

**Fourth Tri-National Workshop on Standards for Nanotechnology:  
Measurement & Characterization in Support of Toxicology R&D**

3-4 February 2010  
National Research Council of Canada, 100 Sussex Drive

## Agenda

Wednesday, 3<sup>rd</sup> February 2010

- 07:30            *Coffee*
- 08:40            Call to order - Chairman
- 08:45            **Welcome**  
**James McLaren, Director General, NRC-INMS, Canada**
- Session: Introductions & Overviews**
- 09:00            **Clayton Teague, National Nanotechnology Initiative, USA**  
Title: "Recent Developments at NNI"
- 09:40            **Norma Gonzalez, CENAM, Mexico**  
Title: "The critical role of measurements in supporting Mexican Nanotechnology"
- 10:20            *Break*
- Session: What Influences Interactions?**
- 10:40            **Angela Hight Walker, NIST, USA**  
Title: "ISO TC229 Joint Task Group: Understanding Measurands for Nano EHS Comparability"
- 11:20            **Shaun Clancy, Evonick Industries, USA**  
Title: "Nanomaterials and their Surroundings: Key Measurands and Why They are Important for EHS"
- 11:50            **Premkumari Kumarathasan, Health Canada**  
Title: "Characterization of Biological Changes to Gain Insight into Carbon Nanotube Exposure-Induced Toxicity"
- 12:20            *Lunch*
- 13:20            **David Grainger, U of Utah, USA**  
Title: "Challenges facing in-vitro nanotoxicity assays: analysis, dispersion, dosimetry, and answers"
- 14:00            **Greg Goss, U of Alberta, Canada**  
Title: "At the Nano:Bio interface – what matters?"
- 14:30            **Scott McNeil, National Cancer Institute, USA**  
Title: "Nanomedicine Lessons Learned from NCI's Nanotechnology Characterization Lab"
- 14:50            *Break*
- Session: Constitution: What is it made of?**
- 15:10            **Jesus Gonzalez, CIMAV, Mexico**  
Title: "Physical and Chemical Analysis of Nanoparticles Produced in a Large Scale Pilot Plant"
- 15:50            **Greg Smallwood, NRC-ICPET, Canada**  
Title: "Measurement of Physical Properties of Refractory Aerosol Nanoparticles"
- 16:30            **Pat Rasmussen, Health Canada**  
Title: "Gravimetric analysis and determination of metals in airborne nanoparticles"
- 17:00            *Adjourn*

## Agenda

Thursday, 4<sup>th</sup> February 2010

- 07:30            *Coffee*  
08:30            Call to order – Chairman
- Session: Constitution: What is it made of?**
- 08:40            **Adam Hitchcock, McMaster U, Canada**  
                    Title: "Chemical characterization of nanomaterials with scanning transmission X-ray microscopy"
- 09:20            **Zoltan Mester, NRC-INMS, Canada**  
                    Title: "Multimodal X-ray and MS Imaging of Metallic Nanodeposits in Yeast"
- 09:50            **Chris Kingston, NRC-SIMS, Canada**  
                    Title: "Multifaceted characterization of single wall carbon nanotube samples for evaluating composition, physical and chemical properties"
- 10:20            *Break*
- 10:40            **R. Bruce Weisman, Rice University, USA**  
                    Title: "Fluorimetric Detection and Characterization of Single-walled Carbon Nanotubes"
- 11:20            **Stephanie Hooker, NIST, Boulder, USA**  
                    Title: "Thermogravimetric analysis for macro- and micro-scale characterization of carbon nanotubes"
- 11:50            *Lunch*
- Session: Appearance: What does it look like?**
- 13:00            **Gianluigi Botton, McMaster U, Canada**  
                    Title: "Achievements and challenges of ultrahigh-resolution transmission electron microscopy"
- 13:40            **Peng Li, NRC-NINT, Canada**  
                    Title: "3D imaging in electron microscopy at NINT Electron Microscopy Labs"
- 14:10            **Jose L. Rodríguez, IPICYT, Mexico**  
                    Title: "How Does a Nanocrystal Grow? Shape and Structure Evolution in Metallic Nanoparticles"
- 14:40            *Break*
- 15:00            **Ming Zheng, NIST, USA**  
                    Title: "DNA-Carbon Nanotube Interactions: Fundamentals and Applications"
- 15:40            **Brian Eves, NRC-INMS, Canada**  
                    Title: "Development of a long range metrological atomic force microscope at the NRC"
- 16:10            **Vince Hackley, NIST, USA**  
                    Title: "Progress and Challenges in the Development of Nanoscale Reference Materials"
- 17:20            **Summary Remarks**  
**Alan Steele, Director Metrology, NRC-INMS, Canada**
- 17:30            Adjourn