

PROGRAM

WEDNESDAY, 11 OCTOBER 2017

08:00 Registration and coffee

09:30 Opening words

SESSION 1

Environmental Exposure Pathways

Chair: Christoph van Thriel

10:00 *Keynote: "Evaluating the Environmental Health and Safety Implications of Engineered Nanomaterials"*
William K. Boyes, United States Environmental Protection Agency, Research Triangle Park, NC, USA

10:45 "Modeled Engineered Nanomaterial (CeO₂, SiO₂, Ag) Releases and Concentrations in Germany"
Fadri Gottschalk, Institute of Safety and Risk Sciences (ISR), BOKU, Vienna, Austria

11:05 **Coffee break**

SESSION 2

Safe by Design

Chair: Annette Kraegeloh

11:25 *Keynote: "High-Throughput for Toxicology and Material Discovery with Particle Technology"*
Lutz Mädler, Foundation Institute of Materials Science (IWT) and University of Bremen, Germany

12:10 "The Safe-By-Design Concept and a Corresponding Platform for Nanomaterials, Driven by the Requirements of Regulations and Other Needs"
Blanca Suárez Merino, TEMAS AG, Zürich, Switzerland

12:30 "Lab-on-a-Chip-Based High-Throughput Screening of the Engineered Nanomaterial Toxicity"
Tommy Tong, Monash Institute of Pharmaceutical Sciences, Melbourne, Australia

12:50 **Lunch**

SESSION 3

Regulatory Issues and Long Term Effects

Chair: Heinz Fehrenbach

- 14:00 "Risk, Regulation and Responsible Innovation"
Maurice Brennan, University of Birmingham, UK
- 14:20 "European Standardization in Nanotechnologies and Relation with International Work. How Standardization Can Help Industry and Regulators in Developing Safe Products?"
Patrice Conner, AFNOR, La Plaine Saint-Denis, France
- 14:40 "NanoValid: Developing Reference Methods for Risk Assessment of Engineered Nanomaterials"
Rudolf Reuther, NordMiljö AB, Arvika, Sweden
- 15:00 "Tuball™ Single Wall Carbon Nanotubes: Health, Safety & Environmental Issues"
Gunther van Kerckhove, OCSiAl Europe S.a.r.l., Leudelange, Luxembourg

15:20 **Coffee break**

15:40 POSTER SESSION 1

SESSION 4.1

Quantification and Detection of Nanoobjects

Chair: Annette Kraegeloh

- 16:45 *Invited*: "Labelled SiO₂ Nanoparticles as Markers of Contamination during Nanomaterial Handling Operations"
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17:20 *Jesús Santamaría*, Nanoscience Institute of Aragon, University of Zaragoza, Spain

19:15 **Conference Dinner**
"Luminanz"
Quartier Eurobahnhof, Europaallee 21, 66113 Saarbrücken

THURSDAY, 12 OCTOBER 2017

SESSION 4.2

Quantification and Detection of Nanoobjects

Chair: Eduard Arzt

- 09:00 *Keynote: "Cryo Electron Tomography: Imaging Cells at the Nanoscale"*
Wolfgang Baumeister, Max Planck Institute of Biochemistry, Planegg, Germany
- 09:45 "Uptake Monitoring and Quantification of Nanomaterials at Single Cell Level by Means of Element- and Molecule Based Imaging and Dosimetric Techniques"
Irina Estrela-Lopis, Institute of Medical Physics and Biophysics, University Leipzig, Germany
- 10:05 "Ultrasensitive Detection, Quantification and Identification of Engineered and Natural Nanoparticles Using Wide-Field Surface Plasmon Microscopy"
Vladimir Mirsky, Institute of Biotechnology / Nanobiotechnology, Brandenburg University of Technology, Senftenberg, Germany
- 10:25 "Synthesis and Functionalisation of Bright Fluorescent Silica Nanoparticle Probes for High-Resolution STED and Confocal Microscopy"
Isabella Tavernaro, INM – Leibniz Institute for New Materials, Saarbrücken, Germany
- 10:45 **Coffee break**

SESSION 4.3

Quantification and Detection of Nanoobjects

Chair: Annette Kraegeloh

- 11:05 *Invited: "Radiolabeling – An Appropriate Tool to Study the Environmental Fate of Engineered Nanoparticles"*
Karsten Franke, Helmholtz-Zentrum Dresden-Rossendorf, Germany
- 11:40 "Single Cell Level Quantification of Nanoparticle-Cell Interactions Using Mass Cytometry"
Angela Ivask, Laboratory of Environmental Toxicology, National Institute of Chemical Physics and Biophysics, Tallinn, Estonia
- 12:00 "Characterization of Unlabeled Nanomaterials in Complex Environments"
Melinda Bartok, Schaefer Technologie GmbH, Langen, Germany
- 12:20 **Lunch**

SESSION 5.1

Neurotoxicity

Chair: Klaus Unfried

- 13:20 *Invited: "Air Pollution, Microglia, and the Lung-Brain Axis"*
Michelle L. Block, The Stark Neuroscience Research Institute, Indianapolis, Indiana, USA
- 13:55 "Investigation of Neurotoxic Effects of Manganese Nanoparticles in 3D Neural Microtissue"
Christoph van Thriel, Leibniz Research Centre for Working Environment and Human Factors (IfADo), Dortmund, Germany
- 14:15 "Development of an *in vitro* Model of NanoNeurotoxicity Using Human 3D Neural Tissues"
Luc Stoppini, Hepia/HES-SO, Univ. of Appl. Sciences Western Switzerland, Geneva

14:35

Coffee break

SESSION 5.2

Neurotoxicity

Chair: Christoph van Thriel

- 14:55 "A Daily Exposure of Rabbit Dams to Diesel Exhaust Nanoparticles during Gestation Impairs the Brain and Olfactory Dopaminergic Pathways of Offspring"
Estefania Bernal-Meléndez, URAFPA, INRA UC340, University of Lorraine, Vandoeuvre-les-Nancy, France
- 15:15 "Effects of Nanoparticles in the 5xFAD Mouse Model of Alzheimer's Disease"
Catrin Albrecht, IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf, Germany

SPECIAL SESSION

Communication of Safety and Risks

- 15:35 "DaNa2.0 – Reliable Information on Manufactured Nanomaterials"
Christoph Steinbach, DECHEMA e.V., Frankfurt a.M., Germany

15:55

POSTER SESSION 2

17:00

WORKSHOPS

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- 1 - Safe by Design
2 - Neurotoxicity

18:00

FRIDAY, 13 OCTOBER 2017

SESSION 6.1

Nanomaterials: Effects and Mechanisms

Chair: Heinz Fehrenbach

- 09:00 *Invited: "The Effect of Gold Nanoparticles in Asthma Mouse Model"*
Thai Dinh, Universitätsklinikum des Saarlandes, Saarbrücken, Germany
- 09:35 "The Impact of CuO and TiO₂ Nanoparticles on Gene Expression Following Air-Liquid Interface Exposure"
Matthias Hufnagel, Karlsruhe Institute of Technology, Germany
- 09:55 "How the Protein Corona Evolves on a Nanoparticle"
Giancarlo Franzese, Física de la Matèria Condensada, Universitat de Barcelona, Spain
- 10:15 "Low-Dose Carbon Black Nanoparticles Exposure of the Lung Does Not Aggravate Allergic Airway Inflammation in Mice"
Heinz Fehrenbach, Priority Area Asthma & Allergy, Research Centre Borstel, Germany
- 10:35 **Coffee break**

SESSION 6.2

Nanomaterials: Effects and Mechanisms

Chair: Klaus Unfried

- 10:55 "Understanding Nanosafety – The Importance of Assay Performance *in vitro*"
Cordula Hirsch, Empa, St. Gallen, Switzerland
- 11:15 "Exposure to Nanoparticles Specifically Extends Neutrophilic Life Span: A Toxicologically Relevant Endpoint for Nanoparticle Safety"
Tamara Hornstein, IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf, Germany

11:35 **CONCLUSION**

Workshop presentations and final discussion

Poster award

Closing remarks

12:30 **Brown bag lunch**

14:00 **INM GUIDED TOUR**
(optional, registration on-site)