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**	**1B: Silica Hazard**
	Carcinogenicity risk assessment of various carbon nanotubes by intra-tracheal intra-pulmonary spray (TIPS) dosing followed by 2-year observation **Hiroyuki Tsuda**	Biomonitoring for respirable crystalline silica: Determination of Si-containing particles in exhaled breath condensate using single particle inductively coupled mass spectrometry **Jackie Morton**
	Persistent macrophage depletion and arrested replenishment is dependent on carbon nanotube type as shown by single cell transcriptomics **Carola Voss**	Acute and sustained effects on inflammatory markers by quartz and particle exposure in the iron foundry environment **Alexander Hedbrant**
	Chronic Immunotoxicity of Multi-Walled Carbon Nanotubes on Macrophages via MMP-12 **Naozumi Ishimaru**	A Case for Amorphous Silica Nanoparticle Exposure in the Development of Chronic Kidney Disease of Unknown Etiology **Jared Brown**
	Nitrogen-Doped Multi-Walled Carbon Nanotubes show attenuated Pathogenicity in a Mouse Model of Pleural Exposure. **Marion MacFarlane**	Nearly free surface silanols: from silica towards a new paradigm for particle toxicity **Cristina Pavan**
17:30	**Day One Close**	
18:00-20:00	**Welcome Drinks Reception – 23rd Floor Cloud Bar private function area**	

Please note the programme is subject to change

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TUESDAY 16TH MAY

08:00 - 09:00 — Registration, Refreshments, Exhibition & Poster Viewing

09:00 — Keynote

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

09:45

2A: Micro-/Nano-plastics and Human Health	2B: Exposure Modelling
Evaluation of the toxicity, alveolar cell accumulation and clearance of PET and PS nanoplastics in mouse lungs **Thomas Loret**	Nano Exposure Quantifier (NEQ) - A quantitative tool for assessing exposure in the workplace **Wouter Fransman**
The relative toxicity and bioreactivity of ambient microplastic pollution to human alveolar lung epithelial cells with and without urban PM2.5 **Julia Laskovska**	Combination of screening and higher tier modelling approaches for estimating inhalation exposure during spray applications **Stefan Hahn**
Elucidating the Impact of Inhaled Micro-, Nanoplastics (MNPs) from Surgical Face Masks In Vitro **Lewis Hodgetts**	Novel Stoffenmanager® algorithms for quantitative estimation of exposure to respirable dust and quartz in construction, formulating and metal manufacturing industry **Hicham Zilaout**
Exposures to Airborne Human-Respirable Microplastic Particles **Alison Elder**	Meteorological influence on measurement strategy and estimated respirable dust and respirable crystalline silica exposure levels within the European Minerals Industry **Nicola Blagrove-Hall**

10:45 — Break & Exhibition

11:15

3A: Particle Measurement Evaluation	3B: Alternative Methods for Toxicology Testing
Microplastic References for Inhalation Studies **Katherine Santizo**	Advancing In Vitro Airway Models for Engineered Nanomaterial Genotoxicity Testing **Stephen J. Evans**
Laboratory testing of an innovative respirable sampler and chemical analysis of filters at multiple research facilities **Delphine Bard**	In vitro cytokinesis block micronucleus (CBMN) assay to evaluate the genotoxicity of multicomponent nanomaterials – a tiered testing approach **Angela Saccardo**

	Colorimetric Assessment of Household Settled Dust Captured on Silicon Nanomembranes **Samantha Romanick**	Finding optimal methods for SbD hazard testing of nanomaterials: The effect of cell model and exposure method on cytokine response **Nienke Ruijter**
	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**
12:15	**Lunch & Exhibition**	
13:15	**Session 4: Poster Flash Presentations**	
15:00	**Break - Official Poster Session**	
15:45	**5A: Adverse Outcome Pathways**	**5B: Particle Risk and Construction Materials**
	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**
	Effect of multi-walled carbon nanotube exposure on wild type and p53+/- rat lungs **Laurent Gaté**	A task-based approach to nanomaterials exposure assessment in the construction trades **Gavin West**
16:50	Keynote **Adverse Outcome Pathways – a framework for designing Novel Approach Methods for safety assessment** **Dr. Sabina Halappanavar (Health Canada, Canada)**	
17:30	**Day 2 Close**	
19:00	**Pre-dinner drinks in the Deansgate Foyer, followed by Dinner, drinks & music in the Deansgate Suite from 19:30**	

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WEDNESDAY 17TH MAY

08:00 - 09:00	Registration, Refreshments, Exhibition & Poster Viewing	
09:00	**6A: Non-Exhaust Particle Health Effects**	**6B: Heart, Mind & Body**
	Toxicity of aircraft engine emissions in Calu-3 human cells in air-liquid interface condition **Gloria Melzi**	(Nano)particle exposure, acute phase response and cardiovascular disease **Ulla Vogel**
	Physicochemical Characterisation and Potential Health Effects of Tyre Wear Particles **David O'Loughlin**	Biological effects of Benzo-[A]-Pyrene and cerium nanoparticles on the human placental barrier **Gaëlle Deval**
	Dual proteomic exploration of the mechanisms underlying brake dust-induced impairment of phagocytic capacity in macrophages **Liza Selley**	Placental-fetal distribution of carbon particles in a pregnant rabbit model after repeated exposure to diluted diesel engine exhaust **Eva Bongaerts**
	Tyre wear particle sampling position during real-world driving impacts bioreactivity on human lung alveolar epithelial cells in vitro **Toyosi Akande**	Behavior and effect of nanoparticles on neutrophil recruitment in the pulmonary microcirculation **Chenxi Li**
	Differential alveolar toxicity of exhaust and non-exhaust fine particulate matter **James Parkin**	An approach to test effects on secondary organs via lung cells exposed at the air liquid interphase **Espen Mariussen**
	Photochemical aging increases toxicity of EURO 6 gasoline car exhaust in lung epithelial cells at the air-liquid interface **Mathilde N. Delaval**	Inhalation exposure to traffic-related air pollution accelerates Alzheimer's disease-like pathology in a murine model **Roel P. F. Schins**
10:30	Break & Exhibition	
11:00	**7A: Air Pollution and Human Health**	**7B: Occupational Exposure Surveys**
	Using advanced in vitro approaches to elucidate the differential toxicity of nitrogen dioxide and particulate matter in ambient air pollution **Joshua Bateman**	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**
12:05	Keynote **Linking Air Pollution to Mortality: The role of the hallmarks of environmental insults.** **Prof. Anette Peters (Helmholtz Munich, Germany)**	
12:45	**Lunch & Exhibition**	
13:45	**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**	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**	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**	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**
14:45	**Session 9: Poster Flash Presentations**	
15:15	**Break & Exhibition**	

15:45	**10A: Occupational Health and Biomarkers**	**10B: Risk Management Evaluation**
	Exposure to metals and particles in welding and episodes of asthma/wheeze and rhinitis: a Canadian cohort study **Nicola Cherry**	An approach towards in vitro-based human toxicity effect factors for the Life Cycle Impact Assessment of inhaled low-solubility particles **Peter Wick**
	The Adverse Health Effects of Exposure to PM2.5 on the London Underground **Justie Mak**	Safe-by-Design guidance for MultiComponent Nanostructured Materials (MCNM): heavy metals containing perovskites **Veronica Di Battista**
	Short-term exposure to nanomaterials and effect biomarkers at local and systemic levels: dose-response modelling results from the NanoExplore project **Irina Guseva Canu**	The InnoMat.Life Extended Fibre Human Risk Banding Scheme **Andrea Haase**
	Urinary metals exposure and oxidative stress biomarkers in nanotechnology workers: results from the NanoExplore project **Valeria Bellisario**	Toward a general approach to risk assessment of naturally occurring asbestos and asbestos-like minerals: the case of fibrous antigorite **Francesco Turci**
16:50	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)**	
17:30	**Day 3 Close**	
	Evening at leisure	

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THURSDAY 18TH MAY

08:00 - 09:00	Registration, Refreshments, Exhibition & Poster Viewing	
09:00	**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**
	Murine expression of humanized Toll-like receptor 4 augments local and systemic immune responses following oropharyngeal aspiration of nickel oxide nanoparticles **Katie Roach**	Understanding the effects of quartz aerosols on human airway 3D models combined with primary macrophages **Sandeep Keshavan**
	Downregulation of ABCG1 and ABCG4 transporters by rare earth oxide nanoparticles induces the pulmonary alveolar proteinosis **Soyeon Jeon**	Endotoxin exacerbates the NLRP3-dependent inflammatory potency of Saharan dust **Gerrit Bredeck**
	Evaluating the potential exposure to metal fine and nano particles generated during wire and powder Laser Metal Deposition **Roberta Pernetti**	What is the association between smoking or vaping and COVID-19 susceptibility? **Rachel Bowsher**
	Insights from workplace exposure campaigns during metal 3D printing procedures with portable equipment to monitor ultrafine particles emissions **Carla Martins**	Use of a human bronchial epithelium model to assess the impact of PM2.5 exposure on the severity of viral infections **Chloé Chivé**
10:30	Break & Exhibition	

11:00	**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**
12:05	Keynote **Useful measurements of air pollutants for evaluating their impacts on health.** **Prof. Gordon McFiggans (University of Manchester, UK)**	
12:45	**Prize Giving and Closing Remarks** **Conference Chairs**	
13:15	**Lunch**	
13:45	**Close of Conference**	

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POSTER LIST

An introduction to the SUNSHINE project investigating the risk assessment of multicomponent nanomaterials	Neil Hunt
Exploring the carcinogenic potential of nanoplastics	Josefa Domenech
Construction and characterization of a thermal spray coating aerosol generator	Eun Gyung Lee
Can the indoor environment influence the toxicity of indoor and outdoor air pollution particulates?	Kirsty Meldrum
Does developmental status and age of the lung influence the hazard elicited by exposure to both indoor and outdoor pollutants?	Kirsty Meldrum
Development of an integrated exposure pathway model for health impact assessment of traffic ultrafine particles (H2020 ULTRHAS-project)	Johan Øvrevik
An advanced triple cell co-culture of the alveolar epithelial barrier for inhalation hazard assessment in vitro	Joshua Bateman
Functional requirements to develop a new risk assessment model for exposure to biological agents	Carlota Alejandre Colomo
The Mechanisms of Allergy to Fungal Bioaerosols in the Lung	Emma-Jane Goode
Particle and VOC emissions during the thermal processing of plastics to make filaments for 3D-printing	Gunilla Runström Eden
Cognitive decline, dementia and air pollution: A report by the Committee on the Medical Effects of Air Pollutants	Naomi Earl
Investigating the co-exposure of micro(nano)plastics and indoor/outdoor particulate matter using an alveolar barrier in vitro model	Olivia Whittle Wright
Particles in outdoor air: are they all equal?	Naomi Earl
Development of a physiologically-relevant in vitro model of the lung, incorporating novel peptide hydrogels as biomimetic extracellular matrix scaffolds	Fiona Murphy
Activation of the Aryl hydrocarbon Receptor - a major mode of combustion particle toxicity?	Johan Øvrevik
TRAAC framework and tool for regulatory acceptance and wider usability of tools/methods for safe innovation and sustainability of nanomaterials	Neeraj Shandilya

Assessing exposure to fungal bioaerosols in transport environments: Analysing fungal composition of passive dust samples collected in UK railway stations	Emma Marczylo
Assessing translocation of diesel particles across permeable insert membranes with different pore sizes	Gowsinth Gunasingam
Identifying physicochemical properties of nanomaterials as potential drivers of oral hazard and their modulation by safe and sustainable-by-design strategies	Adriana Roriguez-Garraus
Transferability and reproducibility of exposed air-liquid interface co-culture lung models	Flemming Cassee
Co-culture of human type I and type II pneumocyte cell lines as a model of alveolar epithelium for toxicity testing	Sonja Boland
Establishing a physiologically relevant in vitro airway model to assess the impacts of environmental exposures, like smoking, on COVID-19 susceptibility	Rachel Bowsher
The impact of cell passage number on elucidating toxicological mechanisms in vitro	Katie Marchant
Cross Government, Industry and Academia Knowledge Sharing Workshops on Opportunities for Advanced Materials (AM) in the UK	Delphine Bard
Risk assessment and management of exposure in a nanotechnology industrial plant: tools and exposure monitorization following a tiered approach	João Laranjeira

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POSTER FLASH LIST TUESDAY

The following posters will also have a presentation in the poster flash presentation sessions

Establishing a physiologically relevant in vitro airway model to assess the health impacts from different fungal species	Emma-Jane Goode
Elucidating an Association between Air pollution and Mental Health	Ella Christoforou
Impact of air pollution on lung immune responses in a mouse model of influenza infection	Lydie Martín-Faivre
Bugs and our airways: Successful development and evaluation of a school outreach project	Emma Marczylo
Validation of an Aerosol Exposure-Air Liquid Interface (AE-ALI) system to facilitate realistic hazard identification of nano-sized aerosols	Alison Buckley
Development of methods for exposure- and risk assessment of graphene	Tobias Storsjö
Inter- and intra-laboratory comparison of 6 dustiness testing methods: towards the development of an OECD testing guideline	Keld A. Jensen
Development of a direct reading instrument for oxidative potential measurement in air	Antonio Toto
Development of a test method to determine inhalation exposure of microplastic particles when reusable disposable masks in place	Jhy-Charm Soo
Top-down preparation and characterization of crystalline nanosilica for toxicological investigations	Chiara Bellomo
Humanising nanotoxicology testing: Moving towards animal-free approaches for hazard assessment of nanomaterials	Fiona Murphy
An introduction to the SbD4Nano project	Neil Hunt
Characterization of aerosolized particles generated during cutting of carbon nanotubes-embedded concrete	Eun Gyung Lee
Aerosolized particulate matter from fragmentation of Carbon Nanotube-enhanced concrete	Camilla Abrahamsson
The ULTRHAS project: ULtrafine particles from TRansportation – Health Assessment of Sources	Johan Øvrevik

An investigation into mechanisms responsible for (geno)toxicity induced by exposure to industrially-relevant multi-component nanomaterials and high aspect ratio nanomaterials	Sian Brooks
Retained particle surface area drives inflammation in rat lungs following acute, subacute, and subchronic inhalation of nanomaterials	Frédéric Cosnier
Impact of carbon nanoparticle–triggered gammaherpesvirus reactivation on lung immunity and diseases	Eva M. Guenther
Effects of Graphene Oxide, Molybdenum Disulfide and Boron Nitride on Human Dendritic Cells	Hazel Lin
Sugarcane Ash and Sugarcane Ash-Derived Silica Nanoparticles Alter Mitochondrial Function and Metabolic Activity in Human Proximal Tubular Kidney Cells	Arthur Stem
On the role of chemical identity over the size of model ultrafine particles driven (geno)-toxicity	Jana Pantzke
Combined exposure to road wear particles and diesel exhaust particles induces enhanced pro-inflammatory responses in cells of the human airways	Vegard Sæter Grytting
Linking the molecular mechanisms of alveolar macrophage cell death induced by inhaled nanoparticles with the subsequent pathological outcome	Hongyu Ren
MetalSafety – In vitro, ex vivo and in vivo investigations on particulate and nanofibrous metal compounds	Florian Schulz
Influence of the physicochemical properties of multi-walled carbon nanotubes on their toxicity in lung cells	Carole Seidel
Assessment of in vitro toxicity of inhalable incidental nanoparticles originating in the ceramic industry	Verónica Moreno Martín
Hybrid Nanostructures Using Polymers to Reduce the Toxicity of Inorganic Luminescent Nanomaterials and Organic Dyes	Masakazu Umezawa
Lung clearance kinetics and biotransformation of iron oxide nanoparticles: the role of particle dissolution	Jiyoung Jeong

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POSTER FLASH LIST WEDNESDAY

The following posters will also have a presentation in the poster flash presentation sessions

Changes in exposure and related health effects after preventive actions at black steel welding environments	Stefan Ljunggren
Investigation of workplace silica exposures using novel samplers and methods	Samantha Hall
Exposure assessment and health surveys at metal additive manufacturing facilities	Maria Assenhöj
Use of exposure data to evaluate the impact of the BOELV on industry practices; case study ASW/RCF	Dawn Webster
Inhalation exposure of copper particles - Quantitative differentiation between copper oxides and metallic copper	Katharina Bluemlein
An evaluation of uncertainty within control banding tools used for occupational exposure assessment of nanoforms and nano-enabled products	Rebecca Nebbia
Analysis of debris generated during the process of cutting and grinding of carbon fibers-reinforced plastics	Gaku Ichihara
Occupational exposure to particles measured by nanoparticles tracking analysis (NTA) in exhaled breath condensate (EBC)	Marco Panizzolo
Cumulative occupational exposure to nanoparticles, inflammatory biomarkers and respiratory health in the NanoExplore cohort	Giulia Squillacioti

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