



IPXIII & NanOEH

MONDAY 15TH MAY

14:30 Registration, exhibition and Poster Set-up

15:30 Opening remarks
Conference Chairs & BOHS President

15:45 **Keynote**
An overview of carbon nanotube carcinogenesis from mouse inhalation data
Prof. Jun Kanno (National Institute of Health Sciences, Japan)

16:30 **1A: *In vivo* Nanotoxicology**

Carcinogenicity risk assessment of various carbon nanotubes by intra-tracheal intra-pulmonary spray (TIPS) dosing followed by 2-year observation.

Hiroyuki Tsuda

Persistent macrophage depletion and arrested replenishment is dependent on carbon nanotube type as shown by single cell transcriptomics.

Carola Voss

Chronic Immunotoxicity of Multi-Walled Carbon Nanotubes on Macrophages via MMP-12.

Naozumi Ishimaru

Nitrogen-Doped Multi-Walled Carbon Nanotubes show attenuated Pathogenicity in a Mouse Model of Pleural Exposure.

Marion MacFarlane

1B: Silica Hazard

Biomonitoring for respirable crystalline silica: Determination of Si-containing particles in exhaled breath condensate using single particle inductively coupled mass spectrometry.

Jackie Morton

Acute and chronic effects on inflammatory markers by quartz and particle exposure in the iron foundry environment.

Alexander Hedbrant

A Case for Amorphous Silica Nanoparticle Exposure in the Development of Chronic Kidney Disease of Unknown Etiology.

Jared Brown

Nearly free surface silanols: from silica towards a new paradigm for particle toxicity.

Cristina Pavan.

17:30 Day One Close

18:00 Welcome reception

Please note the programme is subject to change



IPXIII & NanOE

TUESDAY 16TH MAY

09:15

Keynote

Characterising microplastic exposure and hazards: challenges and opportunities.
Dr. Stephanie Wright (Imperial College London, UK)

10:00

2A: Micro-/Nano-plastics and Human Health

Evaluation of the toxicity, alveolar cell accumulation and clearance of PET and PS nanoplastics in mouse lungs.

Thomas Loret

The relative toxicity and bioreactivity of ambient microplastic pollution to human alveolar lung epithelial cells with and without urban PM2.5.

Julia Laskovska

Elucidating the Impact of Inhaled Micro-, Nanoplastics (MNPs) from Surgical Face Masks In Vitro.

Lewis Hodgetts

Exposures to Airborne Human-Respirable Microplastic Particles.

Alison Elder

2B: Exposure Modelling

Nano Exposure Quantifier (NEQ) - A quantitative tool for assessing exposure in the workplace.

Wouter Fransman

Combination of screening and higher tier modelling approaches for estimating inhalation exposure during spray applications.

Stefan Hahn

Novel Stoffenmanager® algorithms for quantitative estimation of exposure to respirable dust and quartz in construction, formulating and metal manufacturing industry.

Hicham Zilaout

Meteorological influence on measurement strategy and estimated respirable dust and respirable crystalline silica exposure levels within the European Minerals Industry.

Nicola Blagrove-Hall

11:00

Break & Exhibition

11:30

3A: Particle Measurement Evaluation

HUMITIPAA: A Robotic System for Real-time Analysis of Inhaled Sub-micron and Microparticles.

Kambez Benam

Microplastic References for Inhalation Studies.

Katherine Santizo

3B: Alternative Methods for Toxicology Testing

Advancing In Vitro Airway Models for Engineered Nanomaterial Genotoxicity Testing.

Stephen J. Evans

In vitro cytokinesis block micronucleus (CBMN) assay to evaluate the genotoxicity of multicomponent nanomaterials – a tiered testing approach.

Angela Saccardo

	Laboratory testing of an innovative respirable sampler and chemical analysis of filters at multiple research facilities. Delphine Bard	Finding optimal methods for SbD hazard testing of nanomaterials: The effect of cell model and exposure method on cytokine response. Nienke Ruijter
	Colorimetric Assessment of Household Settled Dust Captured on Silicon Nanomembranes. Samantha Romanick	Effect of multi-walled carbon nanotube exposure on wild type and p53+/- rat lungs. Laurent Gaté
	A test chamber to quantify emission factors for welding fumes. Bernadette Quemerais	Human lung organoids predict response to carbon-based nanomaterials and model pulmonary fibrosis. Rahaf Issa.

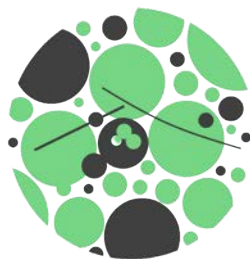
12:45
Lunch & Exhibition

13:45
Poster flash presentations

15:15
Break - Official Poster Session

16:00	5A: Adverse Outcome Pathways	5B: Heart, Mind & Body
	Metabolomics study of a lung model exposed to different ultrafine particles (UFP) aerosols. Rasha Alsaleh	Safe-by-design advanced materials: A case study on paint formulation Neeraj Shandilya
	Lung single cell transcriptomics to guide the development of AOP anchored cell-based assays in response to nanoparticle exposure. Lianyong Han	Toxicity Assessment of a Carbon Nanotube Embedded Concrete Aaron Erdley
	Longitudinal Profiling of Carbon Nanotube-induced Sporadic Mesothelioma Development: defining the Adverse Outcome Pathway for Disease Progression. Joaquin Zacarias Cabeza	Fibre-aerogel-mats for façade insulation: How to guide SSbD development by screenings? Wendel Wohlleben
	TBC TBC	A task-based approach to nanomaterials exposure assessment in the construction trades Gavin West

17:05	Keynote Adverse Outcome Pathways – a framework for designing Novel Approach Methods for safety assessment Dr. Sabina Halappanavar (Health Canada, Canada)
17:45	Day 2 Close
19:00	Social Event: Conference dinner – Hilton Hotel



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WEDNESDAY 17TH MAY

09:15

6A: Non-exhaust Particle Health Effects

Toxicity of aircraft engine emissions in Calu-3 human bronchial cells in air-liquid interface condition

Gloria Melzi

Physicochemical Characterisation and Potential Health Effects of Tyre Wear Particles

David O'Loughlin

Dual proteomic exploration of the mechanisms underlying brake dust-induced impairment of phagocytic capacity in macrophages

Liza Selley

Tyre wear particle sampling position during real-world driving impacts bioreactivity on human lung alveolar epithelial cells in vitro

Toyosi Akande

Differential alveolar toxicity of exhaust and non-exhaust fine particulate matter

James Parkin

Photochemical aging increases toxicity of EURO 6 gasoline car exhaust in lung epithelial cells at the air-liquid interface

Mathilde N. Delaval

6B: Particle Risk and Construction Materials

(Nano)particle exposure, acute phase response and cardiovascular disease.

Ulla Vogel

Biological effects of Benzo-[A]-Pyrene and cerium nanoparticles on the human placental barrier

Gaëlle Deval

Placental-fetal distribution of carbon particles in a pregnant rabbit model after repeated exposure to diluted diesel engine exhaust.

Eva Bongaerts

Behavior and effect of nanoparticles on neutrophil recruitment in the pulmonary microcirculation.

Chenxi Li

An approach to test effects on secondary organs via lung cells exposed at the air liquid interphase.

Espen Mariussen

Inhalation exposure to traffic-related air pollution accelerates Alzheimer's disease-like pathology in a murine model.

Roel P. F. Schins

10:45

Break & Exhibition

11:15

7A: Air Pollution and Human Health

Using advanced in vitro approaches to elucidate the differential toxicity of nitrogen dioxide and particulate matter in ambient air pollution

Joshua Bateman

7B: Occupational Exposure Surveys

Engineered Nanoparticle Resuspension Contributing to Inhalation Exposure from Contaminated Protective Clothing

Candace Tsai

Assessment of gene expression modulation using graph analysis on pairwise expression ratios. Impact of PM2.5-0.3 on 3-D bronchial epithelium model.

Philomène Despréaux

Workplace exposure to ultrafine particles, dust, and chemicals during plastic production with recycled plastics

Patrick Ferree

Effect of Atmospheric Aging on Soot Particle Toxicity in Airway Epithelial-Endothelial Co-culture Models at the Air-Liquid Interface

Svenja Offer

Emission and exposure characterization during metal waste recycling

Christina Isaxon

TRPA1/V3-dependent regulation of airway epithelial cell damage and repair triggered by wood/biomass smoke particulate

Christopher Reilly

Exposure to soot, measured as black carbon and PAH, in Swedish chimney sweeps

Therese Klang

Keynote

12:20

Linking Air Pollution to Mortality: The role of the hallmarks of environmental insults.
Prof. Anette Peters (Universität München, Germany)

13:00

Lunch & Exhibition

14:00

8A: 2D Materials

8B: Risk Management Frameworks

Analysis of the material properties of importance in the classification of toxicity of graphene nanomaterials.

Jenny R. Roberts

Human hazard assessment of nanomaterials: Supporting risk decision making through interlaboratory trial data

Michael Burgum

First-in-human controlled exposure to inhaled graphene oxide

Mark Miller

Setting targets for particles in outdoor air: advice from the Committee on the Medical Effects of Air Pollutants (COMEAP)

Anna Hansel

Evaluating the risks of prolonged exposure to graphene oxide on healthy and Streptococcus pneumoniae infected 3D reconstituted human lung cultures

Tina Buerki-Thurnherr

A phase-gate nano-risk governance approach reflecting international standards

Keld Alstrup Jensen

Graphene – exposure and emissions at two pilot plants

Håkan Tinnerberg

A Framework for Grouping inhaled Multi-Component Nanomaterials to streamline hazard assessment.

Vicki Stone

15:00

Poster flash presentations

15:30

Break & Exhibition

16:00	10A: Occupational Health and Biomarkers	10B: Risk Management Evaluation
	An approach towards in vitro-based human toxicity effect factors for the Life Cycle Impact Assessment of inhaled low-solubility particles. Peter Wick	Exposure to metals and particles in welding and episodes of asthma/wheeze and rhinitis: a Canadian cohort study. Nicola Cherry
	Safe-by-Design guidance for MultiComponent Nanostructured Materials (MCNM): heavy metals containing perovskites Veronica Di Battista	The Adverse Health Effects of Exposure to PM2.5 on the London Underground Justie Mak
	The InnoMat.Life Extended Fibre Human Risk Banding Scheme Andrea Haase	Short-term exposure to nanomaterials and effect biomarkers at local and systemic levels: dose-response modelling results from the NanoExplore project Irina Guseva Canu
	Toward a general approach to risk assessment of naturally occurring asbestos and asbestos-like minerals: the case of fibrous antigorite Francesco Turci	Urinary metals exposure and oxidative stress biomarkers in nanotechnology workers: results from the NanoExplore project Valeria Bellisario
17:05	Keynote Understanding Exposure, Hazard Identification, and Human Health Effects: How Ultrafine Particle Toxicology Influenced Occupational Safety and Health. Dr. Aaron Erdely (National Institute for Occupational Safety and Health (NIOSH), US)	
17:45	Day 3 Close	
	Evening at leisure	



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THIRSDAY 18TH MAY

09:15

11A: Metal and Metal Oxides Particle Risk

11B: Air Pollution: Susceptible Scenarios

Understanding how CeO₂ nanoparticles modulate bleomycin-induced inflammatory and fibrotic events in both in vivo and in vitro models

Chang Guo

Effects of indoor air pollution on both a healthy and “an inflamed” model of the alveolar barrier in vitro.

Kirsty Meldrum

Solubility and the toxicity of metal oxide nanoparticles: Looking through the lens of toxicogenomics and DNA damage

Andrey Boyadzhiev

2D-hexagonal boron nitride and lung exposure: Exploring long-term effects in healthy versus asthmatic human lung in vitro model

Govind Gupta

Evaluating the potential exposure to metal fine and nano particles generated during wire and powder Laser Metal Deposition

Roberta Pernetti

Understanding the effects of quartz aerosols on human airway 3D models combined with primary macrophages

Sandeep Keshavan

Insights from workplace exposure campaigns during metal 3D printing procedures with portable equipment to monitor ultrafine particles emissions

Carla Martins

Endotoxin exacerbates the NLRP3-dependent inflammatory potency of Saharan dust

Gerrit Bredeck

Murine expression of humanized Toll-like receptor 4 augments local and systemic immune responses following oropharyngeal aspiration of nickel oxide nanoparticles

Katie Roach

What is the association between smoking or vaping and COVID-19 susceptibility?

Rachel Bowsher

Downregulation of ABCG1 and ABCG4 transporters by rare earth oxide nanoparticles induces the pulmonary alveolar proteinosis

Soyeon Jeon

Use of a human bronchial epithelium model to assess the impact of PM_{2.5} exposure on the severity of viral infections

Chloé Chivé

10:45

Break & Exhibition

11:15

12: Analytical Techniques for Particle Risk Assessments

Raman Spectroscopy to Monitor Short-Term and Transient RCS Aerosol Exposure

Zoltán Szakács

Monitoring diesel exhaust particles by lock-in thermography

Ruiwen He

Multimodal imaging and artificial intelligence unveil hot-spot deposition, bronchial/alveolar dose and cellular fate of biopersistent nanoparticles in the lung

Lin Yang

Alveolar macrophage degranulation initiates the spatially restricted innate immune response during ventilator-assisted nanoparticle inhalation

Qiongliang Liu

12:20

Keynote

Useful measurements of air pollutants for evaluating their impacts on health.

Prof. Gordon McFiggans (University of Manchester, UK)

13:00

Prize Giving and Closing Remarks

Conference Chairs

13:30

Lunch

14:00

Close of Conference