroalkyl substances interfere with female reproductive and immune health
Feng Y.¹, Wang W.¹, Liang F.¹, Zhang J.¹, Wang Y.¹; ¹College of Public Health, Shanghai Jiao Tong University School of Medicine, Shanghai, China

TH-PL-E3-77
Biophilic adaptation at the workplace: Multidimensional impact on human’s behavior
Sun S.¹, Ordoñez Meré J.¹, Yin J.², Zheng X.²; ¹Universidad Politécnica de Madrid, Madrid, Spain, ²Harvard T.H. Chan School of Public Health, Boston, MA, USA

TH-PL-E3-78
The combined effect of poor perceived indoor air quality and supervisor’s social support on long-term sickness absences in workplaces – a follow-up study
Finell E.¹, Nätti J.¹; ¹Tampere University, Tampere

TH-PL-E3-79
The effect of indoor air quality in Dutch higher education classrooms on students health and performance
Brink H.W.¹, Loomans M.G.L.C.², Mobach M.P.¹,², Kort H.S.M.²,³; ¹Hanze University of Applied Sciences, Groningen, the Netherlands, ²University of Technology, Eindhoven, the Netherlands, ³The Hague University of Applied Sciences, The Hague, the Netherlands, ⁴University of Applied Sciences, Utrecht, the Netherlands
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