

Environmental and Occupational
Health Aspects Related to

NANO- AND ULTRAFINE PARTICULATE MATTER

MONDAY, JUNE 3

- 09:00** **OPENING OF THE CONFERENCE**
- 09:30** **HEALTH EFFECTS OF NANO- AND ULTRAFINE PARTICLES**
- 09:30 **O-1 Status of epidemiological research on nanomaterial workers**
Paul A. Schulte, Veruscka Leso, Mamadou Niang, Ivo Iavicoli
- 10:15 **O-2 Inhaled particles and the cardiovascular system**
Mark R. Miller
- 11:00 **BREAK**
- 11:30 **O-3 Exposure assessment and health effects of different types of carbon nanotubes**
Liliya Fatkhutdinova, Guzel Timerbulatova, Sergey Boychuk, Anna Antsiferova, Pavel Kashkarov, Shamil Zaripov, Timur Khaliullin, Ayrat Dimeev, Alexey Noskov, Albert Gilmutdinov, Yngvar Thomassen, Anna Shvedova
- 12:15 **O-4 The effect of nanomaterials on the surface tension of lung surfactant**
Jorid B. Sørli, Emilie Da Silva
- 12:35 **O-5 Willingness and reluctance to participate in a biological surveillance programme among nanotechnology workers and their employers**
Marjorie François, Nancy Hopf, Victor Dorribo, Jean-Jacques Sauvain, Enrico Bergamaschi, Francesca Donato, Maida Domat, Judith Friesl, Athena Progiou, Irina Guseva Canu
- 12:55 **LUNCH**

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MONDAY, JUNE 3

- 14:00** **HEALTH EFFECTS OF NANO- AND ULTRAFINE PARTICLES (CONT.)**
14:00 **O-6 Health impact of ultrafine particles on metabolic disease**
Annette Peters
- 14:45 **SHORT BREAK**
- 14:50** **CHARACTERIZATION OF NANO- AND ULTRAFINE PARTICLES**
14:50 **O-7 Characteristics of carbonaceous ultrafine particles – implications for toxicology and exposure assessment**
Joakim Pagels
- 15:35 **BREAK**
- 16:05 **O-8 Ultrafine particulate matter measurements and ultrafine particle characterization in occupational environment**
Balazs Berlinger, Torunn Kringlen Ervik, Yngvar Thomassen
- 16:50 **O-9 Chemical characterization of airborne nanoparticles in an industrial scenario**
Mar Viana, Apostolos Salmatou, Carla Ribalta, Eliseo Monfort, Sonia Fraga, Joao Paulo Teixeira, Flemming Cassee
- 17:10 **O-10 Toxic effects and characterization of gunshot fumes from different ammunitions for small arms**
Espen Mariussen, Lise Fjellsbø, Thomas Frømyr, Ida Vaa Johnsen, Øyvind Voie
- 17:30** **POSTER SESSION**
19:00 **DINNER**

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TUESDAY, JUNE 4

- 09:00** **EXPOSURE TO NANO- AND ULTRAFINE PARTICLES**
- 09:00 **O-11 Occupational exposure to nanoparticles - recognition, assessment and control at workplaces**
Anna-Kaisa Viitanen
- 09:45 **O-12 Environmental tobacco smoke exposure and the impact of a smoking ban in internet cafes, pubs, and billiard halls around a university in South Korea**
Kwonchul Ha
- 10:05 **O-13 Exposure assessment to airborne particles in an industrial workplace: The case study of pouring TiO₂ and filler materials for paint production**
Ana Sofia Fonseca, K. A. Jensen, A. Säämänen, T. Kanerva, A. -K. Viitanen, O. Aguerre-Chariol, C. Delpivo, A. J. Koivisto
- 10:25 **O-14 Daily time activities affecting black carbon (BC) exposure among elementary school children in South Korea**
Donguk Park, Hyeran Jeong
- 10:45 **O-15 Characterization of occupational exposures to fine and ultrafine particles in different workplaces in Quebec**
Maximilien Debia, Alan Fleck, Gilles L'Espérance, Caroline Couture
- 11:05 **BREAK**
- 11:35** **MEASUREMENT METHODOLOGIES**
- 11:35 **O-16 New instruments for direct sampling and real-time analysis of particulate organic matter in air**
Armin Wisthaler, Markus Müller
- 12:20 **O-17 Particulate matter measurements during in-situ burning of crude oil**
Ingrid Gjesteland, Bjørg Eli Hollund, Jorunn Kirkeleit, Magne Bråtveit
- 12:40 **O-18 Filtration of particles of traffic-origin attenuates their effects on blood pressure under controlled exposure conditions**
Doug Brugge, Neelakshi Hudda, Misha Eliasziw, Ellin Reisner, Wig Zamore, John Durant
- 13:00 **O-19 Certified laboratory analysis of carbon nanotube concentrations as elemental carbon**
Patrick O'Shaughnessy, Craig Holder, Adrienne Stoltenberg, Ralph Altmaier
- 13:20 **LUNCH**

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TUESDAY, JUNE 4

- 14:30** **RISK ASSESSMENT AND MITIGATION OF EXPOSURE**
- 14:30 **O-20 Characterization needs on nanomaterials for REACH registration in 2020 - current status of supporting characterization methods**
Keld Alstrup Jensen
- 15:15 **O-21 The contribution of personal monitors and samplers to occupational risk assessment of engineered nanomaterials**
Luca Fontana, Ivo Iavicoli, Sergio Iavicoli
- 15:35 **O-22 Safe production and use of nanomaterials in the ceramic industry: overview of results from the CERASAFE project**
Mar Viana, Eliseo Monfort, Vicenta Sanf elix, Apostolos Salmatouidis and the CERASAFE consortium
- 15:55 **BREAK**
- 16:30 **O-23 Occupational exposure modelling tools: requirements and lessons learnt**
Ana Sofia Fonseca, A. J. Koivisto, C. Delpivo, R. A. Franken, A. S am anen, T. Kanerva, A. - K. Viitanen, K. A. Jensen
- 16:50 **O-24 Tools for risk assessment of nanomaterials at the workplace**
Maaikje Visser, Daan Huizer, Susan Dekkers, Monique Groenewold
- 17:10 – 17:30 **O-25 New indoor air quality standards; ISO16000-34: strategies for the measurement of airborne particles and ISO16000-37: measurement of PM2.5 mass concentration**
Samuli Pylkk onen
- 19:00 **DINNER**

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WEDNESDAY, JUNE 5

- 09:00** **TOXICOLOGICAL MECHANISM**
- 9:00 **O-26 Olfactory and central neurotoxicity of occupationally-relevant particulate aerosols and nanomaterials**
Krishnan Sriram
- 9:45 **O-27 Particle cell interactions in the alveolar region of the lungs and their relevance for associated health effects**
Tobias Stöger
- 10:30 **O-28 Evaluation of particle mass, number and volume specific surface area as dose metrics for internalization of nanoparticles**
Fazel Abdolapur Monikh, Daniel Arenas-Lago, Benjamin Fryer, Martina G. Vijver, Eugenia Valsami-Jones, Willie J. G. M. Peijnenburg
- 10:50 **BREAK**
- 11:20 **O-29 Resolving molecular events by super-resolution microscopy exemplified on interaction of TiO₂ nanotubes with cell layers in live**
Hana Majaron, Aleksandar Sebastijanović, Boštjan Kokot, Patrycja Zawilska, Tilen Koklič, Janez Štrancar
- 12:05 **O-30 Nanomaterials accelerate systemic autoimmune disease in lupus-prone New Zealand mixed mice**
Andrij Holian
- 12:25 **O-31 MWCNT inhalation toxicity – influence of aerosol characteristics**
Chang Guo, Alison Buckley, Matthew Wright, Sarah Robertson, Alan Hodgson, Martin O. Leonard, Timothy W. Gant, Rachel Smith
- 12:45 **O-32 Important inferences from animal experiments assessing adverse health effects of metal oxide nanoparticles**
M. P. Sutunkova, B. A. Katsnelson, L. I. Privalova, I. A. Minigalieva, V. B. Gurvich, S. N. Soloveva, S. V. Klinova, O. G. Makeyev, I. E. Valamina, R. R. Sakhautdinova, T. V. Bushueva, V. Y. Shur, I. V. Zubarev, E. V. Shishkina
- 13:05 **LUNCH**
- 14:30** **MEASUREMENT METHODOLOGIES (CONT.)**
- 14:30 – 15:15 **O-33 Characterization of nanoparticles in food and biological matrices by ICP-MS based methods**
Katrin Loeschner
- 16:00 **EXCURSION TO BRIKSDAL GLACIER AND CONFERENCE OUTDOOR DINNER**



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THURSDAY, JUNE 6

9:00

PANEL DISCUSSION with the invited speakers

10:15

BREAK

10:45

PANEL DISCUSSION (CONT.) AND CLOSING REMARKS

12:00

LUNCH



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POSTERS

P-1 Toxicity evaluation of airborne ceramic thermal spraying-generated nanoparticles in a 3D human bronchial epithelial model

Maria João Bessa, Fátima Brandão, Apostolos Salmatonidis, Adriana Vulpoi, Mar Viana, Flemming Cassee, Sónia Fraga, João Paulo Teixeira

P-2 Indoor and outdoor particle number concentration in the Sapienza University campus of Rome

Raffaella Gaddi, Giorgio Cattani, Mariacarmela Cusano, Alessandro Di Menno di Bucchianico, Alessandra Gaeta, Gianluca Leone, Fabio Boccuni, Riccardo Ferrante, Armando Pelliccioni

P-3 Road-motor traffic complex as a source of polyaromatic hydrocarbons contained in fine dust particles

S.A. Gorbanev, O.I. Kopytenkova, A.V. Levanchuk

P-4 Formation of ultrafine particles in a classroom under different ventilation conditions

Claudia Hak, Matthias Vogt, Franck Dauge, Øystein Fjellheim, Sverre Holøs, Aileen Yang, Tomas Mikoviny, Armin Wisthaler

P-5 Non-invasive sensitive method for oxidative stress quantification in exhaled air

M. Hemmendinger, N. Sambiagio, S. Goekce, N. Concha-lozano, I. Guseva Canu, G. Suarez, J.J. Sauvain

P-6 Study findings of chemical composition of fine dust particles in the area of road-motor traffic complex exposure

Levanchuk Aleksandr, Kopytenkova Olga, Gennadii Eremin

P-7 Characterisation of air contaminants emitted during laser cutting of carbon fiber reinforced composite materials

Alexey Noskov, Albert Gilmutdinov, Yngvar Thomassen

P-8 Processing of nanocomposites and grouping of exposure

Bianca Oeffling, Carsten Möhlmann, Christian Schumacher, Denis Goldnik, Birgit Funk, Andreas Klingler, Alla Zak

P-9 Does exposure to inflammatory particles modify the pattern of anions in exhaled breath condensate?

Jean-Jacques Sauvain, Guillaume Suarez, Jean-Louis Edmé, Pascal Wild, Olivia Bezerra, Keller Silveira, Lénio Amaral, Anna Paula Carneiro, Nathalie Chérot-Kornobis, Annie Sobaszek, Sébastien Hulo

P-10 Exposure to unintentional nanoparticles during thermal spraying

Apostolos Salmatonidis, Carla Ribalta, Spyros Bezantakos, George Biskos, Vicenta Sanfelix, Eliseo Monfort, Mar Viana

P-11 Analysis of titanium dioxide nanoparticles in food by single particle ICP-MS/MS

Janja Vidmar, Sara Lopéz-Sanz, Laurent Devoille, Johanna Noireaux, Manuel Correia, Katrin Loeschner