

## Day 1 – Thursday 18 February 2010

Chair Dr Alan Steele, NRC-INMS

co-chairs Prof. Andrew Wallard, BIPM director & Prof. Dr Michael Kühne, BIPM deputy director

8:30	Registration			
9:00	<b>Welcome and expression of interest on the part of the CIPM on this topic</b> Prof. Andrew Wallard, BIPM Director			
9:15	<b>Objectives of the workshop</b> Dr Alan Steele, Director, Metrology, NRC-INMS, Ottawa, Canada			
9:30	<b>Expectations from the ISO TC 229 - Nanotechnologies</b> Dr Peter Hatto, Chair, ISO TC 229			
9:50	<b>The concept of traceability in nanometrology</b> Dr Mitsuru Tanaka, Research Coordinator/AIST, Tsukuba, Japan			
10:10	<b>Reference materials for nanometrology</b> Prof. Hendrik Emons, Head of Reference Materials Unit, IRMM, Belgium			
10:40	Coffee			
11:00	<b>Session 1 Methods and Technologies for Toxicological Testing of Nanoscale Materials</b> Introductory talk: <i>"The OECD sponsorship programme on nanomaterials"</i> by Dr Peter Kearns, OECD			
11:30	<b>Session 2 Aerosols</b> Introductory talk: <i>"Needs of standards related to emission, transfer and containment of airborne nanoparticles"</i> by Dr François Gensdarmes, IRSN, Physics Laboratory and Metrology of Aerosols			
12:00	<b>Session 3 Microscopy</b> Introductory talk: <i>"Reliability of "nanoscopes" nowadays - with example of AFM"</i> by Dr Masashi Iwatsuki, Japan Electron Optics Laboratory, JEOL			
12:30	<b>Session 4 Surface Analysis</b> Introductory talk: <i>"Need we metrologically underpinned standards for surface- and nanoanalytic ? Yes and No !"</i> by Dr Matthias Voetz, Bayer			
13:00	Lunch			
14:00	<b>Session 1 - Methods and Technologies for Toxicological Testing of Nanoscale Materials</b>  Chaired by Dr Alex Knight, NPL	<b>Session 2 - Aerosols</b>  Chaired by Dr Valérie Morazzani, LNE	<b>Session 3 - Microscopy</b>  Chaired by Dr John Miles, NMIA	<b>Session 4 - Surface Analysis</b>  Chaired by Dr Wolfgang Unger, BAM
	Introduction to the discussion (final title to be defined) by  Dr Richard Pleus, Intertox	Particle number concentration and particle size measurement  Dr Hanspeter Andres, METAS	Microscopy for characterization of nanostructures: trends and challenges  Dr Harald Bosse PTB	Chemical analysis of nanosized objects and nanostructured surfaces: current practice, common misconceptions and metrological needs  Dr Ronald R. Baer, PNNL
14:30	discussion	discussion	discussion	discussion
15:30	Coffee			
16:00	discussion	discussion	discussion	discussion
17:00	<b>Reports from the discussions : each chair to give a 10 minute summary</b>			
18:00	Reception			

## Day 2 – Friday 19 February 2010

Chair Dr Alan Steele, NRC-INMS

co-chairs Prof. Andrew Wallard, BIPM director & Prof. Dr Michael Kühne, BIPM deputy director

9:00	<b>Session 5 Nanobiotechnology</b> <i>Introductory talk by</i> Dr Kenneth Dawson, UC Dublin			
9:30	<b>Session 6 Electricity and Magnetism</b> <i>Introductory talk "Some microscopy challenges in nano-electronics" by</i> Dr Juan J Perez-Camacho, INTEL			
10:00	<b>Session 7 Mechanical Metrology</b> <i>Introductory talk: "Mechanical metrology at the scale where top-down meets bottom-up manufacturing" by</i> Dr Jon Pratt, NIST			
10:30	<b>Session 8 Thin Films and coatings</b> <i>Introductory talk: "Materials Characterization Challenges in Next Generation CMOS Devices" by</i> Dr John Bruley, IBM T.J. Watson Research Center			
11:00	Coffee			
11:30	<b>Session 5: Nanobiotechnology</b> Chaired by Dr Laurie Locascio, NIST	<b>Session 6: Electricity and Magnetism</b> Chaired by Dr JT Janssen, NPL	<b>Session 7: Mechanical Metrology</b> Chaired by Dr Alan Steele, NRC-INMS	<b>Session 8: Thin Films and coatings</b> Chaired by Dr Peter Hatto, ISO TC 229
12:00	<i>Introduction to the discussion (final title to be defined) by</i> Dr Richard Moore, Institute of Nanotechnology <b>discussion</b>	<i>Quantum electrical metrology on the nanoscale</i> Dr JT Janssen, NPL <b>discussion</b>	<i>Introduction to the discussion (final title to be defined) by</i> Dr Mark McDermott, NRC-NINT <b>discussion</b>	<i>Metrology issues in thin film process for next-generation semiconductor</i> Dr Kyung Joong Kim, KRISS <b>discussion</b>
13:00	Lunch			
14:00	<b>discussion</b>	<b>discussion</b>	<b>discussion</b>	<b>discussion</b>
15:30	Coffee			
16:00	Reports from the discussions : each chair to give a 10 minute summary			
17:00	Summary of findings and recommendations Dr Alan Steele, NRC			
17:30	Closure			