

Pre-Conference Workshop

IPTC 2022, Sante Fe

Sunday Aug 28, 5:00-6:30 pm, La Fonda hotel, Stiha Room (2nd floor)

Animal models for air pollution need new approaches to reproducibility

Caleb E Finch (USC) and Matthew J Campen (UNM), Chairs.

Open to all registered attendees

Chronic exposure to elevated air pollution particles and gases is strongly associated with diseases of arteries, brain, heart, and lungs. Corresponding experimental animal models include exposure to ambient or concentrated air pollution particles, gases, and diverse subcomponents. Extensive data indicates shared biochemical and genomic responses of air pollution associated diseases. However, experimentalists are challenged by wide variations of ambient air pollution and its components by location and time, and different sources of sub-components, like diesel exhaust particles (DEP).

Speakers:

Pamela J. Lein (UC Davis) *Rodent models for exposure to traffic tunnel air pollution collected and delivered unchanged in real-time: strengths and limitations.*

C. E. Finch and Kristina Shkirkova (USC): *Diesel exhaust particles from NIST induce dose and time-dependent neurotoxic responses in mouse grey and white matter.*

Joel Kaufman (U Washington): *Freshly-generated, diluted, and aged diesel exhaust as an inhalation model for traffic-related air pollution: strengths and limitations.*

M.J. Campen: *Photoaging of polystyrene microspheres causes oxidative alterations to surface physicochemistry and enhances airway epithelial toxicity.*

Urmila Kodavanti (EPA): "Incorporating neuroendocrine mechanisms and resiliency in assessing air pollution health effects."

Johannes Passig (University of Rostock) "Which chemical aerosol properties shall be measured in particle toxicological studies? Novel approaches for particle characterization to complement aerosol toxicological studies"

Open discussion: Jon Samet (U Colorado), CE Finch and MJ Campen

Approaches to shared standards for animal exposures. Should we consider a shared air pollution particle standard, modeled after the 'Research Cigarette' for tobacco toxicity.

13th International Particle Toxicology Conference

La Fonda Hotel, Santa Fe, New Mexico

August 29-31st, 2022

Main Conference Agenda

CONFERENCE DAY 1 (Aug 29, 2022)

8:00	Convene, Registration, Breakfast	
8:40	Welcome, Opening Remarks	Campen, Brown, Gordon
9:00	Keynote – Is Wildfire Smoke PM2.5 More or Less Toxic than Non-wildfire PM2.5?	John Balmes, MD, University of California, San Francisco
9:40	Research seminars: Wildfire-Related Exposures and Health Effects.	Alexandra Noël, PhD, Matthew Campen PhD, Chairs
9:40	Pre-existent stress increases susceptibility to ozone and wildfire smoke exposure	Thomas Jackson, US Environmental Protection Agency
10:00	Neurometabolomic Impacts of Modeled Wildfire Smoke Exposure in Aged Female C57BL/6 Mice	David Scieszka, University of New Mexico
10:20	Repeated Exposure to Wildfire Smoke Alters Pulmonary Gene and Metabolic Profiles in Male Long-Evans Rats	Katelyn Dunigan-Russell, The Ohio State University
10:40	Coffee Break	
11:00	Invited Speaker – Wildfire Occupational Exposures	Olorunfemi Adetona, PhD, Ohio State University
11:40	Research seminars: Combustion-Source PM	Flemming Cassee, PhD, Chris Reilly, PhD, Chairs
11:40	Sputum macrophage carbon load as a biomarker for episodic exposure to ambient combustion particles	Shuguang Leng, University of New Mexico
12:00	Effect of Combustion Particle Morphology on Biological Responses in a Co-culture of Human Lung Epithelial (A549) and Macrophage-like (THP-1) Cells at Air-liquid Interface Exposure Conditions	Kamaljeet Kaur, University of Utah
12:20	Exposure to eucalyptus smoke during sperm maturation alters motility and non-coding RNAs in caudal sperm	Colette Miller, US Environmental Protection Agency
12:40	Inhalation toxicity of copper sulphate pentahydrate and dicopper oxide	Regulatory Compliance Limited, Edinburgh, UK
1:00	Paper of the Year – Particle and Fibre Toxicology	Flemming Cassee, Aaron Erdely
1:05	Lunch	Provided by Hotel
2:00	Invited Speaker – Is the placenta a barrier to microplastics?	Phoebe Stapleton, PhD, Rutgers University
2:40	Research seminars: PM Composition and health effects.	Marcus Garcia, Pharm.D., Eliseo Castillo, PhD, Chairs
2:40	Exposure and pulmonary toxicity assessments of dusts from machined plastic nanocomposites	Todd Stueckle, National Institute of Occupational Safety and Health, WV
3:00	Ultrafine particulate matter exposure aggravates pulmonary response to influenza infection during pregnancy	Natalie Johnson, Texas A&M University
3:20	Systemic Translocation of Polystyrene Microspheres: Quantitation Following Chronic Oral Gastric Exposure	Marcus Garcia, University of New Mexico
3:40	Invited Speaker – Airborne Plastics	Alison Elder, University of Rochester
4:10	Poster Session 1	Posters will be arranged on the perimeter of the Lumpkins Ballroom and around the Mezzanine. They will be displayed all day, but attended from 4-6 pm for a dedicated viewing and social networking opportunity.
6:00	Dinner – free schedule	Santa Fe is a culinary gem in the U.S. with a variety of Southwestern restaurants and other diverse options within walking distance from the hotel. We encourage attendees from near and far to enjoy their visit!

CONFERENCE DAY 2 (Aug 30, 2022)

8:00	Breakfast	Light breakfast will be available for attendees
8:45	Reconvene, Introduction of Speaker	Urmila Kodavanti, PhD, USEPA
9:00	Invited Speaker – The Potential Involvement of Inhaled Iron in the Neurotoxic Effects of Ultrafine Particulate Matter Air Pollution Exposure on Brain Development in Mice	Deborah Cory-Slechta, Ph.D. University of Rochester
9:40	Research seminars: Systemic Health Effects of PM.	Urmila Kodavanti, PhD, Flemming Cassee, PhD, Chairs
9:40	A Case for Amorphous Silica Exposure in the Development of Chronic Kidney Disease of an Unknown Etiology	Keegan Rogers, University of Colorado
10:00	Nanomaterial induced effects in the healthy vs. diseased liver	Ali Kermanizadeh, University of Derby
10:20	Understanding the Lung - Gut Axis by Modeling the Influence of Genetic Diversity, Welding Fume Inhalation Exposure, and Lifestyle, on the Profile of Gut	Vamsi Kodali, National Institute of Occupational Safety and Health, WV
10:40	Coffee Break	
11:00	Emulating near - roadway exposure to traffic - related air pollution via real - time emissions from a major freeway tunnel system	Keith Bein, University of California, Davis
11:20	The effects of chronic exposure to ambient traffic-related air pollution on Alzheimer's disease phenotypes in wildtype and genetically predisposed male and female rats	Pamela Lein, University of California, Davis
11:40	The effects of traffic-related air pollution exposure on Alzheimer's disease-like pathology in mice	Roel Schins, IUF-Leibniz Research Institute for Environmental Medicine
12:00	Neurotoxic Responses to Diesel Exhaust Particle NIST 2975	Kristina Shkirkova, University of Southern California
12:20	Bridging the Pulmonary Toxicity of Inhaled Vapor/Liquid and Solid Particle-like Phases	Prof. Jürgen Pauluhn
12:40	Who put gases (aldehydes) in my particles? Electronic cigarette-derived particles (and gases) in cardiovascular and pulmonary toxicity	Daniel Conklin, University of Louisville
1:00	Lunch	Provided by Hotel
2:00	Invited Speaker – PM Dosimetry: Translating In Vitro Studies to Regulatory Decision Making	Annie Jarabek, USEPA
2:40	Research seminars: Emerging Science, Novel Approaches	Aaron Erdely, PhD and Terry Gordon, PhD, Chairs
2:40	Lipid Mediated Exacerbation of Nanoparticle-Induced Pulmonary Inflammation	Jonathan Shannahan, Purdue University
3:00	Cholesterol and particle-induced lysosomal membrane permeability	Rebekah Kendall, University of Montana
3:20	Serum Peptidome: Diagnostic Window into Pathogenic Processes following Occupational Exposure to Carbon Nanomaterials	Andrew Ottens, Virginia Commonwealth University
3:40	Invited Speaker – Nanoparticle modulation of pulmonary immune responses to inhaled allergens	Jamie Bonner, North Carolina State University
4:10	Poster Session 2	Posters will be arranged on the perimeter of the Lumpkins Ballroom and around the Mezzanine. They will be displayed all day, but attended from 4-6pm for a dedicated viewing and social networking opportunity.
6:00	Dinner – La Terraza	Southwestern-themed dinner for all attendees will be provided in the indoor-outdoor La Terraza facility at the La Fonda Hotel

CONFERENCE DAY 3 (Aug 31, 2022)

8:00	Reconvene, Introduction of Speaker	Jared Brown, PhD
8:20	Keynote – A Panorama of Airborne Particles: From Then to Now and From Local to Global	Jon Samet, MD, University of Colorado School of Public Health
9:00	Research seminars. Global PM Issues	Jared Brown, PhD and Roel Schins, PhD , Chairs
9:00	Endotoxin exacerbates the NLRP3-dependent inflammatory potency of Saharan dust	Gerrit Bredeck, IUF – Leibniz Research Institute for Environmental Medicine
9:20	Characterization and in vitro toxicology of Subway PM	David Luglio, New York University
9:40	Heavy metal-laden particulate exposure induces enteroendocrine expansion in adult human colonoids	Roger Atanga, University of New Mexico
10:00	Coffee Break	Mezzanine
10:20	Are ultrafine particles from aircraft of more concern compared to those from road traffic?	Flemming Cassee, PhD, RIVM
10:50	Pulmonary Toxicity of Particulate Matter Emitted from Firearms	Ian Gilmour, US Environmental Protection Agency
11:10	Interactive outcomes after ultrafine particle and ozone mixed inhalation exposures	Salik Hussain, West Virginia University
11:30	The Importance of a Multidisciplinary Approach in Inhalation Toxicology	Danielle Carlin, NIEHS
11:50	In Memorium – Remembering Jon Hotchkiss, Renaud Vincent, and Bruce Boecker	Roger McClellan
12:10	Concluding remarks, Student Awards	Matthew Campen , Alexandra Noël ,