

# Nanotoxicology 2010 EDINBURGH

3<sup>rd</sup> Nanotoxicology Conference  
Edinburgh, 2 – 4 June 2010

## Preliminary Scientific Programme

*This scientific programme is in a preliminary format & may be subject to change as speakers are finalised.*

### Day 1 – Wed, 2<sup>nd</sup> June, 12.00 – 18.30

<b>Lunch: 12.00 – 13.30</b>		
<b>Conference Opening</b>		
13.45	Welcome	Prof. Vicki Stone <i>Edinburgh Napier University, UK</i>
<b>Session 1: Setting the scene</b> <i>Session Chair: Vicki Stone (Edinburgh Napier University, UK)</i>		
14.00 -14.30	Keynote: Setting the scene	Prof. Gunter Oberdorster <i>University of Rochester, USA</i>
14.30 – 14.45	The European Commission's Strategy for Nanotechnology Human and Environmental Safety Research	Georgios Katalagarianakis <i>European Commission</i>
14.45 – 15.15	Valedictory lecture: "30 years of particle-lung interactions"	Peter Gehr <i>University of Bern, Switzerland</i>
<b>Tea/Coffee &amp; Poster/Exhibition viewing: 15.15 – 15.40</b>		
<b>Session 2: Metals</b> <i>Chair: Jukka Ahtainen (Finnish Environment Agency, Finland)</i>		
15.40 – 16.10	Keynote: Characterization of Inorganic Nanoparticles for Environmental Fate and Effects Studies	James Ranville <i>Colorado School of mines, USA</i>
16.10-16.25	Quantum dots modulate steps of leukocyte recruitment depending on their surface modification	Markus Rehberg <i>Ludwig-Maximilians- Universität, Germany</i>
16.25-16.40	Absorption of serum proteins to gold nanoparticles	Martin Schaffler <i>Institute of Lung Biology and Disease, Germany</i>
16.40-16.55	Definition, identification and biophysical interactions of nanomaterials	Wendel Wohlleben <i>BASF, Germany</i>
16.55-17.15 General Discussion for Sessions 1 and 2		
<b>17.45-19.30 Civic Reception with dignitaries and local info presentation (Edinburgh City Chambers, The Royal Mile)</b>		

**Day 2 – Thurs, 6<sup>th</sup> June, 8.30 – 18.30**

<p align="center"><b>Session 3: High aspect ratio nanoparticles</b>  <i>Session Chair: Andrew Maynard (University of Michigan, USA)</i></p>		
09.00-09.30	Key note: 'Asbestos-like effects of HARN in the pleural cavity: approaching an understanding'	Ken Donaldson <i>University of Edinburgh, UK</i>
09.30-09.45	Controlled in situ study of the cytotoxicity of silver nanowires	Wenwei Leo Zheng <i>Stanford University, USA</i>
09.45-10.00	In vitro studies on the interaction of high aspect ratio nanomaterials (HARN) of different chemical compositions with the airway barrier functions	Enrico Bergamaschi <i>Università degli Studi di Parma, Italy</i>
10.00-10.15	Biodegradation of carbon nanotubes in the environment and in vivo	Alexander Star <i>University of Pittsburgh, USA</i>
10.15-10.30	Multi-walled carbon nanotubes (Baytubes®): Risk characterization and derivation of occupational exposure limit	Jurgen Pauluhn <i>Bayer Schering Pharmaceuticals, Germany</i>
<b>Tea/Coffee &amp; Poster/Exhibition viewing: 10.30 – 11.00</b>		
<p align="center"><b>Session 4: Metal Oxides</b>  <i>Session Chair Wolfgang Kreyling (Helmholtz Zentrum München, Germany)</i></p>		
11.00-11.30	Keynote: Title TBC	Alison Elder <i>University of Rochester, USA</i>
11.30-11.45	Towards a theoretical framework for predicting the oxidative stress potential of oxide nanoparticles	Enrico Burello <i>University of Amsterdam, Netherlands</i>
11.45-12.00	<i>In vivo</i> peripheral blood micronucleus assay on inhaled nanosized TiO <sub>2</sub> in mice	Hannu Norppa <i>Finnish Institute of Occupational Health, Finland</i>
12.00-12.15	Interaction of industrial metal oxide nanoparticles with immunocompetent cells <i>in vitro</i>	Tina Thurnherr <i>ETH Zurich, Switzerland</i>
12.15-12.30	Pulmonary response of inhaled nano-titanium dioxide particles includes induction of acute phase response genes, inflammatory cascades and changes in microRNAs	Sabina Halappanavar <i>HECSB, Canada</i>
12.30-12.45	Nanomaterial Exposure Measurements and Monitoring for Risk Assessment	Thomas Kuhlbusch <i>IUTA e.V., Germany</i>
<b>Lunch and posters/exhibition: 12.30 – 14.00</b>		

<b>Session 5: Fate</b> <i>Session Chair: Ken Donaldson (University of Edinburgh, UK)</i>		
14.00-14.30	Keynote: <i>Title TBC</i>	Richard Atkinson <i>St George's University London, UK</i>
14.30-14.45	Accumulation and translocation of nanomaterials across the human placenta	Peter Wick <i>EMPA, Switzerland</i>
14.45-15.00	The biodistribution, persistence, and toxicity of nanoscale ceria	Robert Yokel <i>University of Kentucky, USA</i>
15.00-15.15	Quantitative biokinetic studies of titanium dioxide (TiO <sub>2</sub> ) nanoparticle inhalation in a healthy adult rat model	Stephanie Hirn <i>Institute of Lung Biology and Disease, Germany</i>
15.15-15.30	Toxicity of carbon nanotubes to the lung: from mechanisms to regulatory consequences	Anna Shvedova <i>NIOSH, USA</i>
<b>Tea/Coffee &amp; Poster/Exhibition viewing: 15.30 – 16.00</b>		
<b>Session 6: New and Emerging Topics</b> <i>Session Chair: Harald Krug (EMPA, Switzerland)</i>		
16.00-16.30	Keynote: Nanotoxicology? You ain't seen nothing yet! The challenges of developing emerging technologies responsibly	Andrew Maynard <i>University of Michigan, USA</i>
16.30-16.45	The mechanism of gold nanorods' cytotoxicity and their potential for more efficient photothermal therapy	Chunying Chen <i>National Center for Nanoscience and Technology, China</i>
16.45-17.00	Maternal exposure to carbon black increases collagen type VIII expression in kidney of offspring	Masakazu Umezawa <i>Tokyo University of Science, Japan</i>
17.00-17.15	The influence of surface composition of nanoparticles on their interactions with proteins	Lennart Treuel <i>Universität Duisburg-Essen, Germany</i>
17.15-17.30	Regulating uncertainty – Performance based benchmark limits for nanoparticles in view of current measurement results at the work place	Markus Berges <i>BGIA, Germany</i>
17.30-18.00 General discussion		
<b>CONFERENCE BANQUET AND CEILIDH DANCE, 7.30 start</b>		

<b>Day 3 – Fri, 7<sup>th</sup> June, 8.30 – 16.00</b>		
<b>Session 7: Medical Nanoparticles</b>		
<i>Session Chair: Bengt Fadeel (Karolinska Institutet, Sweden)</i>		
09.00-09.30	Keynote: Integrated approach to the early development of nanomaterials for the detection and treatment of brain tumours	Martin Philbert <i>University of Michigan, USA</i>
09.30-09.45	Nanotoxicity of Amphotericin B-loaded magnetic carriers: An <i>in vivo</i> investigation	Paulo Cesar de Moraes <i>Universidade de Brasilia, Brazil</i>
09.45-10.00	Biodistribution and biotransformation of PEGylated carbon nanotubes <i>in vivo</i>	Haifang Wang <i>Peking University Beijing, China</i>
10.00-10.15	Understanding the <i>in vivo</i> genotoxicity induced by ultrafine superparamagnetic iron oxide nanoparticles (USPION)	Neenu Singh <i>University of Wales Swansea, UK</i>
10.15-10.30	Mechanistic studies of <i>in vitro</i> cytotoxicity of PAMAM dendrimers in mammalian cells	Sourav Prasanna Mukherjee <i>Dublin Institute of Technology, Ireland</i>
<b>Tea/Coffee &amp; Poster/Exhibition viewing: 15.30 – 16.00</b>		
<b>Session 8 : Environmental Issues</b>		
<i>Session Chair: Teresa Fernandes (Edinburgh Napier University, UK)</i>		
11.00-11.30	Keynote: Life Cycle analysis + risk assessment	Stig Olsen <i>Technical University of Denmark</i>
11.30-11.45	Trophic transfer of quantum dots from algae to amphipods	Brian Jackson <i>University of Georgia, USA</i>
11.45-12.00	Mode of exposure and nanoparticle size determine toxicity of silver nanoparticles measured as apoptosis in the earth worm <i>Lumbricus terrestris</i>	Erik Joner <i>Göteborg University, Sweden</i>
12.00-12.15	Effects of nanosilver in a short term waterborne exposure of salmon ( <i>Salmo salar</i> )	Deborah Oughton <i>Norwegian University of Life Sciences, Norway</i>
12.15-12.30	The ecotoxicity of four nanomaterials – The ENRHES review	Anders Baun <i>Technical University of Denmark</i>
12.30-12.45	OECD test guidelines and regulatory testing of nanomaterials	Jukka Ahtiainen <i>Finnish Environment Agency, Finland</i>
<b>Lunch and posters/exhibition: 12.45-14.00</b>		

<b>Session 9 : Mixed Session</b>		
<i>Session Chair : Rob Aitken</i>		
14.00-14.30	Nanotechnology environmental health and safety research at NIEHS	Sri Nadadur <i>NIEHS, USA</i>
14.30-14.45	Toxic effects of nanoparticles and nanoparticle-containing paint dust on the cardiovascular system	Lone Mikkelsen <i>University of Copenhagen, Denmark</i>
14.45-15.00	Occupational risk assessment of multi walled carbon nanotubes	Lan Ma-Hock <i>BASF, Germany</i>
15.00-15.15	Three metal oxide nanoparticle types induce entirely different patterns and cellular types of inflammation; problems for predictive in vitro testing schemes	Wan-Seob Cho <i>University of Edinburgh, UK</i>
15.15-15.30: General Discussion		
15.30-15.45: Presentation of Colt Foundation Awards – Jackie Douglas		
15.45-16.00	<b>Conference Closure</b>	Vicki Stone