

# ICEIN 2011 - EPA Nano Grantees Conference, Duke University

Monday, May 9, 2011

7:30	<b>Registration</b>	
8:30	<b>Introduction/Welcome</b>	
8:45	<b>Center Overviews (CEINT, Mark Wiesner; UC CEIN, Andre Nel)</b>	
9:45	<b>Plenary: James Hutchison, University of Oregon</b> , Strategies, tools and design rules for greener nanomaterials	
10:40	Break	
11:10	<b>Session 1: Risk Assessment</b>  <b>Keynote: Alistair Boxall, University of York</b> , Assessing exposure and effects for environmental risk assessment: The challenge of engineered nanoparticles	<b>Session 2: Ecotoxicity</b>  <b>Keynote: Marie-Noële Croteau, USGS</b> , Assessing the bioavailability and toxicity of engineered nanoparticles in aquatic environments using enriched stable isotope tracers and biodynamic modeling
12:00	Lunch	
2:00	Session 1: cont.  <b>Jacqueline Isaacs</b> , Implementation of life cycle assessment methodologies for commercializing nano-enabled products	Session 2: cont.  <b>Ben Colman</b> , Short-term fate and toxicity of silver nanoparticles in wetland mesocosms
2:20	<b>Candace Tsai</b> , Control strategies for occupational and environmental exposure of nanomaterials	<b>Audrey Bone</b> , Silver nanoparticle toxicity to Atlantic killifish ( <i>Fundulus heteroclitus</i> ) and zebrafish ( <i>Danio rerio</i> ) in complex environmental media: A comparison of laboratory, mesocosm, and microcosm studies
2:40	<b>Christian Beaudrie</b> , Benefits, risks, bias and nanomaterial regulation: results of an expert survey	<b>Mafalda Baptista</b> , Phytoplankton as sentinels of nanomaterial toxicity in marine ecosystems
3:00	<b>Barbara Harthorn</b> , Intuitive cognition in the perception of air, water and soil as they interact with engineered nanomaterials: A study of US public views	<b>Jorge Gardea-Torresdey</b> , Biotransformation studies of CeO <sub>2</sub> and ZnO NPs in mesquite plants
3:20	Break	
4:00	<b>J. Michael Davis</b> , Comprehensive environmental assessment of nanomaterials	<b>Roger Nisbet</b> , Modeling the ecotoxicity of nanomaterials through dynamic energy budgets
4:20	<b>Sumit Gangwal</b> , Informing selection of nanomaterial concentrations for ToxCast <i>in vitro</i> testing based on occupational exposure potential	<b>Angela Ivask</b> , High-throughput screening of <i>E. coli</i> gene deletion libraries uncovers the mechanistic ecotoxicology of nanomaterials
4:40	<b>Marina Quadros</b> , Aerosol emissions from nanotechnology-related consumer products	<b>Tamara McNealy</b> , Effect of bacteria and protozoa on engineered nanomaterials, and vice versa
5:00	<b>Eric Money</b> , Ecological risk forecasting of nanomaterials using Bayesian networks: A case study of nano-Ag exposure potential in a North Carolina river basin	<b>Dana Hunt</b> , Understanding the complex response of natural microbial populations to nanomaterial additions
5:20	<b>Jeremy Gernand</b> , Identification of information-rich attributes for nanoparticle toxicological risk assessment	<b>Jason Unrine</b> , Trophic transfer of Au nanoparticles along a simulated terrestrial food chain
5:40	<b>Poster Session</b> (ends at 7 p.m.)	

**Tuesday, May 10, 2011**

8:30	<p><b>Session 3: Fate, Transport, &amp; Transformation</b></p> <p><b>Keynote: Frank von der Kammer, University of Vienna</b>, Engineered nanoparticles in environmental media: How to deal with inherent heterogeneity</p>	<p><b>Session 4: Toxicity</b></p> <p><b>Keynote: Robert Tanguay, Oregon State University</b>, High-content/high-throughput zebrafish assays to define nanoparticle bioactivity</p>
9:20	<p><b>Kelvin Gregory</b>, Effect of engineered and natural surface modification of nanoparticles on their interactions with bacteria</p>	<p><b>Tian Xia</b>, Use of <i>in vivo</i> zebrafish model for nanoparticle toxicity screening</p>
9:40	<p><b>P. Somasundaran</b>, Physico-chemical characteristics and control of bioreactivity and fate</p>	<p><b>Kevin Kwok</b>, Effects of silver nanoparticles on early life stages of Japanese medaka: Inferences of different coating materials</p>
10:20	Break	
11:00	<p><b>Milka Montes</b>, Fate, transport and bioprocessing of CeO<sub>2</sub> and ZnO nanoparticles by mussels</p>	<p><b>Emma Fauss</b>, Correlating silver nanoparticle functionalization to generation of reactive oxygen species and silver ion release rates for disinfection applications</p>
11:20	<p><b>Ariette Schierz</b>, Addressing challenges of single-walled carbon nanotube detection in environmental samples</p>	<p><b>Olga Tsyusko</b>, Transcriptomic effects of Au-NP to <i>Caenorhabditis elegans</i></p>
11:40	<p><b>Raju Badireddy</b>, Detection and analysis of engineered nanoparticles in environmental waters by dark-field based hyperspectral imaging microscopy</p>	<p><b>April Gu</b>, Development of a new toxicogenomic index for nanotoxicity assessment</p>
12:00	Lunch	
2:00	<p>Session 3: cont.</p> <p><b>Clément Levard</b>, Probing Ag nanoparticle surface oxidation in contact with (in)organics: An x-ray scattering and fluorescence yield approach</p>	<p>Session 4: cont.</p> <p><b>Amy Wang</b>, Evaluation of compatibility of ToxCast high-throughput/high-content screening assays with engineered nanomaterials</p>
2:20	<p><b>Andreas Gondikas</b>, Sorption of cysteine to silver nanoparticles: Implications for aggregation, dissolution, and silver speciation</p>	<p><b>Allison Horst</b>, Towards an HTS toxicity assessment program with environmentally-relevant bacteria</p>
2:40	<p><b>Rui Ma</b>, Size controlled dissolution of silver nanoparticles</p>	<p><b>Susan Brauhn</b>, A living cell biosensor for continuous monitoring of cytotoxic cell responses to engineered nanomaterials (ENMs)</p>
3:00	<p><b>Ronald Kent</b>, Controlled evaluation of silver nanoparticle dissolution</p>	<p><b>Yoram Cohen</b>, Data mining, pathways and network analyses of nanoparticle toxicity based on high throughput screening data</p>
3:20	<p><b>Tong Zhang</b>, Microbial methylation of mercury sulfide nanoparticles: Influence of particle size and crystallinity on methylation potential</p>	<p><b>Rong Liu</b>, Classification nano-SAR development for cytotoxicity of nanoparticles</p>
3:40	Break	
4:20	<p>Session 3: cont.</p> <p><b>Brian Reinsch</b>, The speciation of silver nanoparticles in CEINT mesocosm soils and Kentucky WWTP biosolids using synchrotron X-rays</p>	<p><b>Session 5: Nanochemistry</b></p> <p><b>C. Jeffrey Brinker</b>, Synthesis and characterizations of monodisperse well-defined titania and silica nanoparticles</p>
4:40	<p><b>Erica Trump</b>, Racing particles: Start your nanos!</p>	<p><b>Julian Taurozzi</b>, Development of standardized dispersion and characterization methods for the environmental risk assessment of nanomaterials</p>
5:00	<p><b>Karel Morgan-Evans</b>, Transport studies of <i>nano</i> titanium dioxide in porous medium</p>	<p><b>Jean-Yves Bottero</b>, Imogolites: New inorganic nanotubes for nanotechnology hazard evaluation</p>
5:20	<p><b>Shihong Lin</b>, Exact Analytical Expressions for the Potential of Electrical Double Layer Interactions for a Sphere Plate System</p>	<p><b>Ivy Ji</b>, Fine tuning size and shape of nanomaterials by hydrothermal synthesis</p>
5:40	<p><b>Trishikhi Raychoudhury</b>, Carboxymethyl cellulose-modified zero-valent iron nanoparticle transport through sand packed columns</p>	<p><b>Matt Hull</b>, Evaluation of the colloidal persistence of gold nanoparticles by UV-Vis spectroscopy and dynamic light scattering</p>
6:00	Meeting Adjourned	

**Wednesday, May 11, 2011 - EPA Nano Grantees Mtg**

8:30	<b>Session 6: EPA Fate, Transport, and Transformation</b> <b>Qilin Li</b> , Impact of sunlight and humic acid on the deposition kinetics of aqueous fullerene nanoparticles and multiwalled carbon nanotubes
8:50	<b>Howard Fairbrother</b> , Influence of surface chemistry on the sorption properties and colloidal stability of carbon nanotubes in the presence of NOM
9:10	<b>William Ball</b> , Transport of oxidized multi-walled carbon nanotubes through porous media
9:30	<b>Wen Zhang</b> , Ion release and aggregation kinetics of citrate-coated silver nanoparticles in aqueous environment
9:50	Break
10:30	<b>Diana Aga</b> , Behavior of quantum dots in the terrestrial environment: Soil column leaching and plant uptake studies
10:50	<b>Martin Shafer</b> , Speciation and transformations of platinum in environmental materials
11:10	<b>Reginald Thio*</b> , Deposition and transport of Ag nanoparticles on silica as a function of environmental conditions
11:30	<b>Vicki Grassian</b> , An integrated approach toward understanding the impact of aggregation and dissolution of metal and metal oxide nanoparticles
11:50	Lunch
1:00	<b>Session 7: EPA Toxicity</b> <b>Warren Heideman</b> , Phototoxicity of TiO <sub>2</sub> nanoparticles in developing zebrafish
1:20	<b>Amy Ringwood</b> , Characterization of the potential toxicity of metal nanoparticles in marine ecosystems
1:40	<b>Aaron Edgington</b> , Effects of functionalization on the bioavailability of carbon nanotubes to <i>Daphnia magna</i>
2:00	Break
2:30	<b>Brandon Seda</b> , Carbon dot uptake, transfer, and toxicity in <i>Daphnia magna</i> and zebrafish ( <i>Danio rerio</i> )
2:50	<b>Yu Yang</b> , Nanosilver inhibited anaerobic digestion under bioreactor landfill operations
3:10	<b>Robert Yokel</b> , The pharmacokinetics of ceria (a model engineered nanomaterial) with emphasis on the brain: Comparison to other engineered nanomaterials
3:30	<b>Nian Du</b> , Phase inverted poly (amic acid) membranes for sensing and isolating engineered nanoparticles
3:50	Meeting Adjourned

\*Non-EPA Grantee ICEIN Speaker